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Ministry of Climate, Energy and Utilities of Denmark (MCEU)
Danish Energy Agency (DEA)

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Key abbreviations and acronyms

Note: Country specific abbreviations and acronyms are found in each Country Programme Document.

APFM	Agency for Public Finance and Management under the Danish Ministry of Finance
CETP	Clean Energy Transition Programme (of the IEA)
CIP	Copenhagen Infrastructure Partners
CNDEPP	China-Denmark Energy Partnership Programme
CO_2	Carbon dioxide
COP	Conference of the Parties (to the UNFCCC)
CPD	Country Programme Document
DAC	OECD Development Assistance Committee
Danida	Danish International Development Cooperation
DEA	Danish Energy Agency
DEA-GC	DEA Global Cooperation
DEE	Department of Energy and Electricity
DEPP	Danish energy partnership programmes
DKK	Danish kroner
DTU	Technical University of Denmark
EE	Energy efficiency
EIFO	Export and Investment Fund of Denmark
EMDE	Emerging Markets and Development Economies
Energinet	Danish Transmission System Operator
EU	European Union
FPD	Framework Programme Document
FTE	Full-time equivalent
G20	Group of twenty largest economies
GDP	Gross domestic product
GHG	Green House Gases
GIZ	German Agency for International Cooperation
GtG	Government to Government
GW	Gigawatt
HRBA	Human Rights Based Approach
IEA	International Energy Agency
IMF	International Monetary Fund
INDODEPP	Indonesia-Denmark Energy Partnership Programme
IPCC	Intergovernmental Panel on Climate Change
IRENA	International Renewable Energy Agency
JETP	Just Energy Transition Partnership
LNOB	Leaving no one behind
LTA	Long-term advisor
LTS	Long-term strategies
LULUCF	Land Use, Land-Use Change and Forestry

MCEU	Danish Ministry of Climate, Energy and Utilities
MFA	Ministry of Foreign Affairs of Denmark
MFA(KLIMA)	MFA Department for Green Diplomacy and Climate
MFA (LEARNING)	MFA Department for Evaluation, Learning, and Quality
MFA(MYNSEK)	MFA Secretariat for Strategic Sector Cooperation
MTR	MFA/Danida Mid-term Review
MXDEPP	Mexico-Denmark Energy Partnership Programme
NDC	Nationally Determined Contribution under the UNFCCC
ODA	Official Development Assistance eligible under OECD rules
OECD	Organisation for Economic Co-operation and Development
PAG	Programme Advisory Group (for DEPP, consisting of the MFA, MCEU, and DEA-GC as the secretary)
PANT	Human rights principles of participation, accountability, non-discrimination, and transparency
RE	Renewable energy
SADEPP	South Africa-Denmark Energy Partnership Programme
SAG	Strategic Advisory Group (consisting of the MFA, MCEU, and DEA-GC as the secretary)
SC	Steering Committee
SDG	Sustainable Development Goals
SSC	Strategic sector cooperation
TSO	Transmission system operator
TWG	Technical Working Group
UNFCCC	United Nations Framework Convention on Climate Change
VNDEPP	Vietnam-Denmark Energy Partnership Programme

1. Introduction

This Framework Programme Document (FPD) describes the background, justification, objectives, and management arrangements for Danish support under the Danish Energy Partnership Programme (DEPP 2026[1]) with China, Indonesia, Mexico, South Africa, and Vietnam 2026-2030. The DEPP with China will be phased out by end 2029 as China is projected to graduate from Official Development Assistance.

The DEPP 2026 has a budget frame of DKK 372.0 million for the period between May 2026 to December 2030 as agreed between the Danish Energy Agency (DEA), the Danish Ministry of Climate, Energy and Utilities (MCEU), and the Ministry of Foreign Affairs of Denmark (MFA). This FPD will be an Annex to the Agreement between the MFA and DEA as the implementing partner and constitutes an integral part hereof together with the documentation specified in the FPD. The DEPP 2026 documentation consists of this overarching umbrella FPD and five separate Country Programme Documents (CPDs) for China (acronym CNDEPP), Indonesia (acronym INDODEPP II[2]), Mexico (acronym MXDEPP), South Africa (acronym SADEPP), and Vietnam (acronym VNDEPP).

The five countries are strategically significant for achieving the goals of the Paris Agreement and the goals under the Global Stocktake to tripling renewable energy and doubling energy efficiency by 2030 and moving away from fossil fuels. The countries are also important for Denmark's climate diplomacy given their size in terms of current greenhouse gas (GHG)-emissions of 36 % of global CO_2-emissions. With about 2 billion people corresponding to over 25% of the world's total population and about 27.5% of world economy, the countries' global importance in economic growth is also a key consideration in Denmark's economic diplomacy. Furthermore, electricity demands from the five countries are rapidly increasing, and transition to green energy sources is critical to limit global carbon emissions but also to secure affordable and reliable energy for households and sustainable growth of these economies.

The cooperation is mainly centred on the four, thematic DEA expertise areas summarised in Box 1.1. below, which will be tailored to fit the specific needs of the partner countries: long-term energy modelling and planning; integration of variable renewable energy in the energy mix; development of on- and offshore wind energy; and energy efficiency including district heating (in the case of CNDEPP)[3].

Box 1.1: The four thematic focus areas of DEPP 2026

Energy efficiency is often the quickest and most cost-effective way to cut emissions and lower energy bills. Reducing consumers demand for energy and making energy systems more efficient can help reduce or postpone needs for energy infrastructure expansions.

Achieving a cost-efficient green transition is challenging due to the need for complex information and projections. **Long-term planning** is a critical instrument to ensure a holistic approach in developing the energy sector. Analysing least-cost scenarios — including forecast of demand for energy and infrastructure, deployment of new technologies, and assessment of policy impacts — helps the partners to be more informed on how the energy sector transition can contribute to accelerate the green transition. Thus, long-term energy planning is a precondition to secure a more science-based, transparent and efficient transition.

As variable renewable energy sources like wind and solar become a larger part of the electricity generation mix, keeping the power system stable (balancing) becomes a major challenge. Drawing on the distinct experiences from the energy transition in Denmark in power system planning, balancing and development with **integration of high shares of variable renewable energy,** the programme helps the partner countries develop the tools, skills, and market designs needed to manage variable energy sources and ensure a reliable supply that keeps energy affordable and supports economic growth.

[1] DEPP 2026 for its acronym, as 2026 is the year the programme starts.

[2] INDODEPP II so as to distinguish between the second phase of the cooperation from the first phase of INDODEPP during 2020-2025.

[3] It is important to note the expansive scope of the four thematic areas each covering multiple technical, managerial and institutional topics considering the complexity of the energy sector. Tailored to specific needs, each country programme unfolds uniquely, and not every programme addresses all four thematic areas.

Onshore and offshore wind offers a significant potential for clean power and new jobs in all five counties. However, unclear regulation and complex administrative procedures are often barriers for attracting investors, and as solar and wind investments reach scale, social resistance is increasing and threatening accelerated green transition if proper community consultation, benefit sharing initiatives and compensation schemes are not in place. When working with partners in fields of planning and tendering for new, renewable energy projects, the programme shares Danish know how on transparent public tenders, clear regulation, and open dialogue with investors and communities to make these projects fair, sustainable, and attractive for investment.

The DEA government-to-government, peer-to-peer partnership modality has proven effective in fostering trust-based equal partnership approach that is highly relevant for partner countries' abilities to scale and accelerate a green energy transition and enter a high-level but also operational climate diplomacy dialogue. At a time with geopolitical uncertainty and when international climate negotiations are challenged, the sharing of Danish experiences with a cost-efficient energy transition and climate action is increasingly important. Solar and wind power are now almost always the cheapest options - and fastest to deploy - and thus a key building block to meet the fast-growing energy demand in the five countries and enable higher levels of energy security. Continuing climate and energy-related engagement[4] with these five countries is critical to support the achievement of the goals of the Paris Agreement but also key for domestic sustainable socio-economic growth and building resilient energy systems with affordable and reliable access for people and the planet.

With this background, the overall objective of the Danish support to DEA's Government-to-Government (GtG) collaboration under DEPP 2026 is that "*Just and inclusive green energy transition in the five partner countries has been supported through advancement of least-cost clean energy development and implementation of the countries' Nationally Determined Contributions under the Paris Agreement and long-term climate targets".*

2. Context, strategic considerations, rationale, and justification

2.1. Overall context and strategic considerations

Increasingly, the international development community focuses on three interconnected concerns in green transition in emerging markets and developing economies (EMDEs): climate action to reduce emissions; energy security; and cost-competitive and clean economic development. This three-pronged strategic focus may be visualised as a "triangle" underpinning the rationale for the Danish support and the relevance for the five countries.

Climate change seriously affects global sustainable development and stability. However, at the same time, the political crises and the changing global power dynamics challenge climate negotiations, and in many countries, there is increasing reluctance in climate action. The Paris Agreement's central aim is to strengthen the global response to the threat of climate change by keeping a global temperature rise well below 2° Celsius above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C. However, despite a flattening curve, global emissions continue to reach unprecedented levels, and national commitments are collectively far too unambitious to stay within the 1.5°C limit. The international efforts to reduce GHG-emissions have been challenged further by the US withdrawal from the Paris Agreement in 2025 - this action makes alliances with EMDEs even more important. If global GHG-emissions are not reduced, it will not be possible to avoid the worst impacts of climate change, including more frequent and severe droughts, heatwaves, sea level rise, flooding and changes in rainfall patterns. Climate change will disproportionately affect the poorest communities the most despite the fact that they contribute least to global warming. The World Bank has estimated that climate change could push over 130 million people back into poverty between 2020 and 2030. Moreover, by 2050, an estimated 213 million people may be forced to migrate due to the adverse impacts of climate change[5].

[5] World Bank 2020. Revised Estimates of the Impact of Climate Change on Extreme Poverty by 2030 (link)

Despite challenges in the international climate negotiations, recent reports demonstrate positive trends that renewables made up more than 90% of all new electricity capacity additions in 2024 and renewables overtook coal as the world's leading source of electricity in the first half of 2025[6]. Driven by heightened focus on energy security and the cost-competitiveness of solar and wind, there is sustained interest in deploying more RE in the grid to secure fast delivery of affordable, clean and reliable energy to meet the rapidly growing electricity demand. However, energy still accounts for more than three-quarters of total GHG-emissions globally, with fossil fuels accounting for 81% of the total energy supply. The five DEPP 2026 partner countries together account for almost 36% of the global CO_2-emissions with China ranking as the far most emitting country in the world (31% of global emissions). Thus, accelerating the energy transition away from fossil fuels is central to the achievement of Nationally Determined Contributions (NDCs). Furthermore, many technical challenges, institutional capacity constraints and investments in grids still remains a key challenge in the process of decarbonizing the electricity systems and deploying variable renewables at scale.

Energy is a cross-cutting enabler of economic and social development and thus at the heart of achieving many of the SDGs but the 2025 UN Sustainable Development Goals Report[7] finds that only 35 % of SDG targets are on track or making moderate progress. Nearly half are moving too slowly and, alarmingly, 18 % are in reverse. The UN report *"Seizing the Moment of opportunity - Supercharging the new energy era of renewables, efficiency, and electrification"* has collected data from the main global energy agencies and is demonstrating that *"solar and wind are now almost always the least expensive — and the fastest — option for new electricity generation"*. The report notes that multiple studies show that the systematic adoption of renewables and improvements in energy efficiency, combined with progressive policies, can continue to lead to net gains in jobs, GDP, and other social welfare benefits as the transition progresses in the short, medium, and long term.

A green energy transition offers many economic opportunities, job creation, and enhanced energy security, particularly for fuel-importing countries such as China, Mexico, and Vietnam. However, fossil fuels subsidies continue to be a challenge for the green transition including energy efficiency measures. IISD reported in 2025 that G7 subsidies reached a record USD 282 billion in 2023 and that Russia's invasion of Ukraine in 2022 led to increased fossil fuel subsidies as governments sought to protect consumers from soaring prices. The total global support for fossil fuels, encompassing subsidies, public finance, and state-owned enterprise investments, reached at least USD 1.5 trillion in 2023. Such subsidies are often poorly targeted and disproportionately benefit higher-income groups. In this regard, long-term energy planning can also help address barriers for removing fossil fuel subsidies. For most global households, energy is the third-largest regular expense behind housing and food, with residential electricity consumption making up around 30% of that cost. In EMDEs average household energy spending is USD 600 making energy spending an important policy concern for governments[8]. Through 2030, global electricity demand is projected to rise at least 2.5 times faster than overall energy demand, which will put even higher pressure on grids and delivering least-cost electricity production. Global investment in clean technologies was expected to reach USD 2.2 trillion in 2025, reflecting the socio-economic importance of the sector. In comparison, investment in oil, natural gas and coal was only set to reach half of that amount in 2025 (USD 1.1 trillion)[9].

China, Indonesia, Mexico, South Africa and Vietnam are all important countries for staying on track to achieve the goals of the Paris agreement. Given their rapid economic growth and subsequent emissions growth, the potential for green transformational change is substantial. Overall, EMDEs, including China, accounted for about 80% of global growth in electricity demand in 2025, and are expected by the IEA to maintain that share over the next five years. While China stands out because of its emission level, the four other countries are all large growth economies where the design of the future energy mix will influence global carbon dioxide emissions significantly. China currently accounts for one-third of global clean energy investment but is also becoming a world leader in the deployment of renewable energy. Nevertheless, China

[6] UN report Seizing the moment (2025) and Ember, Global Electricity Mid-Year Insights 2025

[7] See (link)

[8] IEA report Household Energy Affordability, 2026 (link)

[9] IEA Report Electricity 2026 (link)

remains overwhelmingly reliant on coal and faces fundamental challenges in building a flexible power system that would allow it to begin phasing out fossil fuels. Large-scale renewable energy expansion of solar and wind has been more modest in Indonesia, South Africa and Vietnam, and is only about to take-off, but capabilities and regulations have been improved and pushed by urgent need for more generation capacities to meet growing electricity demand. In Mexico and Indonesia, the new governments have recently set ambitious renewable energy and climate goals which enables them to rapidly put in place the necessary institutional and legal structures. In South Africa, progress is also advancing as many coal power plants will be retired, which provides opportunities also for Danish investors and technologies. Generally, all five countries have built certain capabilities and regulations to accelerate and scale investment in renewables in the current energy mix to meet the future growth in energy demand which is also expressed in the countries' NDCs.

The DEPP 2026 aims to strengthen these capabilities, as all five countries are confronted with the challenges of diversifying their energy mix with variable renewable energy sources while meeting a growing energy demand in a manner that maximises security of supply. They are all at a critical stage of their energy transition where the programme will support the planning and integration of additional energy capacity, improved and adequate grid systems, increased energy efficiency, and development of clear regulations - all while ensuring transparency, reliability and affordability. Furthermore, DEPP 2026 will target support at sub-national levels with the highest potential for adding renewables to the electricity grid.

The DEA is in a strong position to support the countries in their green energy transition. The core foundation of the DEA Global Cooperation (DEA-GC's) GtG equal partnership approach is that it is highly demand driven and flexible with strong alignment with partner priorities; emphasis on co-delivery and partner ownership of programme activities and key-deliverables; and peer-to-peer knowledge exchanges with Danish counterparts. Through the partnership, partners have access to a broad range of Danish public- and private sector actors, they are invited to engage proactively in ongoing programme planning- and prioritization, including inviting national stakeholders such as research institutes and universities and private sector to engage in programme activities and thereby help strengthening the broader national resource base. This approach has enabled DEA to build up mutual trust over many years with the five countries. The confidential and technical dialogue established has shown effective to pave the way to central decision-makers and key governmental institutions. This is demonstrated by agreements to place technical experts (long-term advisors) within the partner energy authorities – an arrangement that Denmark is often exclusively permitted to apply compared to other donors and development partners.

The specific demand from partner countries and expectations for the cooperation with DEA vary but are all linked to the fact that Denmark has the highest shares of variable renewable energy sources in the electricity grid while having one of the most reliable electricity systems at cost-competitive prices. Furthermore, Denmark has high levels of energy efficiency measures, and the Danish private sector provides both opportunities for technology solutions and concrete green energy investment. Accordingly, DEA has since November 2024 held dialogues with partner institutions, and conducted partner assessment and political-economy analytical work to target programme design to partner needs, capacities and demands. An early draft programme document for DEPP 2026 was presented to the Danida Programme Committee in April 2025, and the Committee's recommendations have been addressed. DEPP 2026 programming missions were undertaken during April-July 2025, and programming with partners has been ongoing until March 2026. Please see the Process Action Plan in Annex E for further information. An appraisal of DEPP 2026 was undertaken by MFA(LEARNING) during 24 October 2025-2 February 2026, and the management response to the appraisal recommendations is found in Annex F, and on 19 February, DEPP 2026 was discussed by the newly established External Technical Panel.

It is important to note the progression from earlier phases of partnership to DEPP 2026. Going forward, increasing emphasis will be placed on ensuring that knowledge has been effectively transferred and new capabilities have resulted in sustainable institutional uptake which has contributed to the evolution of the

regulatory and market environment, improvement of national energy modelling and long-term energy planning, and integration and increasing deployment of renewable energy.

In addition to the opportunities for synergies linked to the challenges they have in common, the five countries are pooled together in the same programme for simplifying administration of managing larger programmes, achieving economy of scale, as well as providing opportunities for adaptive management and flexibility in the use of unallocated funds. This is key for working in the highly dynamic technical and political contexts for DEPP 2026 where some countries may face periods of political constraints and other periods with high degree of possibilities to implement major changes. Except for INDODEPP, the DEPP engagement with Mexico, China, South Africa and Vietnam were pooled into one single framework programme already in DEPP II (2017-2020) and subsequently in DEPP III (2020-2025), and with each country programme having its own budget and in-country management set-up. This format will continue in DEPP 2026. Thus, there are developed detailed CPDs and results frameworks for each of the five country programmes, which will be managed and implemented more independently, but with lessons learned, approaches and know-ledge shared across the partnerships.

2.2 Summary of national contexts

The national contexts are described in each of the respective CPDs. Table 2.1 briefly summarises key demographic, socio-economic, and climate related information (based i.a. on latest World Bank, IEA, and IPCC data).

Table 2.1: Key information on each country

	China	**Indonesia**	**Mexico**	**South Africa**	**Vietnam**
Population (million)	1410.7	277.5	128.5	60.4	98.9
GDP (USD/capita)	12614.1	4876.3	13790.0	6022.5	4282.1
People living below the poverty line of USD 6.85 a day (% of population)	17.0 % (2021 data)	61.87 % (2023 data)	21.8 % (2022 data)	61.6 % (2014 data)	19.8 % (2022 data)
NDC target for 2030	Peak CO_2- before 2030; lower carbon intensity by minimum 65% from 2005 level; non-fossil fuels in primary energy around 25%; increase forest stock by around 6 billion cubic metres from 2005; more than 1,200 GW wind and solar	Unconditional: 32% GHG below BAU Conditional: 43% GHG below BAU	Unconditional: 35% GHG below BAU; 51% black carbon below BAU Conditional: 40% GHG, 70% black carbon, below BAU	Annual GHG (incl. LULUCF) of 350–420 $MtCO_2e$	Unconditional: 15.8% GHG below BAU Conditional: 43.5% GHG below BAU
Ranking in global list of GHG emitters worldwide (excl. LULUCF)	1	7	13	16	18
Fossil fuel share of energy mix % rounded	59	70	69	68	62

2.3 Rationale and justification

This section focuses on alignment to Denmark's development policy priorities and key cross-cutting themes. Annex B summarises the justification vs. the six OECD DAC criteria of relevance, coherence, effectiveness, efficiency, impact, and sustainability.

SDGs and environmental co-benefits
The main focus of DEPP 2026 is to advance a just and inclusive energy transition that lies at the core of achieving SDG 7. In doing so, it also supports partner countries' climate action toward meeting the goals of the Paris Agreement and their NDC commitments. The 2025 SDG 7 Tracking Report highlighted a clear concern that current progress remains insufficient to achieve global climate and sustainable development targets. DEPP 2026 is designed to respond to these concerns and priorities based on the five countries' demands and Danish key expertise and experience. The Programme will furthermore contribute to SDG 13[10] on climate action and enable other environmental co-benefits such as reduced air pollution and sustainable development. Finally, improved access to clean, affordable and reliable energy is a key enabler for achieving many of the other SDGs.

Alignment with Denmark's international policies
The DEPP 2026 is well aligned with Danish priorities, policies, and strategies as articulated in Denmark's Strategy for Development Cooperation "A Changing World – Partnerships in Development" [11] which has just, sustainable, and green transition as one of its five prioritised focus areas. The Strategy also states that Denmark will support further development of renewable energy in partner countries. This will be done through an equal partnership approach aiming to pursue an honest and interest-based development policy, where the pursuit of mutual goals is the basis for partnerships.

The DEPP 2026 identifies strategic areas of common ground with the five countries. Despite differences, there is strong alignment between Danish interests and those of the five partner countries to move towards higher share of green energy and decarbonise the energy sector. Partnerships built on such mutual and common interests embody what Denmark's Strategy for Development Cooperation defines as equal partnerships. The cooperation also entails greater integration of economic diplomacy between the countries to complement the GtG approach where it is found relevant in the partnership. The DEPP 2026 is one of the most extensive of Danish GtG programmes and as a premier, it demonstrates how Danish development cooperation can strengthen bilateral strong and meaningful engagements to fight climate change and strengthen national clean energy security, and to develop mutual knowledge based on partner countries' needs and wishes for cooperation with Denmark. The support to national authorities has already led to results and close diplomatic ties in the previous phases of the collaboration, and in this phase, scaling implementation is expected to be in more focus. The extensive evaluation of the DEPP programme is also expected to inform the future partnership approach.

With regard to economic diplomacy, the Danish private sector is a global leader within many fields of green energy technology and investments, and Danish companies have a strong presence in all five countries. They find the existence of the GtG cooperation conducive to paving the way for the green transition, and thereby for market access for Danish solutions. This has also been confirmed by recent consultative meetings with Danish industry associations held jointly by the MFA, MCEU and DEA, and which will be organized more frequently going forward to facilitate closer dialogue and information-sharing on the ongoing partner dialogue around priorities of programme activities. Maintaining a closer dialogue with the Danish private sector will also be useful with respect to development of strategies for a future transition to other forms of collaboration. DEPP 2026 will furthermore enhance interconnection with Danish finance instruments such as Impact Fund Denmark (formerly IFU) and the Export and Investment Fund of Denmark (EIFO) which are also active in the partner countries. In the daily in-country work, the energy sector advisors at the Danish embassies link potential interests between the DEA, MFA/Trade Council and Danish commercial interest and providers of

[10] SDG 13 (link): "Take urgent action to combat climate change and its impacts"

[11] Denmark's Strategy for Development Cooperation "A Changing World – Partnerships in Development" (link)

investments. DEPP incoming study tours and high-level government delegations almost always connect delegations from partner countries with relevant Danish technology providers and the aforementioned Danish finance institutions. Going forward, DEA will additionally be invited to attend relevant export fora organized by the MFA.

Furthermore, the programme is aligned with the Danish Government's Foreign and Security Policy Strategy (May 2023), which states that the climate crisis constitutes the 21st century's greatest challenge, requiring global cooperation and action and emphasizing that Denmark must continue to be at the forefront of global climate action through its climate diplomacy efforts, continuing to assume a leading role in pushing for increased ambitions with regard to emission reduction efforts and other climate action. For SADEPP in South Africa, the alignment to the Danish government strategy *"Africa's Century*[12]*"* is also important.

Poverty orientation, HRBA, and gender equality
The CPDs provide country-specific information on how the DEPP 2026 programme will address a poverty orientation and other cross-cutting concerns.

As noted earlier, energy is an enabler for most of the SDGs. For many of the poorest households, essential costs for electricity, cooking, transport and heating often consumes more than 30% of the income. The expenses are rising leaving the poorest communities disproportionately affected by higher electricity prices. Furthermore, the poorest households are often in first districts to be cut-off when there is a need for load shedding and often these poor neighbourhoods do not have resources to alternative fuels during power cuts or when prices increase as they did during the energy crisis in 2022. Affordability and reliability are therefore key concerns driving the focus on least-cost long term energy planning. While the least-cost energy modelling work supported by DEPP 2026 often will have a more indirect approach to poverty alleviation, the work is directly having an impact on the livelihoods of all households in the medium term. Reliable and least-cost energy sources is the main source of maintaining sustainable and affordable electricity tariffs, and in some countries partner request also exist to receive support for setting cost-reflective tariffs, which is an opportunity for the programme to highlight concerns of affordability for the poorest households.

Furthermore, the learnings and results from the least-cost energy system modelling can additionally inform further macro-economic analyses by for instance other development partners. And, vice-versa other complementary socio-economic analytical work can support a deeper understanding in the programme of costs, benefits and implications of a just transition - contributing to job creation, health improvements, and poverty reduction, particularly in vulnerable communities.

While access to electricity in itself is not a human right, it is a key enabler to achieve several human rights (access to water, housing, health, etc.) and most of the SDGs as noted earlier. The human rights principles of participation, accountability, non-discrimination, and transparency (PANT) and the MFA's multidimensional definition of poverty are key concerns in DEPP 2026, as also articulated in the DEA "*Memorandum on the Multidimensional Concept of Poverty and HRBA"*. Human rights and community consultations are particularly important in the components working with renewable energy development at sub-national levels. In this regard, recent developments in Denmark and globally have demonstrated the importance of having a "social license" to operate (increasing community co-benefits and limiting adverse impacts) as precondition to accelerate a green energy transition and attract international investors to the sector.

Gender equality is considered as a cross-cutting issue in the programme across all five countries, with particular focus on encouraging partner institutions to be aware of gender balance and gender differences in community and public consultations, ensuring that no harm is done by unintended adverse effects on women, and paying attention to a gender balance in capacity development activities supported by the programme. And although gender equality can be difficult to reflect in energy modelling or in more technical discussions about integrating variable renewable energy, opportunities exist to reflect gender in many other areas. A green energy transition is an opportunity to achieve a stronger gender balance in employment in the sector and

[12] See (link).

differentiated impacts between women and men when it comes to potential benefits and risks of adverse impacts.

Synergy and coherence with other development partners and initiatives
DEA is aware of its position in the larger development partner landscape in the five countries and has also achieved active engagement with many key institutions. In all countries, collaboration exists with other bilateral donors and multilateral agencies many of which are also supported by Denmark such as the International Energy Agency (IEA), particularly its Clean Energy Transition Programme (CETP); the International Renewable Energy Agency (IRENA); the World Bank's, Energy Sector Management Assistance Program (ESMAP), the UNEP Copenhagen Climate Centre; and the OECD Clean Energy Finance and Investment Mobilisation (CEFIM) programme. There are also synergies with Denmark's multilateral energy/climate cooperation through the NDC partnership and the International Institute for Sustainable Development (IISD) Global Subsidy Initiative (GSI). The DEA teams also support global initiatives such as the Just Energy Transition Partnership (JETP) processes and engage in G20 or COP relevant topics and initiatives, e.g. the Global Offshore Wind Alliance (GOWA). DEA is participating in many of the global events of these international stakeholders together with the partner countries and the Danish embassies in the five countries that are actively engaged in relevant coordination fora. Concrete examples of collaboration with other bilateral donors and multilateral agencies exist in all five countries, as further detailed in the CPDs. While some of the work by other development partners is focusing more on the socio-economic dimension of a just energy transition, DEPP 2026's own programme activities will be complementary to - as well as informed by - studies and technical insights from such work. This synergy avoids duplicating efforts and provides cost-efficient support to partner institutions leveraging each development partner's comparative advantage.

2.4 Results and lessons learned from previous support

Denmark has been supporting the five countries' green energy transition for many years including during periods of difficult times with political constraints in some of the countries, and the DEPP 2026 will be the fourth DEPP phase in China[13], Mexico, South Africa, and Vietnam, and the second phase in Indonesia. Two extensive and deep dive mid-term reviews (MTRs) of DEPP III and INDODEPP have informed the second half of the country engagements under DEPP III and INDODEPP, as well as the DEPP 2026 formulation process.

The results from the DEPP partnerships have been able to contribute to transformative change in some of the largest EMDEs. However, it is important to underline that it is a long-term transformational process – not a quick fix and DEPP progress is not necessarily linear. As in Denmark, energy planning and modelling for green transition is technically complex, political sensitive require high investments and it takes time before awareness and new capabilities leads to policies and implementation of investments. Accordingly, putting technical support in a political economy context is an important and ongoing task. On the other hand, impact is potentially high when turned into regulations or investment. Concrete examples are given in each CPD.

The GtG cooperation has also opened doors for Danish climate diplomacy and other diplomatic relations at the highest government levels. This has been evident with China where the collaboration has led to an annual joint launch at the Chinese pavilion at COP of the China Energy Transformation Outlook (CETO) by ministers and/or climate ambassadors from the two countries. Denmark has also been invited to participate in the G20 Energy Transition Working Groups by India, Brazil and South Africa during their presidencies in 2023, 2024 and 2025, respectively, and Denmark has been included in the JETP processes in Indonesia, South Africa and Vietnam. Furthermore, the GtG collaboration has opened doors for many high-level visits to Denmark to meet Danish companies, stakeholders and visit Danish energy sites. Examples of recent results achieved are given in Box 2.1 below.

[13] to be phased-out from 2029.

Box 2.1: Examples of results achieved in the five partner countries

China

Results from jointly developed outlooks and reports now feed directly into Chinese planning documents and strategies, drafted by officials that receive modelling training from DEA. In drafting the Fifteenth Five-Year Plan for the Energy Sector, for example, scenarios in the China Energy Transformation Outlook 2025 were used as a reference point. The report for the first time outlined a blueprint for China's 2030 power system, in which wind and solar will exceed 40% of total power generation and coal-fired units will transition entirely to flexibility-based generation. Scenario modelling has identified opportunities for structural emissions reduction and sectoral decarbonisation, as reflected in China's 2030 Renewable Substitution Plan which sets out pathways for fossil fuel replacement in supply and demand.

Indonesia

The national electricity plan now includes higher renewable ambitions and stronger regulatory oversight. Comprehensive modelling and data have improved the quality and credibility of long-term planning. Analytical tools and catalogues are being used widely to inform policy and investment decisions. Planning processes now enable more coherent dialogue across national energy and electricity strategies. Capacity is being developed to ensure sustainable, in-house expertise for future electricity system planning.

Mexico

The programme has contributed to Mexico's new NDC-target introducing for the first time an absolute emissions cap and the programme supported the work on the update of the national climate strategy that sets out long-term ambitions up to 2060 with stronger modelling foundations. Scenario analyses have been developed to guide future climate targets, including the 2035 NDC and net-zero pathways. National capacity in energy modelling has been significantly strengthened with new tools and methods. Climate planning is increasingly supported by long-term modelling as an institutionalized practice. Energy and climate goals are becoming more coherent and robust through data-driven planning.

South Africa

Renewable energy procurement frameworks are being strengthened to address grid constraints and enhance CO_2 mitigation. A comparative study on Mpumalanga and Northern Cape informs solar and wind deployment in current procurement rounds. Better frameworks are enhancing socio-economic benefits by optimizing electricity generation and grid use. The work has built individual and institutional capacity, feeding into policymaking and market development. It links directly to just transition priorities by identifying renewable opportunities in coal-dependent regions.

Vietnam

Based on the existing cooperation the revised Energy Efficiency law introduces voluntary agreements and reinforces regulations governing industrial energy use. Pilot projects have identified major savings potential and demonstrated the feasibility of new efficiency schemes. Training and capacity building are improving the quality of energy audits and investment-ready projects. New financing mechanisms, including an efficiency fund, will mobilize capital for industrial energy upgrades. The law marks a major step in reducing industrial CO_2 emissions and supporting long-term climate goals.

The DEPP III MTR recommended to explore the opportunities of triangular cooperation between Denmark and several of the DEPP partner countries. This has been done in Indonesia by supporting knowledge sharing on energy efficiency with Thailand and supporting the IEA regional ASEAN training week on energy efficiency. In South Africa, experiences from unbundling utilities have been drawing on examples of utility business models from Mexico and India, including direct knowledge sharing with Indian partners. In Vietnam, DEA facilitated triangular partner knowledge exchange with India and South Africa on power plant flexibility to integrate renewable energy in peak times. Enhancing opportunities for EMDE learning from each other is a relevant and complementary approach to demonstrate the relevance of a green energy transition. The triangulation effort will continue in the new phase when relevant opportunities present themselves.

The MTRs also emphasised several areas for further improvement and development. These have been carefully considered in DEPP 2026 design. For example, the context and partner assessments have placed emphasis on reflecting the political economy of the energy sector in each country and adapting to the national context as well as moving closer to operationalization and implementation including at sub-national levels, as a green energy transition matures. It was also recommended that DEPP could increase support to non-

governmental organisations such as think tanks and universities. This has been done in all countries, for example: (i) in China the Tsinghua University in Beijing delivers research inputs, (ii) in Vietnam the research institute 'Central Institute for Economic Management' is involved, (iii) in Indonesia the think-tank Institute for Essential Services Reform has been engaged in developing various knowledge-sharing and, (v) in Mexico the National Autonomous University of Mexico has been instrumental to support the modelling work.

A comprehensive evaluation by the MFA(LEARNING) of the DEPP programmes is expected to be completed in mid-2026, and DEA has participated in debriefings of the country missions conducted by the external evaluation team. Once the full report with evaluation conclusions is available, a formal management response will be elaborated to follow up on the recommendations from the evaluation and be implemented accordingly by the MFA, MCEU and DEA. Furthermore, the DEPP 2026 MTR is also expected to take stock on the implementation status of the evaluation recommendations.

Capacity Strengthening
The MTRs also stressed that it would be important for DEA to strengthen its capacity development approach, which has been done by conducting thorough and early partner assessments (see Annex 2 in each CPD). Additional resources have also been allocated to develop and continuously apply a stronger capacity development approach across all DEPP partner countries as set forth in the guidance note 'Integrated Approach to Capacity Development in Global Cooperation', developed by DEA, *inter alia* in order to enhance focus on institutional up-take of built capacity. This approach will continue to inform and guide the implementation of DEPP 2026 supported by resources dedicated to improve quality in monitoring and reporting in DEA-GC as well as to support ongoing reading of political economy and ongoing partner assessments.

As described in DEA's guidance note, understanding of capacity strengthening is approached at three levels: individual, organizational, and enabling environment. The efforts by DEA to reinforce, facilitate, or catalyse capacity strengthening accommodate all three levels, and they will systematically be guiding the results monitoring and reporting by DEA to the MFA. Sustainable institutional up-take of the knowledge transferred to partners and of their new capabilities is furthermore key as several country programmes in future are likely to transition to other forms of cooperation, where China will be the first country.

DEA conducts assessment of needs, priorities, resources and ability to influence policies of its partners in order to tailor support accordingly. The aim is to facilitate interventions that effectively target the goals established jointly with the partner institutions for their capacity strengthening. For this DEA offers a wide range of interventions such as study tours, basic level- or advanced training, advanced energy modelling and planning support, embedded experts, peer learning, analytical support etc.

The intention is to contribute to enhanced national capabilities that would lead to programme outcomes and impact when applied by partners, and at its best, capacity strengthening is embedded directly into partners real-time work streams, planning cycles, targets, etc. By this, new capabilities are institutionalised, and adopted to the national context and delivers progress towards established targets set out by the government.

Capacity strengthening involves multiple dimensions, identifying proxies that can predict capacity development results many years ahead in a complex, not linear energy transition development process. This is a difficult task, especially when trying to avoid the burden of a resource-heavy monitoring system while at the same time keeping results frameworks concise and being attentive to partner sensitivity concerns. Considering the long-term capacity building process with the partners in the past programme, the terms capacity development or strengthening of capabilities are generally more implicit in outputs and outcomes. Rather, focus is on how the enhanced technical capabilities dive forward concrete results targeted by the Government's own plans, targets and strategies. The results monitoring is thereby prioritising evidence of partner institutions beginning to apply the new technical capabilities they have gained and how this is reflected in concrete actions such as up-take of new technical knowledge/data, new policy reforms or concreate tenders for RE expansion.

Results may be expressed through new policies, regulations or standards, or through the application of new modelling capacities informing energy planning, NDCs or converting international standards for community consultations related to new renewable energy projects into practice. Such progress demonstrates up-take and use of the Danish technical support and knowledge sharing.

Hence, the indicators of the results frameworks constitute proxies for improved partner capabilities developed during the particular partnership. To better communicate the linkages between the efforts of the programme and predicted results, the CPD's results frameworks have expanded the Dandia-standard results framework format with indicative activities (often identified in dialogue with partners, as part of the conducted programming), which is believed to help better explain how programme activities are expected to attribute or contribute towards the outputs and outcomes.

Ultimately, the programmes are expected to contribute to long-term impacts at both national and global level. These include substantial GHG-emissions reductions aligned with national climate targets and 1.5°C pathways; improved energy security through lower fossil fuel imports, diversified supply, and strengthened resilience; inclusive green growth and local industrial development with new employment opportunities in clean energy value chains; and social benefits such as improved public health from reduced air pollution, more reliable electricity access, and more equitable economic opportunities. The evidence of uptake and use of capacity strengthening support is also an important consideration in sustainability and exit strategies.

3. Presentation of DEPP 2026

3.1 Framework programme objective, theory of change, key assumptions and drivers

3.1.1 Framework programme objective

The overall long-term and strategic objective of the DEPP 2026 Programme is *"A just and inclusive green energy transition in the five partner countries has been supported through advancement of clean energy development and implementation of short and long-term climate goals under the Paris Agreement."*

3.1.2 Theory of change

The narrative Theory of Change of DEPP 2026 as a framework programme can be summarised as:

If Denmark contributes grant funds for continued energy partnership under DEPP 2026 with China, Indonesia, Mexico, South Africa, and Vietnam.
And if DEPP 2026 engages within strategically chosen areas with national partners in these countries which have the relevant mandates and a strong continued commitment to the partnership.
And if DEA serves as an effective and efficient implementing partner for this cooperation drawing on extensive experience from numerous Strategic Sector Cooperation and Danish Energy Partnership Programmes (in currently 21 countries).
And if DEA collaborates closely with key national partners leveraging its core competences, best practice knowledge and experience, and applies a structured and effective approach to knowledge exchange and capacity development approaches including peer-to-peer exchanges, embedded long-term advisors, delegation visits including in Denmark, workshops, seminars, learning events and training courses, and triangular/South-South exchanges.
And if these activities are strategically designed to address the specific needs and priorities of partners, focusing on planning, strategies, regulatory, institutional, and technical measures aligned to partner institutions' own strategies and plans.
And if a multi-dimensional socio-economic and just transition approach principles underpin the cooperation as a whole.
And if the national partners strive for synergy between DEPP 2026 and other initiatives in their country in support of its just and inclusive energy transition and climate action.
And if Denmark strives for synergy between DEPP 2026 and international paradigms for green energy transition including through Denmark's multilateral energy and climate cooperation.

And if synergies between DEPP and Danish economic diplomacy activities are pursued where other Danish institutions such as Impact Fund Denmark and EIFO and the private sector can contribute with financing, technology and knowledge.

Then, scenario-based energy plans that demonstrate the cost-effectiveness of a just inclusive and green energy transition can be used for building consensus and driving forward the transition to meet affordable future power demands for households and enterprises to sustain growth opportunities aligned with the Paris Agreement on climate change.
And then, the countries' robust regulatory and legal framework for renewable energy and energy efficiency, and power system optimisation will facilitate investments into renewable energy and energy efficiency based on transparent tenders and stakeholder consultations also with disadvantaged groups.
And then, favourable conditions are set for an increased and sustained renewable energy (RE) share in the countries' energy mix and a reduced energy intensity which demonstrates that future energy demand can be met by renewables as the most cost-efficient pathway, as evidenced by partner capabilities and actions to deploy increasing levels of RE and strengthen EE in industry and buildings.
And then, a long-term contribution has been made towards a resource-efficient electricity system, providing more affordable, secure, and reliable power supply in partner countries benefitting nearly 2 billion people.
And then a long-term and sustainable contribution will have been made to a just and inclusive green energy transition in the five partnership countries through advancement of clean energy development and implementation of the countries' NDCs under the Paris Agreement and long-term climate targets (the DEPP 2026 objective).

The results frameworks and annual workplans will be the main vehicles for translating this DEPP 2026 theory of change into concrete partnership action.

3.1.3 Key assumptions and drivers of impact

Key assumptions
It is important to note that the DEPP programme in each country will be accountable for results at output level while outcomes and impact are within programme influence and interest, respectively, but depend on partner action – however, DEA is required to monitor results at outcome and impact levels. Assumptions relate to factors that are not (fully) within the control of DEA in implementing DEPP 2026, but which underpin the theory of change and include:

- Partner country government's sustained political support for NDC targets and related policy initiatives related to transparent governance of the renewable energy.
- Additionality and synergy ensured in a dynamic field with many actors.
- Relevant data and knowledge shared as needed also on broader topics such socio-economic and environmental impacts of renewable energy and open tender processes.
- Country partners engage effectively throughout the programme and value peer-to-peer exchanges of good practice and paths to avoid.
- Renewable energy is an enabler to meet future energy demand in the countries, including the electrification and digitalisation of society, while providing access to affordable and reliable energy to populations including low-income groups.
- The cooperation contributes effectively to enabling investment to be mobilised, where required, to complement institutional strengthening by attentions to synergies with Danish economic diplomacy.

Key drivers of sustainable impact

- Continued partner high-level political commitment and strategic engagement with Denmark to meet energy transition and climate targets.
- A structured approach to knowledge sharing, including delegation visits ("seeing is believing").
- Continued attention to the socio-economic aspects of the energy transition in the partnerships ensuring broad community and citizen support of new policies and actions.
- Effective communication of results and lessons targeted at decision makers.

- Triangular cooperation and sustained peer-to-peer exchanges also with other countries, including other DEPP partner countries in DEA's portfolio.

3.2 Summary of country programmes

3.2.1 China-Denmark Energy Partnership Programme (CNDEPP)

Since China is projected to graduate out of developing-country status within the programme period, the next phase of CNDEPP is set to be the last, and all programme activities will be completed by the end of 2029 at the latest. In this final phase, CNDEPP will build on long-established working relationships with key Chinese partners[14] but will adjust its scope and focus on the following three outcomes. A key objective will be to ensure sustainable up-take of the technical assistance over the past programmes and transition the Danish Chinese cooperation and climate diplomacy towards new forms of cooperation The CNDEPP objective is to contribute to the implementation and acceleration of the decarbonisation of China's energy system, including district heating, enabling an efficient, affordable and reliable access to energy aligned with China's climate targets. CNDEPP has three outcome areas which can be summarized as follows:

Outcome 1: Long-term Energy Planning and Modelling- This outcome strengthens energy system planning to support Chinese policymaking through the partnership with China Energy Research Institute (ERI). Leveraging Denmark's advanced expertise in energy system modelling and long-term energy planning, the project will enhance China's capacity to analyse the energy system. Moreover, an open-source power sector model is developed to strengthen a collaborative modelling ecosystem that expands stakeholder engagement, enhances capacity, and informs strategic energy policy making in China, complemented by annual thematic research focused on addressing ad-hoc policy needs. ERI, as the primary target, is expected to proficiently utilise energy models, providing well-coordinated and validated insights that accelerate the transition towards carbon neutrality.

Outcome 2: Renewable Energy Integration and Power Market Reforms. This outcome supports the integration of RE through power system optimisation and market strengthening. China is highly effective at installing new RE capacity; however, a significant challenge persists in fully integrating these RE resources into the broader energy system. Drawing on Denmark's experience in enhancing flexibility within the power system to integrate large shares of RE, this outcome aims at accelerating the electrification and decarbonisation of the energy system. Focus will be on regulatory aspects of a unified national power market, new pathways for scaling green hydrogen and energy storage, as well as demonstrating the benefits of integrated heating and power system through sector coupling.

Outcome 3: Decarbonisation of the heating sector. The third outcome explores innovative pathways for the design of integrated heating systems in China. DEA will present the Danish and international experience on building supply-demand-driven heating model based on electricity market pricing, as well as optimising integration of clean local heat sources.

The programme seeks to disseminate its findings to critical stakeholders beyond the core partners, including government agencies, provincial governments, State-Owned Enterprises and key universities providing advice to the government.

3.2.2 Indonesia-Denmark Energy Partnership Programme (INDODEPP II)

The INDODEPP objective is that Indonesia has strengthened the enabling framework for a just, cost-efficient, transparent electricity sector transition that increases supply security, expands renewable energy share, and reduces energy intensity in line with Indonesia's Net Zero goal and NDC targets. INDODEPP has four outcome areas which can be summarised as follows:

[14] The CNDEPP builds on the former DEPP III programme and the SCC-programme on district heating which has now been integrated in the final transition phase.

Outcome 1: Strengthened least cost and robust energy planning. This outcome strengthens long-term energy planning and modelling with national ministerial partners. Key actions include: strengthened power sector modelling and co-development of comprehensive documentation to support sustainable exit; institutionalization through national level training unit; modelling of various development scenarios; support processes for development-and updates of technology catalogues and guidelines; contributions to key analyses and outlook reports. The expected result is that ministerial recommendations on energy policy and planning are based on high-quality data and diverse modelling toolkit, ultimately, strengthening the least cost and robust power planning as part of Indonesia's energy transition enabling integration of higher shares of affordable and reliable renewable energy sources. Procedures and internal capabilities in energy planning and modelling should accordingly be institutionalized and sustainable with only limited support from DEA.

Outcome 2: Increased integration of variable renewable energy in the Indonesian energy system. This outcome promotes increased integration of VRE supporting the vertically integrated TSO and utility company to be on track to reach the ambitious VRE targets by 2034. Key actions include: strengthening the partner's ability to develop a pipeline for the roll out and implementation of wind projects through support for multi-site selection for bundled tenders; grid connection and stability studies; knowledge-sharing on tender procedures, pipeline, business models and support schemes; capacity development to strengthen grid management, focusing on topics such as tools in control centers and back office, voltage and frequency control, balancing, grid stability and control. The expected result is that the vertically integrated TSO and utility company has gained a significant increase in capability on handling VRE as part of daily operations, and concepts and tools have been shared with relevant control centers in Indonesia and implemented as found relevant by the partner.

Outcome 3: A transparent and effective regulatory and institutional framework leading to a cost-effective implementation of energy efficient policies, strategies and plans for public buildings and industry. This outcome supports the identification and implementation of key energy efficiency regulation and measures for the buildings and industrial sectors, which reduces the overall energy intensity. Key actions include: transfer of knowledge regarding energy management through 'train the trainer' workshops; cooperation on regulatory frameworks; voluntary agreement schemes based on existing non-fiscal incentives in the Food and Beverage industrial sector; support implementation of energy efficiency measures in public buildings, based on technical guidelines and capacity development; support for the development of a consistent national approach to energy conservation and sustainable building practices, based on technical guidelines and capacity development. The expected result is that existing non-fiscal incentive schemes and targeted initiatives for EE in the Food and Beverage sector are implemented, and that energy efficiency standards, labelling and targeted initiatives to promote energy efficient building operations are implemented, potentially demonstrated by a pilot province.

Outcome 4: Energy transition in provinces supported through inclusive energy planning and increased reliance on renewable energy. This outcome strengthens local energy planning across Indonesia and supports the implementation of planned renewable energy projects in selected partner provinces. Key actions include: development of generic guideline for local energy planning, including concrete tools to support local energy planning; 'train-the-trainers' by strengthening national partners' ability to support local energy planners; developing tools and guidelines enabling national partners to initiate a coordinated approach to local energy planning; developing a guideline for good governance and local consultation; supporting the improvement of local permitting processes. The expected result is that Indonesian provinces use a coordinated approach, guidelines and tools supported by national partners to develop streamlined holistic local energy planning of improved quality. It is further expected that implementation of renewable energy projects and attraction of investments has begun in selected provinces in accordance with implementation plans.

3.2.3 Mexico-Denmark Energy Partnership Programme (MXDEPP)

The MXDEPP objective is that Mexico has developed sustainable, clean energy pathways in accordance with the NDC 2035-target and Mexico's long-term net-zero target and has improved policies and plans to accelerate and implement a just and inclusive transition contributing to affordable and reliable clean energy

to power a sustainable socio-economic development. MXDEPP has three outcome areas which can be summarised as follows:

Outcome 1: Long-term Energy Planning and Modelling. This outcome strengthens Mexico's capacity to plan its energy future using least-cost, data-driven approaches. Key actions include: expanding Mexico's modelling capacity and energy data (e.g., technology catalogues) and continue support for modelling tools to set climate targets; and integrate socio-economic aspects (jobs, household energy costs, rural development, health) into planning. This will also open opportunities for improved transparency and involvement of society. The expected result is that Mexico carries out its own long-term planning and energy modelling, in order to operationalise its climate goals of increasing clean energy from 23% to at least 38% and carry out the necessary planning for the ongoing de-carbonization of the Mexican energy system in a manner that is just and inclusive.

Outcome 2: Energy Efficiency. This outcome facilitates a national push for energy savings in large energy consuming sectors, hereunder the industry and building sector as these two sectors combined are using a significant part of the total energy consumption in the country. Key actions include: demonstrating efficiency benefits through modelling; reducing energy use, costs, and CO_2 emissions in industry and buildings; and expanding both voluntary commitments and public-private climate partnerships to more companies. Social benefits can include lower costs for small businesses, competitiveness gains and green jobs. The expected result is that the Mexican authorities develop and implement policies, strategies and measures, which aim to increase energy efficiency especially in industry at both state and national levels. It is expected that 100 voluntary agreements with companies can be achieved and new ambitious energy reduction targets set by high energy-consumption sectors. Furthermore, new technologies can be introduced which will enhance opportunities for the private sector and Mexican/Danish commercial ventures.

Outcome 3: Renewable Energy Integration and Deployment. This outcome supports Mexico in building a flexible power system to integrate more renewable energy. Key actions include: establishing a joint taskforce to increase power system flexibility; strengthening national capacity to manage variable renewables; and supporting the government in creating a framework for offshore wind development. Social benefits can include green job creation, reskilling in marginalized regions, and ensuring that coastal communities benefit from offshore wind through jobs, investments, or compensation schemes. Synergies to social co-benefits will be enabled and possibilities to meet Mexican demands for greater Mexican/Danish investment will be explored. The expected result is that Mexico is developing a flexible power system and increasing its share of renewables in the electricity production in a just and inclusive manner that delivers reliable and affordable energy security.

3.2.4 South Africa-Denmark Energy Partnership Programme (SADEPP)

The objective of SADEPP is that South Africa has enhanced its capabilities to successfully implement a just and equitable clean energy infrastructure development which supports the ambitions outlined in its NDC goals and in accordance with its commitment under the Paris Agreement. This objective is achieved through a combination of national actions by South African energy authorities and supportive capacity strengthening through the below listed outcomes targeted by SADEPP. In general, the modality will build upon a broad and cross-institutional participation of stakeholders, a systemic approach developed and implemented with significant achievements during the last part of DEPP III.

Outcome 1: Improvement of Regulatory and Policy Frameworks. This outcome will support the development and maintenance of a strong regulatory framework to guide fair and affordable development of renewable energy in the country. It will support refinement and development of policies to enable a more competitive and sustainable energy sector, and thereby support extension of the economy. Key actions include strengthening of least-cost energy modelling and targeted support in shaping policy and regulatory frameworks, including considerations of affordability when working with development of cost-effective tariffs. In order to enhance renewable energy generation, the sector faces challenges around grid capacity, requiring measures to ensure optimal utilisation of existing grid in the immediate term, with a further

requirement for 14,000 km grid expansion over the next ten years. In light hereof, this outcome will also include for support for optimising RE procurement models and system infrastructure development.

Outcome 2: Liberalisation of Electricity Supply and Distribution. Through a cluster approach with participation of all affected partners, this outcome will support the implementation of sector reforms and market development in line with the recently introduced Electricity Regulation Amendment Act and emerging policy and regulatory reforms. It will entail technical cooperation on (i) market design and rules to support the liberalization of the electricity sector, (ii)establishment of clear roles and responsibilities to support a well-functioning market with accountability and efficiency and (iii) effective unbundling of the electricity sector to facilitate market development, strengthen transparency and attract (infrastructure) investments. This outcome will support and accelerate the formation of the South Africa Wholesale Electricity Market and necessary sector reforms, aiming to attract increased private investment in South Africa's electricity sector, creating opportunities for private actors in South Africa and internationally, including Denmark. Concretely, the aim is to support an increase of investment in South African electricity infrastructure from the current level of R80 bn per year to R400 bn per year in 2030.

Outcome 3: Integration and Deployment of Renewable Energy. This outcome will support the integration of increasingly higher share renewable energy in the operation of the power system of South Africa while at the same time facilitating a reliable and affordable supply of electricity for all. The target is to increase renewable energy in the South African energy mix for electricity generation from the current 8% to 33% in 2030. To attain this, (i) enhanced data management and digitalization leading to a more efficient system operation is needed, (ii) system robustness, security and reliability must be supported, and (iii) measures to further strengthening flexible system operation must be put in place, all of which will be addressed by SADEPP with targeted technical capacity strengthening activities. One tangible target is to strengthen the system flexibility in order to keep the curtailment of renewable energy projects to below 5 % – a 50 % reduction from the current 10 %, which the system operator is now allowed to curtail wind projects.

3.2.5 Vietnam-Denmark Energy Partnership Programme (VNDEPP)

The objective for VNDEPP is to "Facilitate a just green energy transition in Vietnam, by enabling clean energy development and implementation of Vietnam's long-term climate goal of a net-zero society by 2050". VNDEPP will strengthen capacity development and institutionalize knowledge, tools and approaches on long-term energy planning; integration of variable renewable energy; and unlocking of investments in energy efficiency in industry, with a strong orientation towards implementation to ensure a targeted, effective and sustainable impact.

VNDEPP has three outcome areas which can be summarised as follows:

Outcome 1: Secure and renewable-integrated energy system. This outcome strengthens Vietnam's capacity in long-term energy planning and integration of renewable energy, enabling Vietnam to cost-efficiently meet the future energy demand while achieving a sustainable and just energy transition. Key actions include: increasing the policy relevance of the Energy Outlook Report, including analyses on security of supply and socio-economic aspects; broadening the energy planning community (e.g. academia) to ensure sustainability and institutionalization of planning tools and principles; developing capacity of provincial authorities in implementing energy policies and allowing further uptake of renewable energy including offshore wind, thus ensuring RE projects acceptance, inclusivity and development of needed infrastructure at local level; support to market development and increased flexibility of power plants to enhance the integration of renewable energy

Outcome 2: Optimized grid operation. This outcome supports Vietnam's operation of the power grid to integrate an increasingly higher share of renewable energy, while ensuring reliable and affordable electricity for all. Key actions include: strengthening the technical capacity to operate the power system with high shares of variable renewables, including optimization of interconnectors, management and monitoring of RE

generation, and enhanced skills for analysis-based system adequacy assessment; development of regulatory framework and effective governance for a cost-efficient power system operation.

Outcome 3: Energy efficiency in industry. This outcome promotes uptake of energy efficiency in Vietnam's industrial sector, currently responsible for around half of the national energy consumption. Key actions include: institutionalization of capacity for implementing incentive schemes (e.g. in a technical Energy Efficiency Centre of Excellence); strengthening of analytical capacities in assessing EE policy measures; facilitation of investments in energy efficiency through national funding mechanisms; development of technical guidelines and trainings on the carbon market. The outcome will enable the investment environment on EE projects thereby contributing to energy savings, improving competitiveness of the private sector, enhancing opportunities and conditions for workers, and ensuring adherence with national emission reduction targets.

4. Institutional arrangement and management set-up

DEPP 2026 will form part of DEA GC overall governance structure with MCEU and MFA (KLIMA and MYNSEK), as further described below. Furthermore, each country programme will have its own governance and management structure with national partner institutions. This set-up builds upon previous and ongoing partnership structures with slight variations between the five countries. Common features of each in-country steering and management setup is briefly outlined in the below, and for specific details on structure, functions, composition, and meeting schedule reference is made to the presentations in the CPDs.

Strategic Advisory Group (SAG)
The SAG, based in Denmark, acts as the highest decision-making authority on the DEPP 2026 programme. MCEU and MFA have already established a well-functioning SAG, which for several years has been strategically guiding the full portfolio of energy GtG programmes implemented by DEA. SAG consists of the responsible MFA units (MYNSEK and KLIMA), MCEU and DEA, all with representation at management level. DEA acts as secretary to the SAG, which meets every six months to discuss overall programme progress, approve cross-programme budget changes, including approval of the use of unallocated funds, changes in budgets and changes in outcomes and outputs following the Danida Aid Management Guidelines. The SAG also discusses broader developments, e.g. changes in government policies, and broader coherence and synergy with Denmark's multilateral energy and climate cooperation. From 1 January 2026, an internal transfer of the administrative responsibility for DEPPs in the MFA has been initiated from KLIMA to MYNSEK. The transfer is being made gradually and expected to be completed by end of Q2, 2026. It is expected that KLIMA will continue being engaged with DEPP 2026 in relation to following more technical and thematic areas related to energy and climate, and will also continue to participate in SAG meetings alongside MYNSEK but with a more limited responsibility.

Programme Advisory Group (PAG)
The PAG is part of the already established governance structure and reports to SAG. It consists of representatives from the responsible MFA unit (MYNSEK) alongside KLIMA, MCEU, and DEA and meets annually prior to the first SAG meeting of the fiscal year. DEA will prepare the annual narrative progress reporting for the MFA assessing the development of partner capacity in relation to achievement of outputs and outcomes. Further, it will consider risk mitigation measures informed by systematic assessment of assumptions and risks as part of DEA internal quarterly meetings with participation at DEA-GC Director level. Moreover, DEA prepares the annual financial accounts and remaining budget for presentation to and endorsement of the PAG. PAG will present any observations or recommendations to the SAG based on review on annual progress and financial reports.

In-Country Steering Committees (SCs) or similar

The SC[15] is the forum for overall strategic policy dialogue and agreement on the direction of the partnership between Denmark and the partner country, and for discussing and deciding on the overall priorities of the cooperation in accordance with the Memorandum(s) of Understanding between the Denmark and the partner country/institutions. The SC will meet annually in-person, and a written procedure can be used to agree on updates/changes in between meetings. The SC will approve annual workplans and progress reports and monitor results, assumptions, and risk factors, and provide guidance on issues related to progress and results of the cooperation and make recommendations on reallocation of resources for decision by DEA and the MFA. The in-country Steering Committees are important in the DEA's equal partnership approach and allows to discuss allocation of the available annual programme resources to meet partner institutions needs and wishes for the cooperation.

In-country Technical Working Groups (TWGs) or similar

Under each Outcome TWGs or similar[16] are established to ensure effective commitment and engagement of the relevant partners in regular coordination and management of the development and implementation of the agreed annual workplans. While their exact composition varies across the five countries as explained in each CPDs, there is always representation from partner institutions and from the DEA. The TWGs will meet at least twice per year and have the responsibility to: i) develop, consolidate and check annual workplans and resource allocations against workplans; ii) monitor programme progress and results at output level; and iii) ensure cross fertilisation within and between engagements and work streams.

5. Budget allocation, financial management and reporting

5.1 Budget

The total budget for the DEPP 2026 programme is DKK 372.0 million of ODA-eligible grant funds sourced from the Danish Finance Act (FL-konto 06.31.01.70) has been committed in FL2026 and FL2027. This corresponds in absolute terms to the budget levels for DEPP III and INDODEPP combined, albeit at a lower level when adjusting for inflation. Unallocated funds of 9.9 % provide flexibility in programme implementation in the highly dynamic context for DEPP 2026 and enables the programme to respond to emerging needs and priorities that were unforeseen during formulation. At least half of the unallocated funds reserve should be allocated by Ultimo 2028 and that a plan for allocation of the remaining unallocated funds is presented for the consideration of the MTR. Types of expenses eligible for support with unallocated funds are the same as expenses programmed with allocated funds.

Table 5.1: Budget allocation

DEPP 2026 budget allocation	DKK million
China (CNDEPP)	44.0
Indonesia (INDODEPP II)	75.0
Mexico (MXDEPP)	53.0
South Africa (SADEPP)	80.0
Vietnam (VNDEPP)	60.0
Unallocated funds 11.1%	41.4
Programme Management Support	17.6
Mandatory Mid-term Review (administered by MFA)	1.0
Total	**372.0**

Programme support entails resources corresponding to two full-time equivalents (FTEs) with MCEU and 1.52 FTE with DEA for ongoing financial controlling, annual reporting of budgets and accounts following

[15] In CNDEPP it takes the form of ministry level "Steering Groups". In SADEPP this is called the 'Steering and Oversight Committee'.

[16] In CNDEPP these are referred to as "Project teams". In SADEPP there are Outcome coordination groups and Output working groups. IN VNDEPP these are called Implementation groups.

formats requested by the MFA as well as other programme management related tasks of the implementation of the programme, including support for the SAG.

Except for VNDEPP, the rationale for budget allocation by country is to largely maintain the activity level as realized in recent 3-4 years to respond on partners demand and expectations. DEPP III with Vietnam received extra funding in 2022 for enhanced engagement in energy efficiency in particular, and the VNDEPP allocation is substantially lower than the total budget allocation for the partnership with Vietnam under DEPP III.

No LTA will be posted for the CNDEPP, and funding of LTAs to be posted in Mexico is from the Danish Finance Act (FL 06.38.02.13) hence separate from the above, whereas the other country budgets will cover two LTAs each corresponding to 22.5 DKK million.

5.2 Financial management and reporting

DEPP 2026 grant funds will be transferred from the MFA to the DEA upon written request, and DEA will be responsible for all financial management and reporting on DEPP 2026 funds. The financial management and reporting procedures will be as defined by the Danida guidelines and further specified in the Agreement to be signed between the MFA and DEA.

As no cash funds will be transferred or disbursed through national partners directly, there will be no requirements for accounting of funds and financial reporting by national partners. In order to monitor the use of budgets for delivery of technical assistance in-country, DEA and international and national consultancy inputs will be budgeted in terms of days delivered in-country consistent with agreed work plans and as agreed between DEA and the national partners. DEA-time spent with partners is reported in the annual progress reporting to the MFA(MYNSEK). Budgets and actual expenditures at outcome and output level will be presented in the annual financial reporting to the MFA (MYNSEK). Break down on the cost categories: DEA staff, Consultants; other costs, will be available to the MFA (MYNSEK) upon request. The cost category Other Costs, covers such as travel costs of DEA staff, expenditures related to in-coming study tours and delegation visits and to partner staff's participation in courses held by the Danida Fellowship Centre. The progress- and the financial reports will help PAG to assess value for money at its annual meeting.

DEA-GC uses the DEAs annual salary cost rate for the implementation of DEPP 2026. DEA follows the prevailing guidelines from the Agency for Public Finance and Management (APFM, Økonomistyrelsen in Danish) under the Ministry of Finance for calculating annual salary costs. Direct salary costs for a FTE are currently calculated by dividing DEAs expected salary costs for professional FTEs by the estimated number of professional FTEs in the given year. In addition to the direct salary costs, there are indirect costs in the form of overhead which also follows APFM guidelines. Based on the budget for the given year, DEAs average overhead costs per FTE are calculated. This is divided into overhead salary (support functions, senior management, etc.) and overhead for other costs (building maintenance, office equipment, etc.). This approach is followed for all DEA-GC programmes including SSC projects in accordance with the SSC Guidelines.

The detailed requirements for annual financial and narrative annual reporting will be included in the Agreement signed with DEA which also includes references to meeting MFA requirements related to anti-corruption, child labour and sexual harassment, etc.

The transfer of funds is expected to follow the disbursement plan outlined on the cover note of the present framework programme document and it will be subject to monitoring of expenditure. DEA will be responsible for submitting disbursement requests and should confirm once funds have registered on the DEA account.

DEA is responsible for submitting the financial accounts of the DEPP 2026, an annual report on progress against the programme document results framework to the focal point at the MFA no later than 31 March each year. The submission should be made in a separate email.

Within six months after the date of completion or termination of the Agreement, a final report will be delivered summarizing activities and impact of activities as well as financial data. In case of CNDEPP, all activities should be completed by end of 2029, and it will not be possible to provide no-costs extensions or cover any associated costs to closing down activities beyond end of 2029 as China will no longer be eligible for ODA funding. Upon completion of the grant any unspent funds must be returned to the MFA. DEA will follow prevailing guidelines from the APFM with regard to interest accrued on the Danish grant.

The responsible MFA unit holds the right to carry out any technical or financial mission that is considered necessary to monitor the implementation of the DEPP 2026 programme. After termination of the programme support, the MFA reserves the right to carry out evaluation in accordance with this.

As the DEA is a Danish Public Agency subject to the audit by the Auditor General of Denmark, a statement of accounts signed by the management of the DEA will suffice for the need for audit of the funds received from the MFA.

In alignment with applicable Strategic Sector Cooperation guideline, the Danish Energy Agency must be able to document upon request that a minimum of 50 % of working hours spent in the Programme by DEA staff has been in direct interaction with national partner staff in the countries (in relation with technical missions, delegation visits, study tours, meetings, videoconferences, training courses etc.). Travel time spent by the Danish Energy Agency on missions to the partner country may be counted as *Time With Partner*. For the documentation, DEA is eligible to account the time of Long-term Advisers posted in-country as *Time With Partner*. This includes Long-term Advisers, if any, posted at the Danish Embassy.

6. Work planning, adaptive management, monitoring and reporting of results

6.1 Work planning and adaptive management

Work planning
Procedures and processes for co-development of annual work plans are in place in all five countries. Work planning is an ongoing process where annual work plans will be developed to align to partners' priorities and requests, and availability of DEA specialists and consultants, balanced with available resources from partner's side as well as from the programme's side. Staff and other resources allocated by partners to achieve the specified outputs and outcomes should be discussed with partners and considered in the annual work planning. Albeit the Danish side cannot impose or require any specific resource allocation from partners, it is very important to gain sufficient confidence in partners willingness and ability when planning a specific activity. DEA will also present the available technical resources for coming work plans to meet the partner institutions needs and priorities.

Work planning will be prepared with partners at TWG level, for endorsement at Steering Committee [17]level. The annual work plans will define annual activities, annual output targets and link these directly to the results framework of each country programme. Work plans for 2026 covering the transition from the current programmes to DEPP 2026 are already well advanced in all five countries.

Adaptive management
In line with the MFA's "Doing Development Differently" initiative, relevance and effectiveness will be strengthened through increased emphasis on coherence (see e.g. Annex B) and by an adaptive management approach with an increased emphasis on results, learning and national ownership. Adaptive management provides for flexibility and adjustments reacting to opportunities for positive change but also to enable rapid action to identify alternatives, in case conditions and partnership relations might change unfavourably.
More specifically:

[17] Note that TWG and SC are used here as the generic terms, while the differences between the five countries mentioned above in Chapter 4 should be noted.

- Changes in outcomes and outputs can be approved by the Head of the responsible MFA unit (MFA(MYNSEK)). For outputs, the changes must align with the related outcome.
- Reallocation between budget lines. The implementing partner (DEA) can reallocate up to 10% of a budget line to other budget lines, whereas changes exceeding 10% must be presented to and approved by SAG and finally approved by the Head of responsible MFA unit (MFA(MYNSEK).
- Unallocated funds provide a resource for support to interventions beyond the approved results framework, when an unforeseeable and strategic opportunity arises with existing or new national partners that will contribute to the objectives of DEPP 2026 (such as expanding on subnational level interventions as the partnerships mature and opportunities arise, or follow-up on triangular cooperation opportunities engaging DEPP 2026 partner institutions with DEAs partners from across its portfolio of international cooperation). Proposals for use of unallocated funds must be endorsed by the concerned Country Programme Steering Committee and recommended though DEA to the SAG, which will decide - and through this process be approved by the relevant MFA director level. Criteria for prioritisation are i) evidence of clear national partner interest and demand as well as a plan for how it will lead to sustainable development results; ii) strategic or innovative aspects; iii) increased partner demand to enhance/broaden expected targets and results within a given area, (iv) must support the objectives of DEPP 2026. It is the intention that at least half of the unallocated funds reserve is allocated by Ultimo 2028 and that a plan for allocation of the remaining unallocated funds is presented for the consideration of the MTR. Normal Danida quality assurance procedures apply to MFA approvals of the use of unallocated funds.

6.2 Monitoring, reporting and communication of results

Results monitoring and results reporting for the national Steering Committees

Following Danida Guidelines, monitoring and reporting will be based on the results framework at output and outcome level, and DEA will, jointly with each national partner institution, monitor progress towards achieving these outputs and outcomes via annual progress reporting to the SC for its approval.

Monitoring towards targets set forth in the results framework will be reported through the progress reporting to the SC using a "traffic-light" system, where:

- "green" is on-track – implementation progresses as scheduled.
- "yellow" is partly on-track, which requires SC attention and potentially remedial action to get back on-track.
- "red" is off-track, which requires urgent attention by the SC and recommendations on changes to get back on-track and/or recommend reallocation of resources. If "red" in two consecutive reporting periods, the SC could consider extraordinary remedial measures such as setting up a task force.

In addition to the progress reporting for the national SCs, an annual progress report for the MFA will be prepared by DEA for approval by PAG as part of the consolidated DEA annual progress reports across all five DEPP 2026 countries[18].

Communication of results

The annual reporting by DEA on Denmark's carbon footprint (in Danish, global afrapportering) provides a concrete recurrent opportunity for presenting cases from the DEA's GtG programmes, as does the presentation of selected cases uploaded annually at the Open Aid by the MFA. Besides this, events, publications from programme activities, in-coming delegation visits and high-level meetings etc. are often communicated on ongoing basis at the platforms/social media/web pages used by the DEA-GC and partner institutions in particular.

An external communication plan at DEPP 2026 framework level is found in Annex D of the present FPD and country level plans for communication are found in Annex 7 in each CPD. The execution of these communication plans is contingent upon the availability and appropriate use communication channels of DEA, MCEU, Embassy of Denmark in the concerned countries, and the MFA respectively. Implementation will be aligned with the priorities and requirements of the wider organization, ensuring that communication

[18] Note that China will be phased out in 2029 whereafter reporting will only cover four countries.

activities are coordinated, consistent, and supportive of overall organizational objectives. Adjustments to the plan may be made as necessary to reflect evolving needs, resources, or strategic direction, and as the programme will begin harvesting more concrete results, more external communication could be considered.

7. Risks

A brief summary of key risk factors, mitigating measures, and residual risks is given below for DEPP 2026 as a whole. In each of the CPDs, Chapter 7 similarly summarises key risk factors, mitigating measures, and residual risks – and Annex 4 to each CPD contains a full risk management matrix tailored to the country contexts.

Contextual risks

- Global geopolitical tensions impacting energy planning and green energy infrastructure investments, including the recent US resistance to renewable energy technologies and withdrawal from the Paris Agreement, but also more ambiguous EU position and challenges in the partner countries.
- Resistance to energy transition due to different political-economy interests in the energy sector, e.g. powerful economic fossil fuel interest, industries in risk of being affected, social stakeholder groups with potential adverse impacts or opinion makers not believing in a green energy transition. Challenges of implementing costly and complex grid developments. Political change of government that can lead to disrupting ongoing planning processes.

Mitigating measures: Provide targeted support for the enabling environment for a cost-competitive green energy transition and climate action that is based on inclusivity, affordability, security of supply and facilitation of investments in renewable energy and energy efficiency. Close dialogue between the MFA, MCEU, DEA and embassies to monitor potential changes in political commitments at country level.
Residual risk: Minor to DEPP 2026 as such.

Programmatic risk

- Limited resources and managerial capacity in national partner institutions due to shortage of staff and risk of not applying enhanced capabilities to improve policies, regulations and planning.
- Non-acceptance by key partner institutions to host long-term advisers.

Mitigating measures: Systematic approach to assessment of partner needs, resources and priorities for knowledge exchange, technical assistance and capability strengthening which is close to ongoing policy priorities and implementation Robust peer-to-peer partnerships at middle level management and technical levels. Adherence to agreed frequency of Steering Committee (SC) meetings ensuring that the SC serves as effective accountability mechanism. Extended use of short-term advisors with longer stays in-country plus seeking longer country missions for DEA staff to partly compensate for absence of planned long-term advisers.
Residual risk: Minor to DEPP 2026 as such.

Institutional risk

- Risk of insufficient coordination and synergies with other initiatives in complex and dynamic contexts.

Mitigating measures: Actively pursue coherence with Denmark's multilateral cooperation with the World Bank, IEA, IRENA, NDC Partnership, etc. as well as other initiatives and coordinate these efforts with the Danish Embassies in the DEPP 2026 countries who are actively engaged in relevant coordination mechanisms underscoring the comparative advantages of the GtG, peer-to-peer approach that most other development partners do not offer.
Residual risk: Minor to DEPP 2026 as such.

Assumptions underpinning the theory of change were summarised in Section 3.1.3 above and similarly in Section 3.2. in each CPD. Assumptions and risk factors are interconnected. Risks can be seen as the factors that might have given rise to failure of assumptions. In each CPD, a table illustrating the linkages between assumptions and risks is found at the end of Annex 4.

Risks and related assumptions will be systematically monitored throughout implementation, as part of regular programme dialogue, progress reporting, and review processes. This will include review of relevant assumptions/risks in quarterly DEA team meetings, in the annual narrative progress report, and in deeper review as part of the planned MTR. If monitoring indicates that a residual risk is increasing towards a significant level, or that critical conditions are emerging, this will trigger a structured reassessment of the affected outputs and outcomes. Remedial actions may include adjustment of scope, redesign of support modalities, temporary suspension of activities, or reallocation of resources, as decided by DEA in consultation with the Steering Committee and the SAG. This adaptive management approach ensures that support remains relevant and proportionate to the evolving risk environment, while maintaining alignment with programme objectives. However, it is difficult to foresee specific events or "red lines" where risks are too high, and programme outcomes need to be significantly modified. Thus, ongoing monitoring of risks and assumption in the specific context is important.

Where residual risk is assessed as ***significant***, this will be closely monitored from the start of programme implementation, and scenarios/red lines for remedial action will be formulated by DEA who will keep the Strategic Advisory Group (SAG) informed through progress reporting and make any recommendations for decisions required by SAG, such as reallocation of resources for outputs or outcome that may no longer be relevant or feasible. Remedial action will in such cases be considered in further detail by the country programme Steering Committee.

Where residual risk is assessed as ***major***, the programme will define clear warning signs that indicate when an output or outcome might no longer be relevant or feasible. These are not rigid cut-off points or red lines, but triggers for dialogue and reassessment. Such conditions could include the following, as further specified in Chapter 7 in each CPD:

- Major shifts in geopolitical developments.
- Structural changes in institutional mandates affecting core partner institutions and effective inter-ministerial/inter-agency coordination.
- Critical deficiencies in managerial capacity in national partner institutions and major staff turnover, including of staff that benefits from programme capacity development support.

In the past DEPP programmes, country specific context changes combined with global trends have influenced the programmes. At global level, COVID19, the global energy crisis after Russia's full-scale invasion of Ukraine and geopolitical uncertainty have influenced the overall operation of the DEPP programme combined with country specific changes. In some cases, this has led to change in the entire outcomes and in other minor adjustments in outputs or budgets.

8. Sustainability, transition and exit

All DEPP 2026 partner countries have received technical support from DEA for 10-15 years. Under the coming phase of support under DEPP 2026, DEA will, working closely with national partners, keep a strong focus on sustainable knowledge exchange and uptake as an integral part of all programme activities. Given that capacity strengthening requires time and considering the temporary nature of development cooperation, this focus on sustainability of results and a well-structured exit strategy for DEPP 2026 is essential to guarantee that Danish-supported energy initiatives continue to drive sustainable development beyond 2030.

Exits must be planned with efficiency and sustainability in mind, minimizing transaction costs while maintaining long-term benefits. Stakeholder input will be essential to ensure that the transition is effective and aligns with the broader objectives of a green energy transition. The very purpose is that knowledge is transferred, and new capabilities have resulted in sustainable institutional uptake which has contributed to improve national energy modelling and long-term energy planning or contributed to improve new regulations or policies promoting more renewable energy and/or energy efficiency and attracting investment in the energy

sector. Several of the outcomes in each country programme are expected to reach mature stages of institutional uptake whereby partner institutions independently or with limited further support can sustain the new capabilities developed. The DEA Integrated Approach to Capacity Development in Global Cooperation will guide this process and the exit strategy will expectedly be subject to assessment by the planned MTR.

It is essential that the exit strategy is not merely seen as an administrative closure, but as a dynamic transformation process intended to support a sustainable development journey for the partner countries. It must be recognized that the exit process is anchored in both macroeconomic trends, geopolitics, and the evolving demands of development cooperation. The technical knowledge built should ideally inform relevant policy makers and by this enable the sustainability of the supported activities. Therefore, the results frameworks are also guided by the national targets expressed by the partner countries in NDCs, energy outlooks, and other official statements.

From a narrower DEPP perspective, the transformation aspect must be considered. The exit strategy should not solely be about withdrawing Danish support but about transforming the relationship—from a development partnership into new and broader forms of partnership where commercial, diplomatic and political cooperation is intensified if possible[19].

As China is expected to graduate to a high-income country before 2030, all CNDEPP activities will be sustainably phased out from 2029, and initial steps for transition strategy development for the partnership with China is addressed in the CPD for CNDEPP. The MFA and DEA will during the course of the programme period consult projections from OECD and the World Bank regarding other of the supported countries graduating from Official Development Assistance (ODA) eligibility status. However, it is the expectation that most countries will have reached institutional technical capabilities in several areas towards 2030 and potential future cooperation would focus on more narrow technical areas of the cooperation or emerging trends and technologies. As the technological development of the energy sector is evolving fast, the transition towards new forms cooperation is also likely to be based on more mutual learning where Denmark increasingly also will take new knowledge home. It could be in new technological areas such green hydrogen, management of large grids or storage. In South Africa, DEA has already taken home knowledge about how to manage power blackouts which was covered by own resources but building on strong institutional cooperation with the South African authorities.

It will be a joint task by the MFA including the embassies, the MCEU and DEA to consider how to transition the individual partnerships to other forms of (development) cooperation. Early considerations include such as (i) expanding a potential new phase of the Energy Governance Partnership (EGP)[20] programme to cover collaboration with concerned countries if financing for a new phase becomes available; (ii) broader Team Europe approaches to continue technical cooperation within a EU framework and large-scale Global Gateway projects; (iii) ability to expand engagement of a broader resource base in the countries such as knowledge institutions, universities and national consultants to enable broader national modelling network to support the relevant institutions, (iv) and investments through the private sector related to technological products, consultancy services and investment in infrastructure.

Further details on sustainability and development of exit strategies are described in the CPDs. It is expected that a key focus in the MFA's mandatory MTR in 2028 will be to assess sustainability and exit strategies. Furthermore, the ongoing evaluation of DEPP is also expected to be able to deliver relevant inputs for

[19] Guidelines for Programmes, Projects, Country Strategic Frameworks & Hard Earmarked Multilateral Support (MFA, 2024)

[20] The EGP is funded through the Finance Act, and the current funding period is set to expire at the end of 2028. It is a GtG cooperation targeting countries with well-established energy sectors. It is implemented in close cooperation between the DEA, the MCEU, and the MFA's Trade Council. This group decides on the target countries for each programme phase, receiving strategic guidance from the private sector. The EGP focuses on sectors in which Danish energy expertise is strong, with the aim of maturing the markets and increasing the potential for exporting energy technology and solutions.

sustainable transformations of the partnerships in the energy sector which either substitutes or complements ODA financed activities towards 2030.

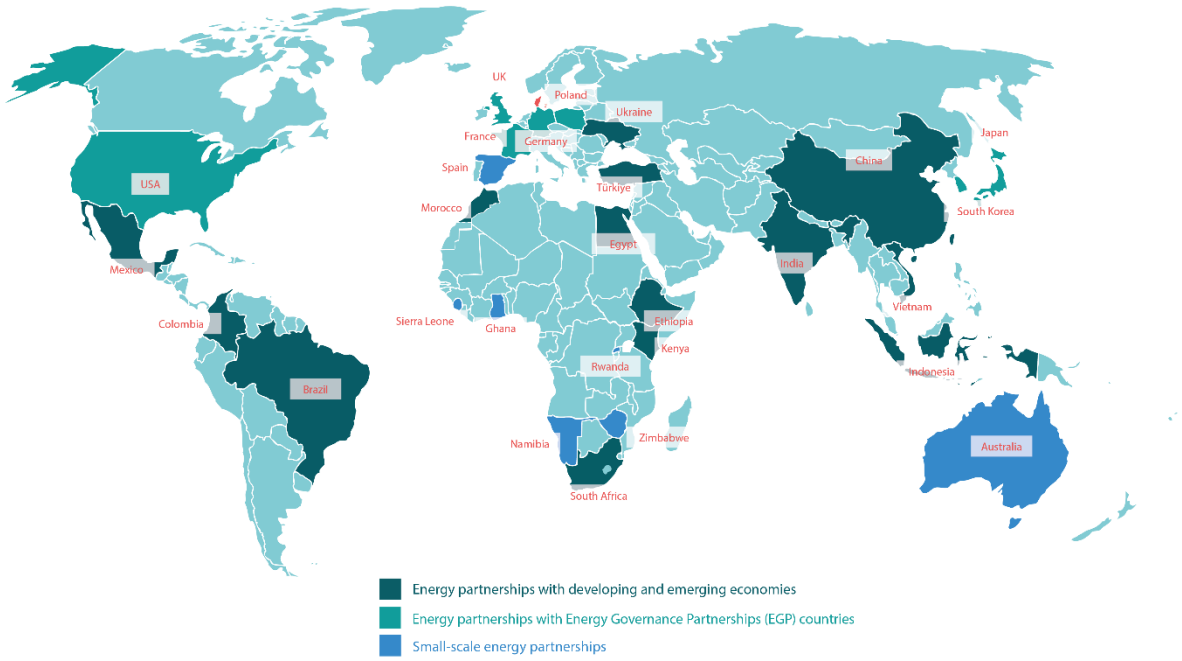
Finally, from the narrower DEA-GC perspective the aspect of DEA staff resources and LTA's following future exit must be considered.

Annex A: Partner assessment of DEA GC

A.1 Brief presentation of the Danish Energy Agency as implementing partner and summary of capacity assessment

DEA was established in 1976 and is an agency under the MCEU. The DEA shares best practices from decades of green transition in Denmark through 21 bilateral energy partnerships and number of smaller collaborations.

Figure Annex A.1: DEA-GC on the World Map



DEA's international development cooperation is anchored in the Centre for Global Cooperation (GC) where around 100 people are working with one or several of the 21 partner countries. DEA-GC has today established a multi-disciplinary team with technical expertise across engineering, political science, social science and law. Moreover, a cross-country team has been established to ensure quality in monitoring, reporting and cross-cutting topics.

The DEA-GC is organised within a matrix structure. In terms of the vertical structure, the management level consists of four Directors with the responsibility of country programmes and one Director with additional responsibility of the specialist thematic groups as illustrated below. Every country programme comprises a team leader, specialists and in some cases a generalist. In 2025, 8.0 FTEs were assigned to the INDODEPP programme, while 8.0 FTEs were assigned to DEPP III in South Africa, Vietnam 7.5, and Mexico 7.0, and 9.3 in China, accounting also for the SSC on Clean Heating. In the country programmes, each outcome has a Project Lead with the role of ensuring progress, providing regular updates and identifying resource needs.

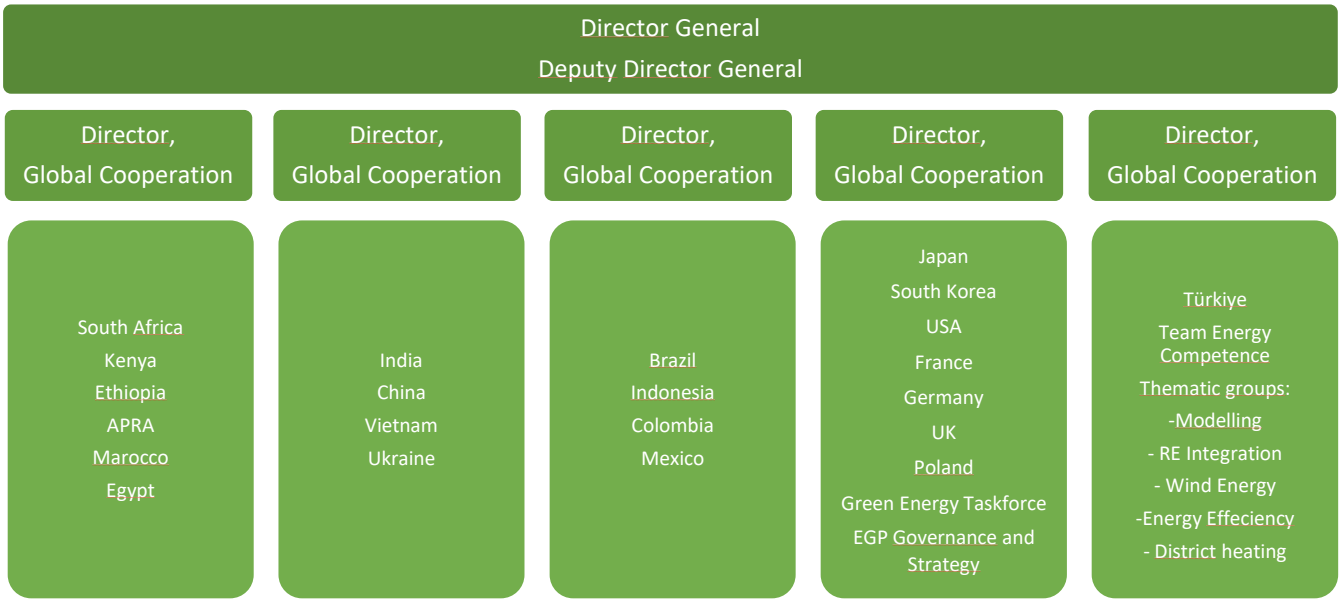
From a structural perspective, personnel are assigned to one of six specialist teams, referred to as Thematic Competence Groups. These groups are aligned with the five workstreams within the country programmes:

energy modelling, offshore wind, integration, energy efficiency, and district heating. A sixth group is dedicated to generalists, who play a supporting role to the country team leaders in country programme management and coordination. The generalists, who are frequently economists, political scientists, or with background in law, also follow political, socio-economic, and just energy transition developments in the partner country, ensuring a close link between these developments and the more technical aspects of the programme. Moreover, a cross-country team has been established to ensure quality in monitoring, reporting and cross-cutting topics.

An overarching "Team Energy Competence" recently established ensures a systematic approach to energy expertise by dedicating specific resources to this task. The team consists of energy professionals with broad competencies and a deep understanding of the Danish narrative, and works closely with the six thematic competence group leaders, who have the following responsibilities:
a) Maintaining an up-to-date overview of competencies and allocation of responsibilities across sub-specialisations.
b) Ensuring active sparring and quality assurance for all key deliverables.
c) Supporting knowledge-sharing and internal capacity-building within the competence groups.

DEA-GC also incorporate DEA staff from other national centres. The objective is to ensure partner's access to knowledge about the latest Danish regulatory framework, and up-to-date hands-on experience from other national core-tasks of the agency. In the coming year, DEA GC expects to bring-in resources from the national centres corresponding to up to 10 FTE.

Figure Annex A.2: Organigram – DEA Centre of Global Cooperation



Implementation modalities
DEA is chosen as the Implementing Partner for DEPP 2026 based on its extensive expertise and experience in implementing DEPP and SSC programmes. Following is a list of the implementation modalities applied in the partnerships:

- GtG, peer-to-peer engagement between DEA staff and staff of national partner institutions.
- Technical energy sector experts input by for instance Danish Distribution System Operation specialists through framework contract with Green Power Denmark, and by the Danish Utility Regulator
- Technical expert inputs by international and national consultants under framework contracts with DEA.
- Inputs by knowledge partners, think tanks, academia in partner countries on both technical and socio-economic topics.

- Funding of knowledge exchange processes and events including delegation visits.
- Funding of seminars, learning events, training courses at the Danida Fellowship Centre.
- LTAs form an important part of the DEPP delivery model where technical experts are placed within the partner's energy authorities – an arrangement that Denmark is almost exclusively permitted among other donors.

Knowledge exchange
Various meeting formats are implemented to promote knowledge exchange within DEA-GC. Weekly centre meetings with presentations from specialist teams, insights and key findings from missions, and discussions on overarching topics like KODEKS VII[21]. Additionally, team leader meetings every three weeks aim to facilitate experience sharing among country programmes, enhance management skills, and address crosscutting issues.

Country programme meetings typically occur biweekly. Meetings within specialist teams are typically arranged on an ad hoc basis. Likewise, knowledge sharing between LTAs, the Embassy of Denmark in each country and DEA-GC is taking place.

To ensure a consistent framework across all DEA-GC programmes, and in response to the MTR of DEPP III, efforts have been made to develop guidance notes accessible to all country teams. These notes cover approach to capacity development; political economy analysis; exit strategies; and an updated perspective on poverty alleviation and the human rights-based approach. The aim has been to make these notes operational from a DEA-GC perspective—ensuring they are simple, practical, and easy to apply in a programme context. Additionally, their development has been supported by in-house workshops, where the topics have been discussed in relevant contexts. They have furthermore helped shaping the initial formulation stages of the DEPP 2026 including the country teams' partner assessments of national institutions and associated assessment of how to design targeted trainings and technical assistance, meeting the needs, current capabilities and ambition levels in the particular context.

The Programme Committee noted the issue of slow implementation of the INDODEPP and DEPP III which was also pointed to by the MTRs of the said programmes. INDODEPP completion will be four months delayed and DEPP III five months delayed. Slow disbursement has not been a challenge the past three years. It was mainly a challenge due to COVID19 and because of excess funds from budget lines for totally four long-term advisers, which after all could not be posted as originally expected, and because of more lead time needed than expected to accelerate the partnerships in response to the additional funding triggered by Danish government priorities on enhancing the engagements. Hence, engagements with South Africa and Vietnam were enhanced with DKK 46.6 million in 2022 and Indonesia with DKK 15 million in 2022.

Brief identification of consortium partners
Following an EU-tendering process DEA-GC has entered Framework Contracts with a series of Consortiums on six positions. The contract period of the current Framework Contract, which covers services for all DEA-GC partnership programmes is from 3 July 2024 with termination 3 July 2027 with the possibility to extend the duration once by 12 months. For the next tender expected in 2027, DEA and partner needs will be re-assessed and reflected in the tender documents. Many of the participating organizations in the present Framework Contract Consortiums have profound experience with the DEPP delivery model and have been engaged jointly with the DEA in previous DEPP programme phases, some from the very beginning. The present Framework Contract Consortiums are the following:

<u>Position 1 – Energy Planning and Modelling:</u>

[21] Seven key duties for civil servants in central government (see link)

Supplier 1: Ea Energianalyse, COWI & Viegand Maagøe Consortium
Position 2 – Renewable Energy Integration:
Supplier 1: COWI, Ea Energianalyse, Viegand Maagøe and DTU Consortium
Supplier 2: Sweco Denmark & Nordic Green Solutions Consortium
Position 3 – Onshore- and Offshore Wind Development:
Supplier 1: DTU, Viegand Maagøe, COWI and Ea Energianalyse Consortium
Supplier 2: Sweco Denmark and Nordic Green Solutions Consortium with support from EMD International
Position 4 – Energy Efficiency:
Supplier 1: Viegand Maagøe, Ea Energianalyse and COWI Consortium
Supplier 2: Sweco Denmark and Nordic Green Solutions Consortium
Position 5 – Heating and Cooling supply legislation, planning and modelling:
Supplier 1: COWI, EA Energianalyse and Viegand Maagøe Consortium
Supplier 2: Sweco Denmark and Nordic Green Solutions Consortium
Position 6 – Climate change mitigation planning and modelling:
Supplier 1: Ea Energianalyse, COWI and Viegand Maagøe Consortium

Each position is assigned two consultants, with the exception of position 1 & 6. Supplier #1 is used, however, if supplier #1 under-delivers, rejects assignments, or fails to meet agreed timelines three times, they can be swapped with supplier #2 for a period of three months. If the consortium partners do not have the required competences to solve the tasks requested in the Terms of Reference for specific call down of services, the leading consultants of the consortium can subcontract national/local consultants accepted by the DEA. This modality is often used when local and contextual knowledge is needed for solving the tasks.

Moreover, DEA has recently tendered out and signed an additional two-year framework contract for procurement of specialist expertise related to Distributed System Operation in response to increasing demand for peer-to-peer exchanges in this area across DEA GC partnerships programmes including from the partnership with South Africa. Contract holder is Green Power Denmark. Energinet, who will not be able to engage in DEA GC partnership programmes from Q2 2026 and onwards, has previously in DEAs GtG partnerships, to a minor extent covered also non-TSO related aspects of power sector reforms. Partners will now have access to peer-to-peer exchanges in such non-TSO related fields through the new framework contract.

Table A.1: Summary of key partner features

Name of Partner	Core business	Importance	Influence	Contribution	Capacity	Exit strategy
	What is the main business, interest and goal of the partner?	*How important is the programme for the partner's activity-level (Low, medium high)?*	*How much influence does the partner have over the programme (low, medium, high)?*	*What will be the partner's main contribution?*	*What are the main issues emerging from the assessment of the partner's capacity?*	*What is the strategy for exiting the partnership?*
DEA Centre of Global Cooperation	DEA GC's goal is a well-planned green transition with Denmark leading the way, sharing Danish experiences and solutions globally.	Low	High	DEA GC cooperates with governments in order to contribute to their just and inclusive green energy transition. The approach is adapted to local circumstances in close dialogue with the partners with the focus to reach a long term and viable green transition.	Limited in-house capacity on cross-cutting issues.	There is no exit strategy defined as such. The partnership is expected to evolve over time, with the portfolio of SSC and DEPP programmes. The essence of the knowledge-sharing partnerships is to ensure that the capacity development during the programmes is institutionalised and endure through updated tools, practices, procedures, and principles.

Annex B: Justification against OECD DAC criteria

The Organisation for Economic Co-operation and Development (OECD) Development Assistance Committee (DAC) has defined six quality criteria[22], and the justification for DEPP 2026 against these criteria is briefly summarised below:

Relevance: The Programme responds to global concerns and priorities for energy transition and climate action. As further described in the CPDs it responds directly to national partner needs and priorities. It is also fully aligned with Danish partnership priorities for emerging economies as expressed in "A Changing World - Partnerships in Development".
External and internal coherence: The Programme is aligned with wider policy priorities of national partner government institutions and emphasis is placed on synergy with initiatives of other development partners. The Danish Embassies will contribute to this in relevant coordination efforts. Internal coherence and cross-fertilisation between and among several other DEPP and SSC programmes will be ensured through internal coordination within DEA through its internal organisational structure, substantive exchanges and staff meetings, and overseen by the Strategic Advisory Group (SAG) and the Programme Advisory Group (PAG). The MFA and MCEU will ensure synergies with Denmark's multilateral energy/climate cooperation through coherence with Denmark's multilateral cooperation with the World Bank, IEA, IRENA, the NDC Partnership, IISD, OECD CEFIM, and others.
Effectiveness: The GtG, peer-to-peer partnership has the potential to effectively contribute to outcomes in a manner that no other development partners offer. This includes the engagement of embedded long-term advisors, which has proven highly successful e.g. in DEPP partner institutions. The Steering Committees (SCs or similar) in each country will serve as accountability mechanism toward Programme objective and intended results, and technical working groups (TWGs or similar) will prepare and monitor workplans consistent with DEPP 2026 objectives and results framework.
Efficiency: The Programme is demand-driven, with targeted interventions responding to partner priorities. It also benefits from economies of scale in DEA, and expertise and experience gained through many other SSC and DEPP programmes since 2012. The peer-to-peer cooperation that is at the heart of DEPP, is based on specific TOR for each major intervention, intended to further ensure a demand-driven approach and efficient resource utilisation.
Impact: The Programme is based on results-oriented engagement with national partners selected based on relevant mandates and high-level commitment, coupled with demand-driven knowledge exchange and capability strengthening and the use of "impact drivers" underpinning the programme theory of change. A focus on socio economic aspects of inclusive just energy transition will further contribute to impact.
Sustainability: Integration of the cooperation into overall partner development and sector policies and plans, is central to sustainability, as is involvement of other stakeholders, including think tanks, academia and the private sector, in strengthening the enabling framework for green energy transition and climate action. Drivers of sustainable impact include effective Steering Committees (or similar) as accountability mechanism based on ownership and commitment at high levels, effective communication of results and lessons targeted at decision makers, striving for value added and synergy with support from other development partners, and support for triangular cooperation.

[22] See link.

Annex C: List of supplementary material

#	Document/information	Internet link if available
1.	Denmark's Strategy for Development Cooperation, A Changing World - Partnerships in Development, June 2025	(link)
2.	The Government's Priorities for Danish Development Cooperation, August 2025	(link)
3.	Danish Energy Agency, Global Cooperation (GC)	(link)
4.	DEA GC - Integrated Approach to Exit Strategies for the Danish Energy Agency International Cooperation Programmes	
5.	DEA Memo - Multidimensional Concept of Poverty and HRBA	
6.	DEA GC Energy Partnerships	(link)
7.	DEA GC - other tools and publications	(link)
8.	IEA report Household Energy Affordability, 2026	(link)
9.	IEA Report Electricity 2026	(link)
10.	United Nations, July 2025 - Seizing the moment of opportunity - Supercharging the new energy era of renewables, efficiency, and electrification	(link)
11.	The Energy Progress Report, 2025 (by World Bank ESMAP; IEA; IRENA, WHO and United Nations Statistics Division)	(link)
12.	United Nations Sustainable Development Report 2025	(link)
13.	Africa's Century -Strategy for strengthened Danish engagement with African countries	(link)
14.	Danida guidelines for bilateral cooperation[23]	(link)
15.	Danida Open Aid, DEPP III (China, Mexico, South Africa, Vietnam)	(link)
16.	Danida Open Aid, INDODEPP (Indonesia)	(link)

[23] Note, as agreed with MFA(KLIMA) reference is not made to Danida How-to-Notes as these refer to previous strategies for development cooperation and have not yet been updated.

Annex D: Plan for communication of results

This is for the DEPP 2026 framework programme in general – plans for communication of country programme results are included in each CPD. Communicating key events, significant results and / or positive effects of the programme will happen on an ongoing basis and in close coordination between DEA, MCEU, and MFA.

What? (the message)	**When?** (the timing)	**How?** (the mechanism)	**Audience(s)**	**Responsible**
DEPP 2026 key summary programme information. Results against targets for one selected Outcome per Country Programme tentatively selected for this purpose.	When the DEPP 2026 programme has been approved and to be updated regularly/ annually.	Danida Open Aid.	The Danish resource base and taxpayers.	MFA (MYNSEK)
Annual report/Completion report	Annual/End of programme	Internal channels	MFA, MCEU	DEA
Key messages on DEPP 2026 results and achievements.	During implementation.	Channels as relevant[24] MFA will also select few of best results for external communication.	The Danish resource base, international and national partners.	DEA /MFA
Mission summaries ("Indberetning"), including brief resume of achievements during mission.	After each mission	E-mail to pre-defined distribution list LinkedIn updates will be considered	MFA, MCEU, DEA	DEA

[24] The execution is contingent upon the availability and appropriate use of DEA and MCEU communication channels. Implementation will be aligned with the priorities and requirements of the wider organization, ensuring that communication activities are coordinated, consistent, and supportive of overall organizational objectives. Adjustments to the plan may be made as necessary to reflect evolving needs, resources, or strategic direction

		to communicate about the on-going work with partner countries for transparency to Danish audience.		
Annual meetings with the Danish business association	Annually in Denmark and in the countries	DEA, MFA and embassies will coordinate meetings with relevant business associations.	Danish private sector	MFA, MCEU, DEA and embassies.

Annex E: Process action plan

Action/deliverable	Target date	Responsible
Presentation of early draft DEPP 2026 programme document ("concept note") to the Danida Programme Committee.	8 April 2025	MFA(KLIMA)
Country formulation mission and consultations with national partners on virtual platforms and in connection with other DEA technical missions, including via brief consultation notes	June 2025-February 2026	DEA GC
Submission of DEPP 2026 FPD/CPDs to appraisal	24 October	DEA GC with MFA(KLIMA)
Appraisal of DEPP 2026	24 October 2025 – 2 February 2026	Appraisal MFA(LEARNING)
Finalppraisal report with recommendations	2 February 2026	MFA (LEARNING)
Meeting in the MFA external technical panel on DEPP 2026	19 February 2026	MFA (LEARNING)
Submission of DEPP 2026 FPD and CPDs for final verification by MFA (LEARNING)	10 March 2026	MFA (KLIMA)
Final verification of DEPP 2026 FPD and CPDs	13 March 2026	MFA (LEARNING)
Approval of DEPP 2026 by the Danish Minister for Foreign Affairs	Tbd.	Minister for Foreign Affairs
Approval of the DEPP 2026 grant by Finance Committee of the Danish Parliament	Tbd.	Parliament
Signing of Agreement between MFA and DEA	April 2026	DEA GC /MFA
DEPP 2026 implementation	1 May 2026 - end December 2030 – but to December 2029 for CNDEPP	DEA GC with national partners
Follow-up to the DEPP Evaluation in accordance with management response to evaluation recommendations.	Mid-2026 – ongoing during implementation	DEA GC /MFA (MYNSEK).
Team meetings within DEA GC country teams that also include long-term advisors and Embassy Sector Counsellors (online), to discuss country specific matters.	Weekly or biweekly	DEA GC country team leaders
Meetings of DEA GC country team leaders to discuss common and cross cutting issues, and exchange of knowledge, experience, and lessons.	Once every third week	DEA GC country team leaders
Country Programme technical working group meetings in-country for each Outcome i.a. to prepare work plans and progress/results reports for Steering Committee approval.	Every six months	DEA GC with national partner institutions in each country.
Country Programme Steering Committee (or similar, as defined in each CPD) meetings to approve work plans and resource allocations, approve annual progress and results reports, monitor risks and assumptions.	Annually, plus through communication between annual meetings if required to address urgent issues.	Embassies with key national partners in each country.
Results reporting and financial reporting to MFA	Annually	DEA GC

Meetings of the Programme Advisory Group (PAG) to discuss and approve progress, results reporting and financial report.	Annually	MFA, MCEU and DEA GC
Meetings of the Strategic Advisory Group (SAG) to discuss strategic and cross-programme issues.	Every six months	MFA, MCEU and DEA GC
Targeted communication of results as per communication strategy and plan.	Ongoing throughout implementation period	DEA GC, Embassies, MFA, national partners.
Prepare consolidated draft exit strategy for consideration by MFA Mid-term Review.	Prior to MTR	DEA GC
Mid-term Review of DEPP 2026	2028	MFA (LEARNING)
Final progress and results reporting and financial reporting to MFA.	First quarter 2031	DEA GC
Final Results Reporting on DEPP 2026	Mid-2031	MFA(MYNSEK)
Closure of accounts on DEPP 2026	Mid-2031	MFA

Ministry of Foreign Affairs of Denmark (MFA)
Ministry of Climate, Energy and Utilities of Denmark (MCEU)
Danish Energy Agency (DEA)

China-Denmark Energy Partnership Programme (CNDEPP, 2026-2029)

Country Programme Document

Final

6 March 2026

MFA file: Public 360 No. 25/06726

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Key abbreviations and acronyms

CABR	China Academy of Building Research
CCDI	Central Commission for Discipline Inspection
CCP	Chinese Communist Party
CETO	China Energy Transformation Outlook
CETP	Clean Energy Transition Programme (of the IEA)
CHP	Combined Heat and Power
CIFF	Children's Investment Fund Foundation
CNDEPP	China-Denmark Energy Partnership Programme
CO_2	Carbon dioxide
COP	Conference of the Parties (to the UNFCCC)
CPD	Country programme document in DEPP 2026
CREEI	China Renewable Energy Engineering Institute
DAC	OECD Development Assistance Committee
Danida	Danish International Development Cooperation
DDG	Deputy Director General
DEA	Danish Energy Agency
DEA-GC	DEA Global Cooperation
DEPP	Danish energy partnership programmes
DHAT	District Heating Assessment Tool
DKK	Danish kroner
DTU	Danish Technical University
EE	Energy efficiency
EDO	Electricity and District Heating Optimisation model
EPPEI	Electric Power Planning & Engineering Institute (China)
EOR	Energy Outlook Report
ERI	Energy Research Institute (China)
EU	European Union
FL-Konto	Finanslov-konto
FPD	Framework programme document
FYP	Five-Year Plan
GDP	Gross domestic product
GEC	Green Electricity Certificates
GHG	Greenhouse gases
GO	Guarantees of Origin
GtG	Government to Government
GW	Gigawatt
HRBA	Human Rights Based Approach
IEA	International Energy Agency
INDODEPP	Indonesia-Denmark Energy Partnership Programme
IPCC	Intergovernmental Panel on Climate Change
LEAP	Long-range Energy Alternatives Planning
LNOB	Leaving no one behind
MCEU	Danish Ministry of Climate, Energy and Utilities
MEE	Ministry of Ecology and Environment (China)

MFA	Ministry of Foreign Affairs of Denmark
MFA (KLIMA)	MFA Department for Green Diplomacy and Climate
MFA (MYNSEK)	MFA Secretariate for Strategic Sector Cooperation
MoHURD	Ministry of Housing and Urban-Rural Development
MPI	Multidimensional Poverty Index
MTR	MFA Danida Mid-term Review
NDC	Nationally Determined Contribution under the UNFCCC
NEA	National Energy Administration (China)
NDRC	National Development and Reform Commission (China)
NSC	National Supervisory Commission (China)
ODA	OECD Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
PAG	Programme Advisory Group
PANT	Human rights principles of participation, accountability, non-discrimination, and transparency
PD	Programme Document
PSG	Programme Steering Group
RE	Renewable energy
SADEPP	South Africa-Denmark Energy Partnership Programme
SAG	Strategic Advisory Group (consisting of the MFA, MCEU, and DEA-GC as the secretary)
SC	Steering Committee
SDG	Sustainable Development Goals
SMART	Specific, measurable, achievable, relevant, and time-bound
SOE	State Owned Enterprise
SSC	Strategic sector cooperation
STEM	Science, Technology, Engineering, and Mathematics
TSO	Transmission system operator
TWG	Technical Working Group
UNFCC	United Nations Framework Convention on Climate Change
4GDH	4th generation district heating

1. Introduction, context, strategic considerations rationale and justification

1.1 Introduction and background

The Danish Energy Agency (DEA) has been at the forefront of providing international support in green energy transformation for more than a decade. The introduction of the Government-to-Government (GtG) modality under the Danish Energy Partnership Programme (DEPP) marked a significant evolution in these collaborations. The GtG modality, with DEA as the primary driver, is structured around the sharing of long-established Danish expertise and knowledge. It operates through the co-creation of technical, legal, and policy instruments tailored to partner country contexts, ensuring that solutions are both operational and locally owned.

The phase of DEPP presented in the present document aims to leverage the partnerships developed with Chinese authorities over the years to maximise emission reductions in the period towards 2029. The programme will also be incorporating the cooperation with the National Energy Administration (NEA) on district heating hitherto contained in a separate Strategic Sector Cooperation (SSC) programme. The Danish support will particularly be focusing on supporting the Chinese authorities to enable efficient integration and use of the high share of renewable energy sources currently being deployed in China and thus enable the highest possible emission reduction from the energy and heating sectors in China.

In China the technical capacity development during previous collaboration phases has had an impact and a high level of partner buy-in, as emphasised by the DEPP III mid-term review. The programme has also proven effective in facilitating sustained policy dialogue. It has strengthened institutional channels between Chinese line ministries — such as the National Development and Reform Commission (NDRC), NEA, the Ministry of Housing and Urban-Rural Development (MoHURD), the China Academy of Building Research CABR)—and the Danish Ministry of Climate, Energy, and Utilities (MCEU). The programme has also supported Denmark's climate diplomacy, creating opportunities for joint statements, shared policy launches, and visibility at major international forums such as COP.

Since China is projected to graduate from Official Development Assistance (ODA) eligibility status by 2030 this is expected to be the last phase of cooperation funded by ODA. Therefore, the new phase also aims to ensure the long-term sustainability of the progress made to date. It aims furthermore to support the transition of the relationship between China and Denmark from that of recipient-donor into an equal partnership that safeguards Denmark's own long-term interests vis-à-vis China while supporting the global green transition. By the conclusion of the phase, it is anticipated that the value inherent in each work stream will have been preserved to the greatest extent possible, in a manner that supports long-term sustainability, whether through institutionalisation of developed capacity with the partner organisations, handover of the partnership to relevant third parties, or transition into relevant Sino-Danish commercial or political dialogues.

The CNDEPP objective is to contribute to the implementation and acceleration of the decarbonisation of China's energy system, including district heating, enabling an efficient, affordable and reliable access to energy aligned with China's climate targets. The planned budget until 2029 is DKK 44.0 million. In the future Denmark may be able to learn from China as much as the other way around, therefore this last phase of DEPP should also, in so far as is possible, act as a bridge to this new relationship and mode of cooperation with China on energy.

1.2 Country context

As the world's second largest economy with an electricity system still dominated by coal, China is the world's largest greenhouse gas (GHG) emitter and accounts for around a third of global CO_2-emissions. Currently, one of every four tonnes of coal used globally is burned to produce electricity in China (ref. IEA, China). At the same time China's economy continues to grow, with an annual GDP growth of about 5%. This

economic expansion is expected to drive substantial increase in energy demand, underscoring the importance of how China chooses to structure its future energy system. The future shape of China's energy system will therefore be of critical importance to global climate change. Thus, it is in Danish and global interest to lower Chinese emissions to reduce the impact of climate change where low-income developing countries in particular are heavily impacted and with least resources to adapt which could lead to increased poverty, instability and migration.

Beyond China's domestic energy sector, China is also a major investor in energy infrastructure abroad, particularly in South-East Asia, Africa and South America. These investments, many of which targets the energy sector, amplify China's influence on global energy development. As a result, policies, standards and approaches adopted within China will have far-reaching implications for global energy transitions.

China is investing heavily in green energy and arguably leads the world in some renewable energy technologies. For example, China achieved its 2030 wind and solar capacity target of 1,200 GW in 2024, six years ahead of schedule. Since energy demand continues to grow, however, this is not sufficient to reduce emissions in China, and in 2023 the country still accounted for around one third of global emissions and 95% of the world's new coal power construction activity. If renewable energy is to replace coal in China, and for China to reach carbon neutrality in line with the Paris Agreement, then the Chinese energy system needs to undergo a more fundamental transformation, requiring accelerating progress in energy efficiency and electrification, improved grids, much greater flexibility in the power system, a functioning power market and an emissions trading system. In other words, not only is there a massive potential for reducing Chinese emissions, but unless integration is drastically ramped up, emissions could in fact rise.

In 2020, President Xi Jinping announced that China will peak carbon emissions before 2030 and reach net zero emissions before 2060, and since then many regulations, guidelines, and policies have been issued to facilitate the transformation of the energy system. At the UN General Assembly 2025, President Xi Jinping announced China's updated 2035 climate goals where China by 2035 wants to reduce net greenhouse gas emissions to 7–10% below the peak level, increase the share of non-fossil fuels in total energy consumption to over 30% (in 2024 the level was 19,8%), and expand the installed capacity of solar and wind to 3,600 GW.

The transformation of China's energy system is complicated, however, because the country is dependent on coal and oil, and energy security and energy adequacy are high priorities for the Chinese leaders. The continuation of the fast-paced deployment of green technologies could be hampered by challenges in the integration of these technologies into the energy system. Also, the barriers from the legacy system and the risk of stranded investments in coal power plants may be a severe blockage to the transition.

In January 2025, a new energy law came into force, establishing a framework to shift from controlling total energy consumption and intensity to dual control of total CO_2 emissions and CO_2 intensity, aims to ensure national energy security while promoting green and low-carbon practices, promotes a market-based pricing system, and encourages the development of a unified energy market. The energy law establishes a clear vision for the green transition and climate actions needed.

However, there are questions about the implementation of this vision in practical policy, which is often characterized by weak measures and a lack of consideration for system-wide impact. For example, the current emission trading system does not incentivize carbon reduction, the power market reform process is slow and partial, and attempts to ensure energy adequacy still focus on promoting fossil fuel solutions. Such implementation failures underline the importance of a systematic energy planning process, which includes a more system-wide approach and sector-coupling aspects, which are all areas of Danish expertise and which constitute the central shaping principles of the programme.

1.3 Results and lessons learned

The main results across the three outcomes of DEPP III are summarised in table 1.1 below.

Table 1.1: Key results achieved under DEPP III

Outcomes	Results
ERI provides well informed, coordinated, and data validated information for clean energy strategies, targets, policies and planning at both national and provincial levels by 2025.	**Policy influence:** CETO findings informed the NDRC's 2030 Renewable Energy Substitution Plan and regulations on renewable energy participation in the power market, contributing to broader power market reforms. **Capacity development:** ERI now independently operates LEAP, EDO, and Optiflow models; integrated results into China Energy Transformation Outlook (CETO) and national policy discussions (e.g., 15th FYP, RESP2030). **International visibility:** COP28, COP27, and COP26 widely recognised by international organisations (IEA, IRENA) and national forums. CETO 2025 launched at COP30.
Energy Administration of China (NEA)'s capacity to develop and maintain suitable regulation, rules and market mechanisms to facilitate efficient integration of renewable energy is enhanced.	**Policy influence:** Joint DEA–NEA report compared Chinese Green Electricity Certificates (GECs) with EU Guarantees of Origin (GOs), informing NEA's green power strategy. Drawing on inspiration from Danish renewable energy policy and technical cooperation, NEA addressed earlier gaps in its GEC framework that had led RE100 to only conditionally accept the Chinese GEC system. With those issues resolved, RE100 now fully and unconditionally recognises China's GECs. **Institutional changes:** NEA created a new department for green certificate trading; stronger cross-departmental collaboration. **Capacity development:** Study tours, workshops, and policy exchanges deepened understanding of market mechanisms for renewable integration.
Strategic Engagement and Cooperation (SEC) with Ministry of Housing and Urban-Rural Development.	**Policy influence:** The partner recognised the importance of heat planning and a holistic approach to the energy sector. This has initiated a valuable dialogue on China's ongoing power market reforms and their implications for the district heating sector. **Institutional changes:** During the cooperation the Chinese project manager has been promoted and appointed to lead a taskforce preparing recommendations on district heating for the 15th Five-Year Plan. While a causal link cannot be demonstrated, this is likely to have been supported by the success and high political profile of the cooperation. **Capacity development:** The District Heating Assessment Tool (DHAT) has been applied for capacity building on heat planning methodologies. The partner has internalised the tool by translating it to Chinese and continues to adjust its internal values to a Chinese context. CABR has decided to use the tool as an inspiration for the development of a more sophisticated tool for planning.
MEE's capacity to update and improve clean energy pathways, at a local and national level utilising international experiences is enhanced.	The original programmed cooperation and outcomes will not be implemented as initially planned. The implementing partner on the Chinese side lacked the necessary resources to participate as planned, resulting in the intended outcomes not being achieved.

The main results of the Strategic Sector Cooperation (SSC) in the district heating sector between China and Denmark are summarised in table 1.2 below.

Table 1.2: Key results achieved under SSC on district heating

Outcomes	Results
Improving the ability of China's National Energy Administration (NEA) and China's Renewable Energy Institute (CREEI) and other relevant stakeholders in developing relevant strategies, policies and solutions to improve the integration of renewable energy and efficient planning in the heating sector.	**Policy influence:** Jointly produced an analysis with NEA and CREEI recommending metering and billing reform in China's heating sector which is now an active process in China. In Spring 2024, the State Council issued a policy notice on this issue. **Institutional changes**: Established a network of district heating experts which acts as a foundation for cross-sectional exchanges on legislation, planning and technical pathways for efficient and clean heating between research, trade, and regulatory institutions. **Capacity development:** Strengthened capacity for heat planning through training workshops and knowledge exchanges on Danish methodology for energy planning.

The main lessons learned from DEPP III and the SSC are:

Length and depth of engagement is essential to build the trust and develop the mutual understanding required to support partner objectives in a way that build towards programme objectives. High-profile joint outputs (e.g., CETO, GEC–GO report) strengthened partner ownership, and political buy-in. In DEPP III, one outcome was not reached because an ambitious programme of cooperation was planned with a new partner (MEE), based on the success of one with a well-known partner (ERI). A central principle of the new phase has therefore been to focus resources on partnerships where engagement has been demonstrated (ERI, NEA, MoHURD), while discontinuing others (MEE, CREEI).

Creating consensus across institutions is important for impact. In China, relevant stakeholders work within rigidly defined silos and may, even within government, be in competition with each other. It is therefore sometimes necessary to work with several ministries on the same issue, or engage with a number of secondary partners, in order to ensure impact. One example is the work on district heating, where responsibility in China is split between NEA and MoHURD. The new phase targets both NEA and MoHURD and aims to bring the two together where possible.

Flexibility in programme implementation enables resilience and responsiveness. The ability to adjust work plans, reallocate funds, and redirect activities in response to delays or evolving needs allowed DEPPIII to maintain relevance and secure buy-in from Chinese ministries. This adaptability is especially important in dynamic institutional and political contexts and should be built into programme design from the outset. In DEPPIII, the reallocation of funds from Outcome 2 to the Green Power track enabled the programme to leverage interest from NEA in topical areas of cooperation.

The level of partner institutions needs to match the level of the substantive engagement
Chinese ministries typically incorporate both departments that consider strategic options and develop policy on one hand, and research institutes that hold technical capacity on the other. The capacity-building carried out by DEA typically includes both, which complicates the engagement. In the case of the district heating SSC, the DEA was partnered with a research unit in CREEI, which did not have the capacity to consider ground-breaking strategic choices such as integrating the power and heating sectors. In the new phase, and following consultation with the partners, the day-to-day working relationship has been shifted to a relevant NEA department instead to accommodate this level of policy exchange.

Building long-lasting capabilities through institutional anchoring. The modelling work behind the China Energy Transformation Outlook was originally based in a joint unit outside ERI (CNREC), the work is now anchored within ERI, with overall responsibility and active participation from the Director General

himself. This means that a number of ERI departments are involved in the work and in receipt of on-going capacity-building, enhancing the capacity building results and strengthening a system-based approach to the modelling work. ERI is also now taking overall responsibility for the modelling work, with support and input from DEA.

1.4 Justification and rationale for Danish energy sector cooperation with China

Climate change threatens livelihoods across the world, and particularly the poorest countries and communities are most vulnerable and the least equipped to build resilience. Achieving the temperature goals of the Paris Agreement is a key challenge. The consequences of the climate crisis and a more unpredictable climate are already being felt by communities globally, underscoring the urgency of accelerating the transition to sustainable, low-carbon development.

While China has achieved remarkable progress in expanding renewable energy (RE) capacity, rising energy demand and limitations on RE integration mean that fossil fuels still dominate its energy mix. China therefore remains the largest emitter of greenhouse gases globally, accounting for approximately one-third of global emissions. If renewable energy is to displace coal in China, and for China to reach carbon neutrality in line with the targets of the Paris Agreement, then the Chinese energy system needs to undergo a fundamental transformation, requiring accelerating progress in energy efficiency and electrification, improved grids, much greater flexibility in the power system, a functioning power market and an emissions trading system. There is a clear overlap between this central challenge on one hand and Danish expertise on the other, as exemplified in the programme focus on long-term planning, power sector transformation and sector coupling. All countries, including Denmark, have a strong interest in the Chinese to succeed in their decarbonization of their energy system if the global temperature increase should be limited.

CNDEPP will also support the progress on SDG7 and SDG13 and deliver a number of co-benefits including reduced air pollution. It also entails access to improved and affordable heating of houses which is key for the well-being for millions of Chinese families living in provinces with very cold winters which are also among the poorer provinces of China.

CNDEPP aligns with Denmark's Strategy for Development Cooperation "A Changing World - Partnerships in Development", which emphasises honest, interest-based partnerships rooted in mutual benefits. In line with the strategy's economic diplomacy objectives, CNDEPP is expected to have a positive effect on Danish commercial interests within the field of green energy:

- The work on energy planning would, if implemented in policy, tend to widen the market generally for energy-related goods and services in a sector where Denmark is particularly strong.
- CNDEPP's efforts to promote a unified power market and programme's work on green power integration would tend to lessen barriers to entry in China through its focus on market mechanisms in accelerating the green transition.
- In the field of heating there is an explicit demand from the partner for connection to Danish companies through the programme, and a number of Danish companies are present in this field and have demonstrated strong interest in the G-t-G cooperation in relation to heating.
- More generally, the technical cooperation with Chinese authorities facilitates access to decision-makers in areas where very large commercial Danish interests are, and will be, present, such as supply chains for green technology. It also allows Denmark to have a close dialogue with China in the broader field of energy policy.

While China is seen as a commercial competitor in certain specific sectors, the focus of CNDEPP's energy cooperation remains on policy and regulation — not technology — ensuring it does not undermine Danish commercial interests. It has been agreed that DEA and Danish heating private sector present in China will establish a close dialogue regarding relevant activities and to transition the programme towards a new phase of cooperation. Dialogue with other areas of the Danish energy-related private sectors will also continue. This work will be coordinated jointly by KEFM, DEA, MFA and the embassy in Beijing.

Though the programme is a government-to-government (GtG) partnership, CNDEPP, it will increasingly engage the private sector and targeted Danish businesses can benefit from being consulted. Moreover, throughout the programme, CNDEPP will work closely with the embassy's Trade Council, industry associations, and financial institutions. Furthermore, the programme will also build on an equal partnership approach and Denmark will also be able to benefit of learnings from the Chinese experience.

China not only represents a market for Danish businesses within district heating and other areas. It is also the largest producer of green technology such as electric vehicles (EVs), solar panels etc., and occupies a unique global place in the supply chains for a vast range of products. Danish commercial reliance on China is therefore expected to grow over time, and the government-to-government cooperation aims to support the transition from traditional development toward broader forms of cooperation that reflect shared commercial interests. and increasingly the cooperation will also enable Denmark to obtain new knowledge and insights from China to a Danish context, and by this building up a new form for equal partnership.

1.5 Target groups and cross-cutting concerns

The main national partners are further introduced in Section 1.6, below. Indirect beneficiaries of CNDEPP include provincial and municipal authorities that benefit from improved planning tools, regulatory guidance, and renewable integration strategies that can be adapted to local contexts. Civil society organisations and professional associations would gain better access to transparent information (see further in the section below on Climate, Environment and Health).

The programme focuses on long-term energy planning and scenario modelling, including pathways to meet China's long-term climate goals, cost-effectiveness, flexibility, integration of green electricity, and district heating, which are areas of Danish expertise and strongholds within the energy system. In addition to decarbonization, these efforts can yield multiple co-benefits — including improved public health through reduced air pollution, more affordable energy prices, and enhanced district heating for households. CNDEPP's capacity-development efforts, such as least-cost dispatch modelling and socio-economic analysis can help Chinese policymakers assess the impacts of energy transitions on job creation, economic growth, access to clean affordable and reliable energy and air quality—a critical priority for China

The programme also recognises that the transition to a low-carbon energy system can create risks alongside opportunities. Low-income households may face disproportionate cost burdens if market reforms or technology upgrades are not accompanied by social protection measures. By taking the potential impacts on broader societal groups while engaging key stakeholders, CNDEPP aims to ensure that the socio-economic implications of the shift towards carbon peaking and neutrality is understood by policy makers in the energy sector i.e. the CETO report is not only based on models to project energy demand and supply, but also includes a dynamic Computable General Equilibrium (CGE) model to evaluate the socio-economic and environmental impacts. The CGE model assesses how the energy transition affects income, employment, and regional development across China. It identifies pathways that promote inclusive growth, reduce poverty, and create decent jobs in clean industries. By supporting cleaner air, healthier working environments, and more resilient economies, the model highlights co-benefits for public health and quality of life.

Climate, Environment, and Health. The CNDEPP directly contributes to China's climate goals, while advancing global commitments under the Paris Agreement. Through improved energy system modelling, policy analysis, and market design, the programme supports the increased integration of renewable energy, sector coupling, and flexible energy solutions. These efforts align with China's Nationally Determined Contributions (NDCs) and the 14th Five-Year Plan targets for renewable energy deployment, as well as Denmark's international climate cooperation priorities.

From an environmental perspective, the programme promotes cleaner, more resource-efficient energy systems that reduce greenhouse gas emissions and local pollutants. The shift from coal-based district heating toward low-carbon and renewable-based systems will contribute to reductions in air pollutants such as sulphur dioxide, and nitrogen oxides that contribute to respiratory and cardiovascular disease burdens in many

urban areas. By reducing reliance on fossil fuels, CNDEPP also mitigates associated environmental degradation, such as water contamination and land subsidence linked to coal extraction. CNDEPP also aligns with China's own emphasis on environmental information disclosure, as detailed in the China Human Rights Action Plan (2021–2025), which commits to environmental information disclosure, as an essential regulatory tool to promote green development.

By embedding climate, environmental, and health considerations into its planning and policy support, CNDEPP ensures that the transition to a low-carbon energy system not only contributes to global climate stability but also delivers tangible public health improvements and long-term environmental resilience in China.

Human Rights-Based Approach (HRBA). CNDEPP integrates HRBA principles such as transparency, participation, accountability, and non-discrimination into its institutional and technical collaboration. While these principles, which are central to Denmark's development cooperation values, are sometimes at odds with those of Chinese state actors at various levels, this in itself provides an opportunity for impact through the example set by the Danish Energy Agency and its expectations of partners in day-to-day work.

Transparency is upheld through open information-sharing and dialogue. For example, the China Energy Transformation Outlook (CETO), a key deliverable conducted jointly with ERI, is made publicly accessible to stimulate broader debate and ensure accountability. Governance mechanisms—such as steering committees and coordination meetings—also support the programme's transparency by building structured engagement into daily operations. The programme also promotes use of open-source modelling tools to allow communities to conduct modelling work based on open-source data. At working level, on-going technical discussions push Chinese partners towards evidence-led approaches in modelling assumptions and results.

Participation reaches beyond formal partners, inviting diverse voices into policy and technical dialogues. Workshops and study tours foster inclusive engagement with local experts, researchers, and practitioners. If the programme does not, due to its nature, directly address consultation of communities for equitable energy planning and just energy system transformation, the programme is anchored in DEA overall values and practices, where non-discrimination and equity are addressed through mechanisms that mitigate risks to vulnerable groups. Drawing on the concept of energy justice, the HRBA approach acknowledges that transitions to renewables can unwittingly harm vulnerable communities unless deliberate safeguards are in place.

More broadly, accountability is reinforced through programme governance and by raising policy transparency. Regular review and joint decision-making—via steering meetings and shared oversight—ensure that project progress remains open to scrutiny and aligned with shared objectives.

Gender and Youth. Women remain underrepresented in China's energy sector, particularly in technical roles, leadership positions, and decision-making bodies. While national policies increasingly acknowledge gender equality, implementation within sectoral institutions is uneven. Barriers include limited access to specialised technical training, a lack of gender-sensitive workplace policies, and persistent cultural norms discouraging women from pursuing STEM-related careers in energy. CNDEPP aims to address these challenges by actively monitoring women's participation and particular nudge and support female participation in training, planning processes, and policy dialogues.

The programme also invests in youth engagement by providing targeted training for mid-career and younger professionals, equipping them with the technical and policy expertise required to influence the sector as they progress into leadership roles. This approach not only broadens the pool of skilled professionals in renewable energy integration and energy market design and operation but also supports long-term institutional change by embedding practices in the next generation of energy leaders. It has a multiplier effect on policy influence as they progress into leadership roles.

Donor coordination: DEA routinely collaborates with relevant donors and multilateral agencies through its cooperation. In Outcome 1, this has particularly been IEA and the Children's Investment Fund Foundation (CIFF). Where IEA has enabled a complementary international policy dialogue to the work, e.g. for

Outlook and CETO has influenced the IEA's reports on China. CIFF has (as one of the largest global philanthropic funds) been a complementary donor to the modelling work by financing the Chinese side, and the understanding is that they will continue to do so for the foreseeable future. Furthermore, CIFF has aired the possibility of funding an international partner after the current development cooperation is phased out. As part of the transition, increased dialogue with the private sector will also be established in relevant areas, including regular meetings with Danish stakeholders and companies related to district heating where it has been agreed to organise regular meetings and information sharing.

1.6 Choice of partner institutions

Key partners for CNDEPP and justification for selecting them are presented below and further information is given in Annex 2: Partner Assessment. The CNDEPP engages three main Chinese partner institutions selected for their central roles in shaping and implementing national energy policies.

The **Energy Research Institute (ERI)** is responsible for conducting research, studies, and analysis to support national energy policies, focusing on medium- and long-term strategies for carbon neutrality. ERI serves as a primary provider of research and analysis for National Development and Reform Commission (NDRC) and National Energy Administration (NEA). The cooperation with ERI is based on a long-term partnership (since 2012), and ERI's staff are highly skilled researchers contributing to energy modelling and renewable energy research. ERI plays a pivotal role in ensuring the programme's modelling outputs directly inform high-level policy and long-term energy strategies.

The **National Energy Administration (NEA)** issues guidelines, regulations, and plans that set the direction for the country's energy transition, including carbon trading systems, energy consumption caps, and renewable energy development. NEA is instrumental in shaping China's energy policies, and is central to the implementation of China's climate targets and its strong regulatory authority position it as a key partner for embedding energy system integration and flexibility into China's power market framework.

The **Ministry of Housing and Urban-Rural Development (MoHURD)** holds primary responsibility for urban planning, energy efficiency, and district heating regulation. Alongside NDRC, MoHURD is driving reform of pricing and billing in the heating sector. Given the heating sector's significant decarbonisation potential and role in providing demand-side flexibility to the power system MoHURD's involvement is essential for aligning heating sector reform with renewable energy integration.

Together, these institutions provide complementary mandates: ERI delivers the analytical foundation for energy planning, NEA is responsible for policy development and implementation relating to power production, while MoHURD is responsible for heating which relates to both power demand and flexibility, supporting a coordinated approach to China's low-carbon energy transition.

In addition to these core partners, the programme works with research institutions, universities, and expert panels that provide the technical modelling, market analysis, and policy recommendations necessary to underpin reforms. Research institutions and private companies will, in addition to government departments, furthermore be important stakeholders in the process of mapping how the value created from DEPP can best be preserved and extended after 2029.

2 The Country Programme

2.1 Country Programme Objective

The **overall objective** is to *"Contribute to the implementation and acceleration of the decarbonization of China's energy system, including district heating, enabling an efficient, affordable and reliable access to energy aligned with China's climate targets".*

2.2 Summary description of the Country Programme

Since China is projected to graduate out of developing-country status within the programme period, the next phase of CNDEPP is set to be the last programme financed through ODA development funds. The intention is to finalise substantive programme activities by mid-2029, with full closure by the end of 2029. In this final phase, CNDEPP will build on long-established working relationships with key Chinese partners, but will adjust its scope and focus on the following three outcomes which should also point to a new direction of the Danish-Chinese cooperation and climate diplomacy. A key objective will be to ensure sustainable up-take of the technical assistance over the past programmes and transition the Danish Chinese cooperation and climate diplomacy towards new forms of cooperation.

The **Outcome 1** is: "*Energy system analyses are informing energy policy making and accelerating the transformation to a net-zero carbon future and can serve as a transparent platform for dialogue about China's green transition".*

This first outcome is on strengthening energy system planning to support Chinese policymaking through the partnership with ERI. Leveraging Denmark's advanced expertise in energy system modelling and long-term energy planning, the project will enhance China's capacity to analyse the energy system. Moreover, an open-source power sector model is developed to strengthen a collaborative modelling ecosystem that expands stakeholder engagement, enhances capacity, and informs strategic energy policy making in China, complemented by annual thematic research focused on addressing ad-hoc policy needs. The open-source model is an energy system model built on open-source software and hosted on an international server. It serves two key functions in the modelling collaboration: First, it enables all other work under Outcome 1 by allowing DEA to access, update, and expand the model, and to use it as a basis for capacity building of ERI despite the data-sharing restrictions. Moreover it enables wider dissemination and use of the shared model among relevant Chinese and international stakeholders. Although a copy of ERI's model exists on an international server, it is neither accessible nor usable for other organisations. Therefore, focus will also be on making the model publicly accessible, training stakeholders in its use, supporting necessary model extensions, and demonstrating how results can be applied in relevant contexts. The model will also serve as a basis for the conversations —part of the transition strategy— where the purpose is to engage and train a wider set of relevant stakeholders in modelling to enable the work to continue after 2029. It can also serve as case for producing similar models in other countries in order to broaden dialogues and manage data restrictions. ERI, as the primary target, is expected to proficiently utilize energy models, providing well-coordinated and validated insights that accelerate the transition towards carbon neutrality.

The **Outcome 2** is: "*Sector coupling and power market integration become established principles for Chinese energy policy, enabling a cost-efficient and resilient energy system capable of accommodating high shares of variable renewables".*

This second outcome is on energy system integration in partnership with NEA. China is highly effective at installing new RE capacity, however, a significant challenge persists in fully integrating these RE resources into the broader energy system – both the power grid and heating infrastructure. Drawing on Denmark's experience in enhancing flexibility within the power system in order to integrate large shares of RE, the purpose of this outcome is ultimately to support a much faster electrification and decarbonization of the energy system of the world's largest greenhouse gas emitter. China's inaugural Energy Law came into effect on 1 January 2025, and it introduced a new legal framework for China's energy sector. The law grants NEA a new mandate to reform the energy system and creates a window of opportunity for the DEA to support NEA in its role of designing China's new type of power system. Drawing on Denmark's experience in enhancing flexibility within the power system to integrate large shares of RE, this outcome aims at accelerating the electrification and decarbonisation of the energy system. Focus will be on regulatory aspects of a unified national power market, new pathways for scaling green hydrogen and energy storage. Furthermore, the value of an integrated heating and power system through sector coupling will be demonstrated. The continued collaboration on heating builds on the previous cooperation with NEA on heating established under the SSC. An indirect outcome will also be to identify future cooperation in this field where Denmark also can obtain new learnings from China as one of the largest grids and fastest to deploy new RE in the grid.

The **Outcome 3** is: *"Low-carbon, efficient, and smart district heating principles are promoted to be adopted in Chinese energy use for heating and heating system management"*.

The third outcome is on district heating with China Academy for Building Research (CABR) and anchored with MoHURD. The collaboration with the MoHURD and CABR aims to explore innovative pathways for the design of integrated heating systems in China. At present, due to the increasing share of renewables in the power market and the reduction in operational hours of combined heat and power (CHP) plants, the traditional heating model—relying predominantly on large-scale coal-fired CHP units—urgently requires transformation. A wider range of renewable and other low-carbon heat sources will need to be integrated into heating systems. Against this backdrop, DEA will present the Danish and international experience on how it is possible to restructure heating systems by utilizing district heating and cooling networks to incorporate renewable energy sources as needed, enhance overall system efficiency, and unlock demand-side flexibility. Modern district heating systems should be tailored to the local context and resource availability. Dynamic heat planning, coupled with the flexible utilization of diversified local heat sources and industrial excess heat through cross-sector integration, is essential. This entails developing low-temperature district heating and cooling networks integrated with thermal storage, while simultaneously promoting combined heating and cooling in new buildings and energy retrofits in existing ones—ultimately achieving comprehensive optimization from heat source to end-user. Furthermore, such a system is essential in a supply-demand-driven heating model based on electricity market pricing. Danish experience has demonstrated its feasibility in coastal climate zones. However, the solutions needed for China's continental climate zones differ significantly, and large-scale system integration under these conditions remains largely untested.

The fragmented nature of Chinese policy-formulation means that consensus-building among stakeholders is important for achieving impact with both capacity-building and policy messages. The programme would therefore also seek to disseminate its findings to critical stakeholders beyond the core partners, including government agencies (such as the State Council Development Research Center), provincial governments (such as that of Shanxi province), State-Owned Enterprises (such as the State Grid Corporation of China) and key universities providing advice to the government (such as Tsinghua University). The outcome will increasingly also engage Danish research and knowledge institutions and private sector in the cooperation as this is identified as a way forward to transition the current cooperation to new forms of collaborations. Regular consultation and dialogue with Danish stakeholders in the district heating will be organised by DEA and when relevant by the Danish embassy in China.

Approach to capacity strengthening

A systematic approach will be used to enhance knowledge sharing and the uptake and application of knowledge and experience. The programme will be guided by the DEA "Integrated Approach to Capacity Development in Global Cooperation", which apply across DEA's global cooperation programmes. Outcome level project teams will work to validate and expand the assessments of partner needs and priorities and reflect a structured approach to knowledge exchange and capacity development and monitoring as an integral part of workplans, applying the DEA tools as relevant. From the start of implementation, there will be focus on sustainable knowledge transfer and uptake as an integral part of all activities. This is also seen as part of a structured approach for eventual closure of the programme and will feed into the development of a consolidated transition strategy.

3 Theory of change and key assumptions

3.1 Theory of change

The narrative Theory of Change can be summarised as:
If Denmark contributes grant funds to CNDEPP.
And if CNDEPP engages in partnerships within strategically chosen areas with national partners who have the relevant mandates and a strong continued commitment to the partnership.
And if DEA serves as an effective and efficient implementing partner for this cooperation drawing on extensive experience from numerous Strategic Sector Cooperation and Danish Energy Partnership Programmes (in currently 21 countries).
And if DEA collaborates closely with key national partners leveraging its core competences, best practice knowledge and experience, and applies a structured and effective approach to knowledge exchange and capacity development approaches including peer-to-peer exchanges, delegation visits including in Denmark, workshops, seminars, learning events and training courses, triangular/South-South exchanges.
And if these activities are strategically designed to address the specific needs of partners, focusing on planning, strategies, regulatory, institutional, and technical measures aligned to partner institutions' own strategies and plan.
And if this is done through sharing experience on medium- and long-term just green energy transition and climate action.
And if a multi-dimensional poverty approach and human rights principles underpin the cooperation as a whole.
And if the national partners sustain their commitment to effective uptake, application and use of knowledge and experience in these areas.
And if the national partners strive for synergies between CNDEPP and other initiatives supporting a just and green energy transition and climate action.
And if Denmark strives for synergies between CNDEPP and Denmark's multilateral energy and climate cooperation such as with the IEA, and others.

Then, modelling capacities are enhanced and used to produce scenario-based energy analyses that inform national strategies, targets, and policy decisions to continue China's important decarbonization targets.
And, energy market rules, regulatory frameworks, and operational practices evolve to support system flexibility, sector coupling, and high renewable integration, improving efficiency and resilience of the China energy system, and by this reduces emissions.
And, China district heating systems are re-designed and piloted to use low-carbon, multi-source solutions with digital optimisation, improving performance and reducing emissions in the sector.
And then, a long-term and sustainable contribution will have been made to a green energy transition through advancement of low-carbon energy system in China, aligned with its net zero emission targets and with the Paris Agreement,
And then a contribution has been made to sustainable growth through secure, reliable, affordable power supply; CO_2 emissions reduction; reduced air pollution; increased transparency and governance in the energy sector, including health and environmental improvements, job creation, and economic development benefitting more than 1.4 billion people.
And then the transition to different forms of Sino-Danish information exchange and collaboration on energy and climate diplomacy will have been supported.

3.2 Key assumptions and drivers

Assumptions relate to factors that are not (fully) within the control of DEA in implementing CNDEPP, but which underpin the theory of change and include:

- China government's sustained political support for NDC and net zero emission targets and policy initiatives related just energy transition.
- Sustained climate-diplomacy relations, that support China in addressing both climate action and a just energy transition, such as China-Denmark Joint Green Work Programme signed in 2023
- CNDEPP partner institutions share the necessary data for providing technical assistance in energy modelling, planning and policy work.
- Additionality and synergy with other international partners are maintained (avoiding duplication).
- The partnership develops in a way that strategically supports transformational change aligned to China's NDC targets and related policies and strategies.
- Main CNDEPP partners (ERI, NEA, MoHURD/CABR) engage effectively throughout the programme and value peer-to-peer exchanges of good practice and paths to avoid.
- CNDEPP governance structure and management mechanisms are effective in monitoring progress and results and in providing strategic guidance to implementation including ensure continued alignment to China priority needs and with emphasis on assumptions and risk factors as well as capacity development results for sustainable outcomes.
- Renewable energy is an enabler to meet future energy demand in China, including the electrification of other sectors such as district heating, while protecting low-income groups.

Key drivers of sustainable impact

- There are political incentives and drivers for ensuring a continued high-level political commitment in China and a strategic engagement with Denmark to meet energy transition and climate targets.
- A structured and results-oriented approach to knowledge sharing.
- Continued attention to the socio-economic aspects of the energy transition in the partnerships ensuring broad community and citizen support of the new policies and actions.
- Effective communication of results and lessons targeted at decision makers.

4 Results framework at outcome level

The results framework at outcome level is summarised in Table 4.1 below, where the key partners are also indicated under each outcome. The more detailed results framework at output level is found in Annex 3 where typical types of activities and topic area clusters are also indicated under each output as this facilitates understanding of what is expected to lead to the outputs. Where possible, indicators that are already used by Chinese authorities have been used to avoid double monitoring and to highlight the contribution of CNDEPP to achievement of the national goals. It is noted that outcomes and outputs are achieved through capacity development under CNDEPP, consistent with DEA's "Integrated Approach to Capacity Development in Global Cooperation". To make the results framework more succinct, the term capacity development or capacity strengthen is generally, however, not reflected in the wording of outcomes and outputs, but it is a general pre-cursor to this results framework. The capacity development approach briefly outlined in Section 2.2 is reflected in the narrative theory of change in Section 3.1 and described further in the DEPP 2026 FPD.

Table 4.1: Results framework at outcome level

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Programme	**China-Denmark Energy Partnership Programme (CNDEPP)**
Programme Objective	Contribute to the implementation and acceleration of the decarbonisation of China's energy system, enabling an efficient, affordable and reliable access to energy aligned with China's climate targets[1].
Impact Indicator	➢ Increased renewable energy share ➢ Reduced carbon emission

[1] Means of Verification: China's climate targets can be tracked through national statistics and monitoring systems, moreover DEA will make use of the International Energy Agency's country profile on China in order to keep track with China's climate targets – e.g. China's level of emissions and share of renewable energy.

Outcome 1		**Energy system analyses are informing energy policymaking and accelerating the transformation to a net-zero carbon future and can serve as a transparent platform for dialogue about China's green transition.**	
Key partners and other important partners		Key partners: ➢ Energy Research Institute (ERI) ➢ National Development and Reform Commission (NDRC) Other important partners: ➢ National Energy Administration (NEA) ➢ Other state-level or provincial-level authorities, think-tanks, research organisations, universities can be included on a project basis if relevant.	
Outcome indicator		Government policies or announcements make reference to CETO and related thematic research, and/or has been informed or guided by CETO research and data.	
Baseline	Year	2026	- A foundational energy modelling platform has been established and used to generate targeted analytical outputs under DEPP III; however, challenges remain in data accessibility and publication due to China's evolving data governance, limiting broader dissemination and use of modelling-based policy support.
Target	Year	2029	- ERI have responded to queries from NDRC and/or NEA, or ERI staff have been involved in policy development, on the basis of modelling results.
Outcome 2		**Sector coupling and power market integration become established principles for Chinese energy policy, enabling a cost-efficient and resilient energy system capable of accommodating high shares of variable renewables.**	
Key partners and other important partners		Key partner: ➢ NEA[2] Other important partners: ➢ EPPEI ➢ CREEI ➢ State Grid Corp. of China, China Southern Grid ➢ Power Exchanges in China	
Outcome indicator		Policies, regulations, or market frameworks in line with recommendations from the partnership adopted or officially proposed to enhance integration of renewable energy with flexible systems and overcome barriers of introducing a national wide electricity market.	
Baseline	Year	2026	- China has adopted plans to roll-out a nation-wide electricity market by 2030. but barriers exist such as lack of access for certain consumers to buy their preferred and certified RE, lack of dynamic cross-provincial trade, engaging all consumers in the green transition.
Target	Year	2029	- China is well on its way to meeting the 2030 target for a nation-wide electricity market and several key barriers have been cleared.
Outcome 3		**Low-carbon, efficient, and smart district heating principles are promoted to be adopted in Chinese energy use for heating and heating system management.**	
Key partners and other important partners		Key partner: ➢ MoHURD ➢ CABR	
Outcome indicator		Low-carbon, efficient and smart district heating principles are reflected in Chinese policy frameworks related to energy use for heating and heating system management.[3]	

[2] As Agreed with KLIMA, a cooperation agreement will be signed with NEA in lieu of NEA formally adopting the text of the Results Framework. This approach is chosen to take partner sensitivities into account, while still ensuring a clear common understanding, and on the basis that NEA have been involved in developing the results framework. At the same time, relevant data will be collected in close dialogue with the partner as part of the cooperation. Similar approaches are used in other government-to-government collaborations and by international organisations such as IEA and IRENA."

[3] Means of verification: MoHURD draft policy documents and guidelines, as well as official references to CABR technical inputs are presented and discussed with DEA during Steering Committee meetings.

Baseline	Year	2026	- Under DEPP III, DEA and MoHURD have established a knowledge basis on holistic heat planning and grid optimisation, which is the foundation for discussing, testing, demonstrating and implementing strategies for developing networks and heat source design.
Target	Year	2029	- CABR staff have strengthened capacity for planning decarbonisation and optimisation of the heating sector, and findings have been communicated to MoHURD.

5 Inputs, budget, financial management

5.1 Inputs and budget

Inputs
DEA as the Implementing Partner will be responsible for the organization and timely delivery of technical cooperation inputs by DEA staff and external consultants to activities guided by demands and priorities as defined in the annual work plans. Inputs will be delivered based on TOR that ensure the accountability for delivery in alignment with agreed work plans and partner availability and capacity to engage.

Inputs will be staff time inputs from DEA-Global Cooperation (GC) and other DEA units, as well consultant inputs from DEA Consortium partners under the framework contract.

China national partner inputs will be delivered in-kind, aligned to the annual work plans, which are approved by the relevant Steering Groups

Budget
The budget for the CNDEPP Programme is DKK 44 million of ODA-eligible grant funds sourced from the Danish Finance Act (FL-konto 06.31.01.70).

Both the overall size of the budget and its allocation by outcome reflects the principles on which the programme is based: While this will be the last phase funded by development aid, the assessment is that there is considerable scope for contributing to emissions reduction within the programme period, and given China's position as by far the world's greatest emitter, and the indirect political benefit derived from the cooperation, maintaining a relatively high activity level is considered appropriate. Considering the nature of the partnerships this is also considered to be most likely to ensure sustained impact beyond 2029, not least in Outcome 1 through which certain specific legacy initiatives would be established. CIFF has also indicated strong interest in continuing supporting work related to Outcome 1 – also beyond 2029 – which is considered a pathway to a sustainable transition from the current activities with partners.

Table 5.1 below reflects the tentative budget allocation by outcome. This is an allocation budget not an activity-based budget. The budget will be allocated at output and activity levels in work plans to be agreed by the relevant Steering Groups. However, in Annex 5, a tentative allocation by output is provided to be further detailed and updated in annual workplans.

Table 5.1: Summary budget allocations by outcome

Outcomes	Budget allocations, DKK million (rounded)
Outcome 1: Long-term Energy Planning and Modelling	**22.70**
Outcome 2: Renewable Energy Integration and Power Market Reforms	**13.30**
Outcome 3: Decarbonisation of the heating sector	**8.00**
Total, DKK million	**44.00**

5.2 Financial management and reporting

Grant funds will be transferred from the MFA to the DEA upon written request, and DEA will be responsible for all financial management and reporting on CNDEPP funding. The financial management and reporting procedures are further defined in the DEPP 2026 Framework Programme Document.

As no cash funds will be transferred or disbursed though national partners directly, there will be no requirements for accounting of funds and financial reporting by national partners. To monitor the delivery by DEA of technical cooperation in-country consistent with work plans agreed between DEA and the national partners, DEA time spent with partners is reported in the annual progress reporting to the MFA (MYNSEK). Budgets and actual expenditures at outcome and output level broken-down on the cost-categories: DEA staff; Consultants; Other Costs will be presented in the annual financial reporting to the MFA (MYNSEK). The progress- and the financial reports will help PAG to assess value for money at its annual meeting.[4]

Substantive implementation of activities of the CNDEPP programme is planned to be concluded around the first half of 2029 whereafter the focus will be on closing down activities, including final missions and steering group meetings, and delivering final financial and narrative completion reports to the MFA. Assuming that China graduates to being a high-income country, DEA-GC will not be able to use ODA funded staff time beyond 2029 to close down the programme and no-cost extension cannot be granted.

6 Institutional arrangement and management set-up

Institutional set-up, governance, and management
The CNDEPP Programme will build on the governance structure of the earlier cooperation, consisting of a strategic level and an operational level. The ministry-level Steering Groups will function at the strategic level. At the operational level, there will be operational projects teams for each outcome and output. Table 6.1 summarises this set-up.

In response to issues raised in the MTR of DEPP III, ministry-level steering groups with NEA and MoHURD now convene on an annual basis to assess the progress of the cooperation, provide strategic guidance, and receive reports on the status of the different work tracks. Concerning the collaboration with ERI, a comprehensive governance structure has been implemented, consisting of an annual Policy Steering Group meeting, quarterly Programme Steering Group (PSG) meetings, and weekly programme management meetings.

Management structure of the cooperation with ERI
The purpose the quarterly Programme Steering Group (PSG) meetings with ERI is to coordinate and guide the implementation of activities under outcome 1. The PSG shall ensure the effective implementation and coordination of project management between ERI, DEA and other international partners. The PSG operates through consensus among the program partners, and the group's core responsibilities include discussing and confirming joint work plans and assessing and validating the programme's outcomes. The daily coordination takes place at weekly meetings between ERI and DEA.

Management structure of the cooperation with NEA
A Joint Working Group co-chaired by the respective DDG from NEA, DDG of the Danish Ministry of Climate, Energy and Utilities and DDG from DEA meet once a year to approve work plans and assess the results of the programme's outcome 2.

Management structure of the cooperation with MoHURD

[4] As explained in the FPD, from 1 January 2026, an internal transfer of the administrative responsibility for DEPPs in the MFA have been initiated from KLIMA to MYNSEK. The transfer is being made gradually and expected to completed by end of Q2, 2026. It is expected that KLIMA will continue being engaged with DEPP 2026 in relation to follow more technical and thematic areas related to energy and climate and will also continue to participate SAG meetings alongside MYNSEK but with a more limited responsibility.

Once a year a Steering Group Meeting with the DDG of the Ministry of Housing and Urban-Rural Development (MoHURD), high level representatives from China's Academy of Buildings Research (CABR) and the DDG from DEA takes place in order to guide the work under outcome 3.

Table 6.1 Functions in the governance and management set-up

Structure	Functions	Composition/meeting schedule
Strategic Level Steering Groups (NEA and MoHURD ministry-level Steering Groups – ERI Programme Steering Group)	• Give strategic direction and guidance to the Programme respective outcomes. • Undertake broader dialogue on development in the sector and progress towards China's climate targets. • Commitments and national energy transition goals and targets. • Approve annual work programmes and related overall resource allocation for respective outcomes. • For each outcome, monitor programme progress and work programmes, determining if adjustments are needed. • For each outcome, monitor risks, determining whether changes to risk factors are required. • For each outcome, monitor synergies and potential overlaps with other initiatives and take remedial action.	Co-chaired by the head of the partner institution and a DDG from DEA. The SGs meeting will take place once a year and have a written procedure for consultations between meetings. For the partnership with NRDC/ERI Programme Steering Group meetings will take place quarterly.
Outcome level Project teams	• Formulate annual workplans, coordinate daily implementation of workplans • Formulate annual progress reports to the Steering Groups. • Validate and expand the assessments of partner needs and priorities. • Define a structured approach to capacity development, including monitoring as an integral part of workplans. • Monitor assumptions and risk factors. • Monitor synergies with other initiatives identify gaps and address risks of overlap.	Co-chaired by project leads Participation in meetings by Representatives from DEA and the partner organization. For all three outcomes, the project team meetings will take place continuously — both in person during missions and online through weekly and monthly project meetings.

Work planning

Work planning is an ongoing process with each partner, where the annual work plans will be co-developed to align to partners' annual work programmes and needs, and availability of DEA specialists and consultants, balanced with available resources from partners side as well as from the programme's side. Work planning will be prepared with partners at outcome level, for endorsement by the respective Steering Groups. The annual work plans will define annual activities, annual output targets and link these directly to the Results Framework (Annex 3) in this Programme Document. TOR will be formulated for missions and delegation visits conducted as part of the relevant annual work plans. Staff and other resources to achieve the outputs and outcomes in the results framework - should be discussed with partners and considered in the annual work planning submitted for final endorsement by each of the different Steering Groups. Albeit the Danish side can hardly influence partner's resource allocations and impose or require any specific resource allocation from partners, it is very important to gain confidence in partners willingness and ability to deploy resources when planning a specific activity. DEA will on an ongoing basis assess if sufficient partner resources are available to secure up-take, use and institutional strengthening of knowledge sharing and technical assistance. The annual progress reporting for the MFA will assess the development of partner capacity in relation to

achievement of outputs and outcomes. Further, it will consider risk mitigation measures informed by systematic assessment of assumptions and risks as part of DEA internal quarterly meetings with participation at DEA-GC Director level. The CNDEPP will be phased out and key objective in the work planning will be to identify new forms of energy cooperation with China in the future.

Internal Country Team meetings
DEA will conduct quarterly internal country team meetings with the country director in DEA-GC. The quarterly country team meetings will facilitate discussion of each of the outcomes and also review the assumptions and risks of the programme.

Results reporting:
An annual progress report will be prepared by DEA for approval by PAG as part of the consolidated DEA annual progress reports across all five DEPP 2026 countries. The final progress report should be submitted no later than 31 March the following financial year. Monitoring of actual expenditure by DEA including international and national consultancy will be reported to PAG in the consolidated DEA annual progress reports across all five DEPP 2026 countries.

Communication of results:
DEA together with the Embassy of Denmark in Beijing and the national partners will actively engage in targeted communication of progress and results informing stakeholders both in Denmark and in China. The focus will be on raising awareness on the opportunities and choices in the clean energy transition and how the CNDEPP programme contributes to this, including concrete examples of strategic decisions to which the activities and outputs have contributed. A communication strategy is found in Annex 7.

7 Risk management

A brief summary of key risk factors and mitigating measures is provided below. A detailed risk management matrix consistent with Danida guidelines is found in Annex 4. The risk analysis also responds to risk factors emerging from the context analysis in Annex 1.

Contextual risks

- Global geopolitical tensions impacting energy planning and green energy investments. Less geopolitical pressure to accelerate a green energy transition
- Vested interests in the political economy working for continued reliance on coal and natural gas, working against the green energy transition.
- Ineffective inter-ministerial and inter-agency coordination.

Mitigating measures: Demonstrate the benefits of the green and just energy transition through least-cost energy modelling and long-term scenarios, with emphasis on security and reliability of supply. Engage in robust partnership with and provide capacity development support to government institutions that have the mandate and the power to regulate the electricity sector and who implement the Government's ambitious energy transition and climate action agenda. Emphasise transparency and stakeholder engagement.
Residual risks: Significant for vested interests in continued reliance on coal, Major for other contextual risks.

Programmatic risks

- Limited staff resources and managerial capacity in national partner institutions.
- Restrictions on access to energy-related data.

Mitigating measures: Emphasise development of institutional capacity based on thorough partner assessments and tailor-made support responding to key partner needs and priorities. Demonstrate the importance of data availability and quality for efficient and effective partnership and sustainable results. CNDEPP will also engage in the development of an Open-Source Power Sector Model to overcome data sharing barriers and build a collaborative modelling ecosystem that expands stakeholder engagement.

Residual risk: Minor to Major (see Annex 4).

Institutional risks

- Risk of duplicating and/or failing to build synergies with other relevant initiatives in the highly dynamic Chinese context.
- Any unintended use of resources or misconduct could reflect negatively on the partnership.

Mitigating measures: Actively seek synergy with other initiatives including those supported by Denmark in multilateral cooperation.
Residual risk: Minor

Assumptions and risks factors are connected. Risks can be seen as the factors that might have given rise to failure of assumptions. A table illustrating the linkages between assumptions and risks is found at the end of Annex 4. Risks and related assumptions will be systematically monitored throughout implementation as part of the ongoing political economy analysis including at quarterly DEA internal meetings with participation at DEA-GC Director level. In addition to the risks identified in the risk matrix in Annex 4, selected critical assumptions underpinning key outputs and outcomes will also be monitored as part of regular programme dialogue, progress reporting, and review processes.

Where residual risk is assessed as significant, this will be closely monitored from the start of programme implementation, and scenarios/red lines for remedial action will be formulated by DEA who will keep the Strategic Advisory Group (SAG) informed through progress reporting and make any recommendations for decisions required by SAG such as reallocation of resources for outputs or outcome that may no longer be relevant or feasible. Remedial action will in such cases be considered in further detail in each of the Steering Groups.

Where residual risk is assessed as major, the programme will define clear warning signs that indicate when an output or outcome might no longer be relevant or feasible to achieve significant progress with the Danish support. These are not rigid cut-off points or red lines, but triggers for dialogue and reassessment. Such conditions could include:

- Major shifts in geopolitical developments.
- Structural changes in institutional mandates affecting core partner institutions and effective inter-ministerial/inter-agency coordination.
- Critical deficiencies in managerial capacity in national partner institutions and major staff turnover, including of staff that benefits from programme capacity development support.

If monitoring indicates that a residual risk is increasing towards a significant level, or that critical conditions are emerging, this will trigger a structured reassessment of the affected outputs and outcomes. Remedial actions may include adjustment of scope, redesign of support modalities, temporary suspension of activities, or reallocation of resources, as decided by SAG based on recommendations from DEA. The Steering Groups will consider the more detailed implications of such remedial action. This adaptive management approach ensures that support remains relevant and proportionate to the evolving risk environment, while maintaining alignment with programme objectives. DEA has experience with this from DEPP III where Mexico and China had outcome adjusted fully or to a significant degree.

8 Sustainability, transition and exit

Considering the end of the ODA funded part of the GtG partnership with China by 2029, a well-structured transition strategy to other forms of cooperation is essential to guarantee that Danish-supported energy initiatives continue to drive sustainable development beyond 2030. The transition strategy is not merely seen

as an administrative closure, but a dynamic transformation process intended to support national partners in a sustainable development journey.

Criteria for successful transition from specific areas of cooperation include evidence of uptake and use of knowledge and experience that has been exchanged through the partnership. Transition from cooperation or specific component could also be triggered by shift in policy priorities or limited progress against joint targets. Transition with each partner institution may also depend upon the completion of outputs in agreed work plans and any further needs in these workstreams and/or the emergence of potential new priority workstreams and availability of resources. DEA will – in liaison with national partners – prepare a consolidated transition strategy during the first year of the programme, which will be assessed by SAG.

The purpose of the transition and sustainability strategy for China is that knowledge transferred and new capabilities result in institutional uptake with targeted partners. Some components of this transition strategy are expected to be reflected in the way capacity-strengthening is carried out, such as ensuring sufficiently wide participation from partner staff in activities or formalizing or translating training material for continued use after the end of the programme. Other components are already contained in programme outputs. Output 1.2, for example, aims at creating an open-form platform for energy system modelling that will simultaneously enable other stakeholders to support the existing partner beyond the end of the programme, while also broadening the base of energy modelling expertise in China by facilitating the involvement of other Chinese organisations.

The CNDEPP transition strategy will furthermore reflect the fact that in this case the programme of cooperation is ending not because there is no more potential for GHG reductions through the programme, but because Denmark is no longer able to provide such support through development aid. The best approach to driving sustainable development beyond 2029 may therefore in the case of some work streams be not to terminate projects, but to seek alternative finance, hand over to third parties able to take the place of the DEA, or transition to a Trade Council or private sector-based cooperation. The CNDEPP transition strategy will therefore consider in detail, and in consultation with the Chinese authorities, each individual partnership and project to determine the best possible transition. A formal process aimed at considering this question for all development engagements with China, not just energy, has already been initiated by the Danish MFA.

At the same time, China's economic development means that the relationship with Denmark is changing, so that in future global sustainable development may require Denmark to learn from China as much as the other way around. The CNDEPP strategy should therefore, in so far as is possible, act as a bridge to this new relationship and mode of cooperation. Finally, CNDEPP has resulted in, and is expected to continue to provide, important indirect effects, supporting Denmark's political and private sector engagement with China, in accordance with the Danish government's strategy for development aid. The transition strategy will aim to ensure that the value created through these indirect effects is preserved, as far as possible, from 2030 onwards.

Methodology

The transition strategy will be based on a thorough mapping within each work stream of the technical capacity, processes and relationships that have been developed. This will be followed by a consultation with partners about how to preserve this value, including which activities need to be undertaken and outputs produced (e.g. training materials) during the programme period, as well as any proposed internal institutional arrangements that the partner may wish to consider going forward. A broader stakeholder mapping and dialogue will also be carried out in order to consider view points and interests beyond core partners, and to ascertain potential interest from Chinese authorities, relevant Danish ministries, Danish private sector companies and associations, academics, international organisations and private foundations that might provide funding. Approximate timelines for these processes can be found in the Process Action Plan (PAP) in Annex 8.

Questions that will be sought answered through this process include:

- What capacity has been created through the programme's capacity-building? How can the sustainability of this capacity beyond the end of the programme be ensured? What concrete activities and outputs during the programme period are necessary for this? What does the partners need to do long-term to ensure continued sustainability of capacity? What other stakeholders could/should be brought in?

- What indirect value has been created through the programme, in terms of relationships, knowledge gained, political platforms and access for Danish companies? Which of these elements are important to preserve post-2029 and how can this be done? Which stakeholders would need to be involved and are they willing and able to do so?

- What should the Sino-Danish relationship on energy after 2029 look like? Will there still be a strategic Danish interest in accelerating China's climate goals? What is China's future importance for Danish companies, in terms of supply chains and technology as well as markets? How does the current Sino-Danish dialogue on energy support such interests, and is the continuation of any elements of the cooperation important in this regard? What would an equal partnership based on mutual interest look like? How can the programme best facilitate this transition?

- In the light of this, which work streams and relationships should be closed down entirely? Which might continue with other funding and/or participants? Which might transition to politically-led policy dialogues? Which could be rebalanced towards mutual learning for the benefit of Danish interests? Which should be handed over to Trade Council? Which would be relevant for a potential Energy Governance Partnership (EGP)?

Based on this process a draft transition strategy will be developed with input from partners and other relevant stakeholders, covering the aims to be achieved for each work stream and the specific activities that will be undertaken. This document will be presented to SAG for input after the first full year of the programme.

Annex 1: Context analysis

Notes:

- As agreed with the MFA, this annex has been considerably shortened compared to DEA's detailed context analysis dated March 2025, which is an invaluable reference document that can be used in CNDEPP implementation, but which is too detailed for the present CPD.
- The structure of the annex remains consistent with Danida guidelines, but the shortened version inevitably means that some details are not included here, such as the detailed document references under each section, which can be found in DEA's more detailed version.
- The MFA has decided that a subsection A.1.3 on Fragility, Conflict and Resilience (that is normally part of the standard template for Context Analysis), is not required.
- Generally, no additional studies or analytical work are required in the formulation and approval process for CNDEPP. Some information in this Annex may be updated during the start-up phase after approval and during implementation so that the context analysis remains a useful tool and reference in programme implementation.

A1.1: Poverty and inequality analysis

Economy and access to energy in general

Since 1978, China has experienced rapid economic growth, averaging 8.5% annually until 2017. This lifted real per capita income and moved the country into upper-middle income status, though disparities remain. The Multidimensional Poverty Index (MPI) fell from 12.5% in 2000 to 3.9% in 2014, while poverty intensity declined from 44.9% to 41.3%. Between 1978 and 2017, around 700 million people were lifted out of absolute poverty, defined as the ability to meet basic needs such as food, clothing and shelter. Income inequality, measured by the Gini coefficient, also fell from 0.491 in 2008 to 0.467 in 2022.

China now faces slowing productivity growth. According to the IMF, potential growth is projected to decline from 5.2% in 2023 to an average of 3.8% in 2025–30, and further to 2.8% in 2031–40. The OECD DAC ranks China as an upper-middle income country, and it is expected to graduate from ODA eligibility by January 2030.

Economic growth is closely linked to high GHG emissions, given heavy reliance on energy-intensive industries and coal. Universal electricity access was achieved by 2016, fuelling demand but straining supply. Between November 2019 and September 2021, several provinces faced over 1,500 power outages, totalling more than 14,000 hours without electricity. These shortages were driven by seasonal demand spikes, post-COVID manufacturing growth, and rising coal prices. Industry consumes almost 60% of final electricity, with households accounting for 18.5%. To stabilise supply, authorities plan to expand coal-fired capacity alongside renewables.

At the same time, China's "dual carbon" goals commit to peaking emissions before 2030 and reaching carbon neutrality before 2060, while aiming to double per capita income between 2020 and 2035 and reduce inequality under the vision of an "ecological civilisation."

Health

An industry heavily reliant on coal power plants and household solid fuel usage are major contributors to air pollution. 42 percent of China's population lives in areas that do not meet WHOs air quality guidelines. WHO estimates that of the 2 million annuals deaths related to air pollution, more than 1 million is caused by ambient air pollution, and air pollution from cooking with polluting fuels and technologies (household air pollution) caused another million deaths in China.

China's poor are more likely to live and work in polluted environments and are less able to avoid exposure or self-protect. In cities, migrants are more likely to work in industries such as construction, where they often work longer hours and spend more time outdoors, elevating their exposure to ambient air pollution. In rural areas, lower access to piped water has been linked to higher rates of digestive cancers. This is due to drinking surface water contaminated by upstream discharges of wastewater from industries and cities. Access to modern forms of energy is also much lower in rural areas, making indoor air pollution a leading health risk.

The rural/urban divide

Income disparities between urban and rural areas remain significant, though the gap has narrowed since 2013, reaching an urban–rural income ratio of 2.38 in 2023 (UNDP, *China in Numbers* 2023). Poverty has fallen faster in Western regions than in the East, but rural areas still account for 94% of the 10.5 million Chinese living in extreme poverty (World Poverty Clock). The MPI score is 0.026 in rural areas, with 6.2% experiencing multidimensional poverty, compared with 0.008 and 2.1% respectively in urban areas.

Education and nutrition are the largest contributors to China's MPI, with little variation between rural and urban areas. Electricity access, though an MPI indicator, has had no impact since China reached 100% coverage in 2016.

However, coal's dominant role in power generation raises health risks, and reliability problems persist in some remote regions.
Policies have sought to improve rural livelihoods and clean energy access. The Photovoltaic Poverty Alleviation Programme (PVPA) allows poor households to use subsidised solar projects and sell surplus power to the grid, generating income. Evidence suggests positive poverty reduction impacts. Yet, the World Bank notes that urban–rural income gaps, weaker infrastructure, and lower construction standards hinder the clean energy transition, with coal remaining a cheaper option for heating and power. Many rural areas also depend on Small Hydropower Plants, but new capacity is limited, and droughts in western provinces further constrain supply.

Heating

In general, about 85% of heating demand in China is still provided by coal, followed by other fuels including gas and electricity, through district-level, state-owned combined district heating plants (CHPs) or boilers at building level. Switching to non-fossil fuel solutions is possible but would significantly increase costs due to subsidy schemes and lack of metered consumption-based billing, leaving poor households with little incentive to demand renewable energy for heat supply and electricity. Reforms to pricing and metering policies are politically enormously challenging, and previous pilots have remained largely localised.

Any risks that the programme may cause harm to poor and vulnerable groups:

The low-carbon transition can affect rural and poorer households, as it changes the labour market significantly, putting male low-skilled workers in rural interior provinces at risk. The World Bank estimates that the majority of job losses will hit this group,

A1.2: Political economy and stakeholder analysis

China, home to 1.4 billion people and the world's second-largest economy, embodies both the challenges and opportunities of global energy transition. While it hosts half the world's coal power plants, it also leads in renewable and hydroelectric capacity. The economic growth strategy adopted in the 1980s significantly raised living standards but also led to surging energy consumption, air pollution, and CO_2 emissions.
Around 2015, China shifted its focus toward inland consumption, high-quality production, and green growth in response to these challenges. This transition spurred rapid expansion in clean energy technologies like wind, solar, batteries, and electric vehicles. However, economic restructuring has struggled to gain momentum, particularly in stimulating domestic demand.
China's ambition to achieve net-zero carbon emissions by 2060 reflects its commitment to a stable economy and a genuine energy transition. Yet, implementation faces substantial barriers, and some policymakers view decarbonization as conflicting with priorities like economic growth and energy security. For green policies to succeed, they must align with these broader objectives within China's political and economic framework.
Since the 1980s, China's economic policies have prioritized growth, aiming to become a "moderately developed" economy by 2035 and a "great modern socialist country" by 2050—marked by reduced urban-rural disparities, higher living standards, and a high-income economy. However, this growth-driven approach has intensified energy demands, leading to heavy reliance on coal. Policies in the 1990s and 2000s further entrenched coal infrastructure, doubling primary energy consumption between 2000 and 2010 and exacerbating air pollution and greenhouse gas emissions.
By the 2010s, China recognized the unsustainability of its high-growth model and the risk of falling into a "middle-income trap." In 2015, it introduced the "New Normal Economy" and "Made in China 2025" strategies, shifting focus from export-led growth to domestic consumption and high-quality production. The 2013 Air Pollution Action Plan targeted reductions in particulate matter, while energy strategy evolved to emphasize a clean and efficient energy system with diversified fuel sources. Power market reforms resumed after a decade-long pause, and green economy initiatives gained prominence.
As a result, China rapidly expanded wind and solar power, which now account for over half of its total power capacity. Nevertheless, economic restructuring has fallen short: domestic consumption remains weak, the housing market has faltered, and growth still relies on traditional exports.
In 2020, President Xi Jinping committed China to peaking carbon emissions before 2030 and achieving net-zero emissions by 2060. Since then, energy policy has centered on meeting these targets through new regulations and guidelines. However, the transition is complex. China's continued dependence on coal and oil, coupled with its emphasis on energy security, complicates progress. The strategy of "building new before dismantling old" has led to ongoing investments in coal power plants to ensure peak-load capacity, even as renewable energy expands.

Socio-economic, political, and institutional factors affecting the dynamics of the green just and inclusive energy transition and climate action:

China's new energy law, enacted in January 2025, marks a significant step toward a green transition. It prioritizes renewable energy development, shifts from controlling total energy consumption to dual control of CO_2 emissions and intensity, and aims to balance national energy security with low-carbon practices. The law also promotes market-based energy pricing and the creation of a unified energy market.

With the dual carbon targets and this legal framework, China has a clear vision for climate action. However, practical implementation often falls short. Policy measures are frequently applied inefficiently, lacking strength and a systemic perspective. For instance, the emissions trading system fails to incentivize carbon reduction, power market reforms progress slowly and incompletely, and efforts to ensure energy adequacy still favor fossil fuel solutions. These gaps highlight the need for a more integrated energy planning approach that considers system-wide impacts and sector coupling.

The relationship between central and provincial governments further complicates implementation. While the central government sets general rules, quotas, and guidelines, local governments are responsible for approving specific projects. Provincial leaders, however, must also meet centrally defined key performance indicators (KPIs), which serve as critical tools for policy enforcement. This dynamic can create tensions between national objectives and local execution.

Stakeholder Analysis:

The main stakeholders in the Chinese energy and climate administration comprise a complex network of government bodies, state-owned enterprises, and other influential actors. The central government is dominant in shaping China's climate and energy policies. Key entities include the National Leading Group for Climate Change, Energy Conservation and Emissions Reduction, chaired by top government officials, including the Premier, the Special Leading Group on Carbon Peaking and Carbon Neutrality, which coordinates activities related to China's 2030 carbon peaking and 2060 carbon neutrality goals, the Ministry of Ecology and Environment (MEE), which has principal responsibility for climate change policy, the National Development and Reform Commission (NDRC), which is influential in shaping China's development trajectory and emissions and responsible for energy policy and infrastructure development, the National Energy Administration (NEA), which formulates industrial policies and drafts laws for the energy sector. Other relevant ministries include the Ministry of Foreign Affairs, Ministry of Science and Technology, and Ministry of Finance.

The ministries are supported by government-sponsored research institutes, including the Energy Research Institute under the NDRC and state-funded public universities like Tsinghua, Peking, and North China Electric Power universities. These organisations form a fixed and critical part of the policy formulation process in China, contributing to policy development and providing technical expertise.

The provincial Governments are instrumental in implementing the energy and climate policies and have their own Leading Groups on Climate Change.

State-owned enterprises (SOEs) and industry stakeholders influence climate and energy policies due to their economic power and technical expertise, and they participate in government commissions that set policies.

A1.4: Human Rights, Gender, Youth and applying a Human Rights Based Approach

The Human Rights Based Approach (HRBA) is based on four principles i.e. **Participation, Accountability, Non-discrimination, and Transparency (PANT)** These are integral parts of how DEA implements its international partnerships[5].

It is believed that the cooperation has a real, if indirect, effect in pushing Chinese authorities towards greater transparency. The Danish side has consistently pushed for, and been successful in, making both project outputs (such as reports) as well as cooperation agreements (such as Memoranda of Understanding) publicly available, and to widen the range of stakeholders included in policy debates. For example, the China Energy Transformation Outlook is deliberately made public and maintained on the CET website to enable public debate about China's energy system, and to create an accessible record of the work. Governance mechanisms such as Steering Group meetings and weekly coordination meetings have also been important in embedding accountability into both strategic and daily work processes.

More generally, DEA's capacity-building is based on least-cost dispatch modelling of the national and provincial power system, enabling socio-economic and sector specific analyses that help shape the definition of clean energy strategies. Thus, to address issues with expected rising energy prices and avoid the green transition exacerbating China's rural/urban inequalities, continued cooperation with Denmark on energy modelling is likely to be beneficial.

Gender Equality in China

In China, women make up 48.6% of the population and 43.7% of the labour force, yet they earn only 88% of men's wages, according to UNDP data. While 76% of adult women have completed at least secondary education, this figure rises to 83.3% for men.

As a signatory to the UN's Committee on the Elimination of Discrimination Against Women, China has implemented national programs to advance women's rights in economic participation, decision-making, education, health, and legislation. The Constitution has guaranteed gender equality since 1954, supported by over 100 laws

[5] As further explained in the "Forståelsespapir om det flerdimensionelle fattigdomsbegreb og den menneskeretlige tilgang i Energistyrelsens myndighedssamarbejder".

protecting women's rights. Women represent half of those lifted out of poverty in China. By 2018, women accounted for 49.6% of graduate students.
China's Civil Code, and the amended *Law on the Protection of Women's Rights and Interests* (2023) require employers to act promptly on harassment cases and inform complainants of outcomes. Failure to comply may result in administrative penalties or legal consequences.
Despite this progress, challenges remain, including wage gaps, unequal employment opportunities, and limited participation of women in climate action.

Climate Action and Gender Equality

Recent government efforts have integrated gender and social considerations into development policies, promoting women's participation in leadership and green industries. However, structural barriers persist, such as the underrepresentation of women in decision-making and ongoing urban-rural disparities in income and opportunities. Women remain underrepresented in China's energy sector, comprising just 27.1% of the power workforce as of 2019. They also hold limited leadership roles in energy governance. To address this, international organizations and Chinese authorities are promoting vocational training and supporting women's entry into green industries like renewable energy and hydrogen technologies.

Youth and jobs:

China's youth face a complex set of challenges in terms of jobs, education, and demographic trends, which are reshaping the opportunities available to them. Youth unemployment has been a growing concern, with the unemployment rate for urban youth aged 16 to 24 reaching a historic high of around 20% in 2023. This is partly due to the slowdown in economic growth, the lingering effects of COVID-19, and structural shifts in the labour market, which have created increased competition for jobs, especially in large cities. The record numbers in 2023 led the Government to suspend reporting on youth unemployment.
In 2023, 11.58 million students graduated from universities in China. Saturation of the job market for graduates, especially in fields like humanities, social sciences, and even engineering, has made it harder for young graduates to secure employment. Data from the Chinese National Bureau of Statistics shows that in 2023, graduates with university degrees faced an unemployment rate of around 15-18%, compared to lower unemployment rates among those with less education.
There is a growing call to reform vocational education and integrate it more closely with industry needs (Asian Development Bank, 2023).
There is also a persistent urban-rural divide in China, with youth from rural areas facing additional barriers in accessing quality education and job opportunities compared to their urban counterparts.
Economic inequality remains an issue, with youth from wealthier families enjoying better access to education and jobs, while those from lower-income backgrounds or rural areas face more significant challenges. The hukou system, which restricts access to public services and benefits based on one's place of birth, remains a major barrier for migrant workers and youth from rural areas, limiting their opportunities for social mobility
In response to these challenges, the Chinese government has introduced several measures to support youth employment, such as promoting internships, entrepreneurship, and vocational training. There is a clear focus on creating job opportunities in emerging sectors like green energy, technology, and the digital economy. Furthermore, the government is working on reforms to modernize the education system, with a particular emphasis on improving vocational education and skills development.

A1.5: Inclusive sustainable growth, climate change and environment

In 2022, according to IEA 31% of the global CO_2 emissions came from China. This makes China the largest emitter of CO_2 in the world.
In 2024, China's CO_2 emissions are expected to remain stable or experience a slight increase. When accounting for variations in hydropower availability, emissions are structurally stable but not yet declining. Consequently, China is projected to miss its 2025 carbon intensity target after 2024.
The country has significantly accelerated the deployment of solar and wind power. By 2024, solar power capacity reached 890 million kilowatts, and wind power stood at 520 million kilowatts, contributing to a total installed power generation capacity of 3.35 billion kilowatts, marking a 14.6% year-on-year increase.
Electric vehicle sales have continued impressive growth, exceeding 50% of all vehicle sales for three consecutive months in 2024.
There is growing optimism among experts regarding the timing of China's emissions peak. In 2024, 44% of experts surveyed believe that China's CO_2 emissions have already peaked or will peak by 2025, a significant increase from 15% in 2022.
Energy consumption growth continues to outpace GDP growth, with both energy and electricity consumption growing faster than the transition pathways aligned with the Paris Agreement.
While there is progress in controlling investments in new fossil power generation and steelmaking capacity, the increase in emissions from the coal-to-chemicals industry accelerated compared with 2023.

The rapid expansion of renewable energy and electric vehicles presents significant opportunities for sustainable economic growth and environmental health. However, challenges remain, including the need to manage energy consumption growth and address emissions from certain sectors like coal-to-chemicals.

Climate change

China is experiencing rising temperatures and more frequent extreme weather events, such as heatwaves and heavy rainfall, particularly in eastern and northwestern regions like Xinjiang. Over the next 30 years, maximum temperatures could increase by 1.7–2.8°C, heightening risks to water resources, public health, and food security. By the end of the century, extreme heat events—currently rare—could occur every two years if greenhouse gas emissions remain unchecked. Coastal areas also face accelerating sea-level rise, averaging 4.0 mm annually since 1993, threatening ecosystems and human settlements.

Climate change could significantly impact China's economy, with projections suggesting a 2.5% GDP reduction by 2050 and 6.5% by 2100 due to lower agricultural productivity, higher energy costs, and weather-related damages. Crop yields, such as wheat and maize, could decline by 19% and 23%, respectively, by 2100 without substantial emissions reductions. The cost of climate adaptation in Asia could reach $102 billion to $431 billion annually, with China shouldering a significant portion of this burden. Urgent adaptation and mitigation strategies are essential to address these growing challenges.

Inclusive sustainable growth

China's economic growth target for 2024 was set at around 5%, continuing the trend of moderate growth in recent years. However, projections by the IMF and World Bank suggest a gradual slowdown, with GDP growth expected to reach 4.5% in 2025 and just over 3% by 2029. This reflects structural challenges such as demographic shifts, high debt levels, and the need for economic rebalancing, as well as global headwinds like trade tensions and inflation.

A slowing economy presents both risks and opportunities for China's green transition. While it could reduce investment in green technologies and slow progress in key sectors, it may also accelerate innovation in green solutions and reinforce long-term sustainability commitments.

China remains a global leader in renewable energy, particularly in solar and wind power. In 2023, the country invested 6.3 trillion yuan ($890 billion) in clean energy—a 40% increase from 2022—expanding renewable infrastructure like solar, wind, and hydropower.

As China shifts toward a low-carbon economy, its coal sector is shrinking. Employment in coal dropped from 3.5 million in 2018 to 1.5 million in 2023, with further reductions expected as the industry transitions. Government retraining programs are helping workers in coal-dependent regions like Shanxi, Inner Mongolia, and Shaanxi move into new industries such as renewable energy, electric vehicles, and energy-efficient technologies.

The green job market is booming, with the renewable energy sector employing over 3.8 million people in 2023. This sector is projected to grow 15–20% annually, creating more jobs in clean energy and environmental management by 2030.

China is also leveraging AI, digital technologies, and clean energy innovations to drive economic growth, potentially contributing up to 2.5% annually to GDP over the next decade. Energy efficiency remains a priority, with policies aimed at reducing energy intensity by 13.5% by 2025 compared to 2020 levels.

Environment

China's 14th Five-Year Plan (2021–2025) prioritizes green technologies, renewable energy, and environmental protection. However, rapid industrialization and economic growth continue to pose major environmental challenges, including:

- Air pollution from coal and industry, harming public health.
- Water pollution and scarcity, especially in northern regions, due to industrial waste and overuse.
- Soil degradation and desertification, driven by land overuse and deforestation.
- Biodiversity loss from urbanization and agriculture.
- High greenhouse gas emissions from coal-dependent energy and manufacturing.
- Waste management issues, including plastic and electronic waste.
- Increased vulnerability to climate change, with more frequent heatwaves, droughts, and floods.

Pollution from industrialization and coal use has spurred China's clean energy push with initiative like the 2018 "Blue Sky Initiative" targeted air pollution in cities by cutting emissions from power plants, vehicles, and industry. By 2023, 338 cities improved air quality, and PM2.5 levels dropped by 9% compared to 2022. Despite progress, air pollution still causes about 2 million deaths annually in China, according to the WHO.

In October 2021, China updated its **Nationally Determined Contribution (NDC)** to the UNFCCC and committed to peaking carbon emissions before 2030 and achieving carbon neutrality by 2060. In 2025, China introduced an updated climate target for 2035, pledging to reduce total greenhouse gas emissions by 7–10% compared to the peak year, and to increase the share of non-fossil fuels in its energy mix to over 30%.

Moreover, the NDC was further updated with the following; lower carbon intensity by minimum 65% from 2005 level; non-fossil fuels in primary energy around 25%; increase forest stock by around 6 billion cubic metres from 2005; more than 1,200 GW wind and solar. As the world's largest greenhouse gas emitter and second-largest economy, China plays a pivotal role in global climate efforts. Denmark, with its expertise in renewable energy and green technology, is a key partner in supporting China's transition. Through initiatives like DEPP 2026, Denmark helps China accelerate its shift to a low-carbon economy by sharing green solutions and policies.

China's climate targets are often conservative and achievable, but collaboration with Denmark could speed up progress, enabling faster emissions reductions and renewable energy expansion. Denmark's support focuses on four of China's five NDC components: carbon peaking/neutrality, carbon intensity, non-fossil fuel share, and renewable energy capacity (excluding forest volume).

Key collaborations include:

- Energy system modelling with ERI to guide near-term decisions for long-term goals, such as the China Energy Transformation Outlook (CETO), which suggests China could achieve carbon neutrality earlier than 2060.
- Market integration and sector coupling with NEA and MoHURD/CABR to build flexibility in China's energy system, drawing on Denmark's experience in integrating power and heat markets for supply security.

Policies and strategies at national/regional/local level to ensure that development is inclusive and sustainable, avoids harmful environmental and social impacts and responds to climate change:

China's 14th Five-Year Plan (2021–2025) prioritizes inclusive, sustainable development, targeting carbon peaking by 2030 and carbon neutrality by 2060. The plan promotes green innovation, energy transition, and climate resilience, while addressing social equality and poverty reduction.

Regional efforts include pilot zones in Guangdong and Qinghai, focusing on low-carbon industries and eco-friendly infrastructure. Local governments implement policies through energy-saving programs, sustainable agriculture, and smart cities, supported by green finance, green bonds, and carbon markets.

In August 2024, China's State Council introduced a new "dual-control" system, shifting from energy consumption targets to direct carbon emission management. This system, to be fully implemented during 2026–2030, will require provinces to develop carbon budgets and prioritize absolute emission caps over energy intensity metrics.

At the National Energy Work Conference (December 2024), the NDRC and NEA outlined 2025 priorities: energy security, low-carbon feasibility, and renewable energy expansion. The New Energy Law (effective January 1, 2025) accelerates the transition to solar, wind, and hydropower, mandating priority for renewables over fossil fuels—a first for China. It also includes fiscal incentives for clean energy investments, industrial energy efficiency, EV promotion, and smart grid development.

A December 2024 NDRC policy further calls for a unified national energy market to ensure fair competition in oil and gas and a more integrated energy system.

Political will and institutional and human capacity to implement these policies and strategies:

At the 2020 UN General Assembly, Xi Jinping pledged that China would peak carbon emissions by 2030 and reach carbon neutrality by 2060. The targets were written into the 14th Five-Year Plan (2021–25), focusing on energy transition, green growth, and clean energy technologies.

China has since reaffirmed these commitments at key events, including the Two Sessions (2021), the Leaders' Climate Summit (2021), COP26, and the 20th CPC National Congress (2022). Xi has consistently stressed the need for innovation, industrial transformation, and investment in renewables.

In his 2025 New Year address, Xi noted China's production of over 10 million new energy vehicles in 2024, underscoring progress in low-carbon industries. The dual carbon goals are now central to the CCP's vision of an "ecological civilisation", though balancing them with economic growth and energy security remains a core challenge.

Institutionally, China has robust capacity to implement these policies. Key agencies such as the National Development and Reform Commission (NDRC), National Energy Administration (NEA), and the Ministry of Ecology and Environment (MEE) play pivotal roles in regulating and guiding the country's energy transition and climate action. Additionally, China has developed a strong green finance sector with institutions like the China Green Finance Committee, helping channel capital toward low-carbon projects. The implementation of frameworks like the carbon emissions trading system and the New Energy Law further institutionalizes China's commitment to reducing emissions and expanding renewable energy sources.

Local governments in coal and steel-dependent regions have often prioritized short-term economic stability over the central government's carbon neutrality goals, which leads to significant policy inconsistencies across the country. In Shanxi, for instance, despite national targets to reduce coal reliance, the province has continued to prioritize coal mining and the expansion of coal-fired power plants. The coal industry's deep connections with state-owned enterprises (SOEs) grant it significant political clout. These companies, which control a large share of the nation's coal resources, have historically lobbied against more stringent environmental regulations

China's skilled workforce, strengthened by major investments in education, training, and research, is a key driver of green innovation. Universities and research centres contribute to advances in renewables and clean energy technologies, though implementation capacity is uneven—less-developed regions often lag behind coastal provinces.
At the same time, the low-carbon transition threatens jobs in energy-intensive sectors. Steel and cement are deeply embedded in the economy, employing millions and driving growth, yet together they account for over 20% of China's carbon emissions. The steel industry alone employs more than 5 million people and produces over 1 billion tonnes annually—about half of global output. Cement output stands at 2.4 billion tonnes, around 60% of global production. Both rely on coal-heavy processes that are difficult to decarbonise.
Shifting away from these industries risks major employment losses and regional economic disruption, particularly in provinces such as Hebei and Shanxi. The challenge for China is to balance its dual carbon goals with protecting jobs and livelihoods in coal- and industry-dependent regions.

Support to inclusive green growth and transformation to low-carbon and climate resilient economies:

Through DEPPP 2026 Denmark can help China harmonise climate security with its energy security and economic growth priorities by supporting a phased reduction of fossil fuel dependency and promoting energy diversification through renewables. In particular, Denmark's experience in policy integration, long-term energy planning, green finance and budgeting, circular economy principles, and climate-resilient infrastructure could support China's efforts to align its growth with climate goals. Through policy dialogue, training, and capacity building, Denmark can help China integrate climate considerations into national energy strategies while fostering a just transition for workers impacted by the shift away from fossil fuels. For example, the annual China Energy Transformation Outlook (CETO), which is a key output from the cooperation, contains a socio-economic impact assessment of China's green transition.
Today, it is unclear how China calculates the economic, human and environmental cost of prioritizing energy security and continued reliance on coal over climate security. While coal might provide short-term energy security, it often requires subsidies and government support (such as capacity payments), which could otherwise be used for cleaner and more cost-effective energy sources like renewables, as demonstrated in the China Energy Transformation Outlook report (2024). In DEPP2026, Denmark could share experiences with integrating climate into macroeconomic modelling. Denmark has developed a macroeconomic model, GreenREFORM, that enables fiscal and economic planning to support the green transition. The model is designed by the Danish Research Institute for Economic Analysis and Modelling, with the support of the Danish Ministry of Finance and other partners. It draws from Danish experience with green budgeting and can provide an integrated assessment of the environmental and climate effects of economic policies, as well as the socio-economic effects of energy and climate policies. Beyond climate budgeting, it can also simulate the possible effect on emissions of environmental taxes, subsidies and other regulations. In this way, it aims to strengthen the consistency of public finances with climate and environmental targets, which could be highly relevant for China.

Positive impacts and potential risks or negative impacts related to natural and human environments and climate change from the programme and how these may be mitigated:

The benefits of the program are indirect but significant, primarily focused on climate action and environmental improvement. By helping to build capacity among Chinese experts for a green energy transition, the program can accelerate the adoption of renewable energy technologies and reduce reliance on fossil fuels. This would lead to a substantial decrease in carbon emissions and an improvement in air quality.
While the benefits are clear, there are also potential risks related to both the natural and human environments.
Natural and Environmental Risks

- Ecosystem and biodiversity disruption: Large-scale renewable energy projects, like wind and solar farms, can require significant land use, which may affect ecosystems and biodiversity.
- Raw material extraction: The materials needed for renewable energy infrastructure can have their own environmental impacts during extraction.

Social and Human Risks

- Job losses and social disruption: The transition away from fossil fuels, particularly coal, poses a risk of social disruption and job losses in communities that depend on these industries. The province of Shanxi, for example, is heavily reliant on coal production, and a phase-out could lead to significant employment challenges.
- Livelihood impact: Land-use changes for new energy installations could affect agricultural land and the livelihoods of rural populations.

To address these risks, a "just transition" is essential. This involves ensuring that the shift to renewable energy is equitable for workers and communities. Denmark can share its experience in phasing out fossil fuels, such as its aid package to support displaced oil and gas workers through retraining and new jobs in fields like carbon capture and storage. China has already allocated funds for retraining and resettlement of displaced workers to help them transition into emerging industries like electric vehicles and green construction.

A1.6: Capacity of public sector, corruption

Capacity of the public sector for policy making, implementation of policies, enforcement of regulations and effective service delivery (general assessment):

Since coming to power, Chinese President Xi Jinping has strengthened the Communist Party of China's (CPC) control over the state and society by promoting discipline and launching an extensive anti-corruption campaign that targets all government branches and state-owned enterprises. The government's policymaking process is highly centralized, with the Politburo Standing Committee holding ultimate authority. While central policies are well-defined, local governments are often responsible for implementing them, which can lead to inconsistencies due to differing local priorities, funding challenges, and the potential for corruption or protectionism.

Policy Making and Implementation

The CPC centrally formulates major policies, often with input from key planning bodies like the National Development and Reform Commission (NDRC). However, implementation is often decentralized, relying on provinces and cities. This can cause variations in the quality of implementation, as local officials may prioritize economic growth over national goals like environmental sustainability. Additionally, local governments often face challenges with funding and resources, leading to uneven service delivery, especially in poorer regions.

Regulation and Enforcement

China has a comprehensive legal and regulatory framework, with national and local agencies like the Ministry of Ecology and Environment (MEE) and the State Administration for Market Regulation (SAMR) responsible for enforcement. The Central Commission for Discipline Inspection (CCDI) and the National Supervisory Commission (NSC) oversee officials and have substantial authority to investigate and discipline those involved in corruption or regulatory violations. However, enforcement at the local level can be inconsistent due to conflicting interests and economic pressures, as seen in the variable enforcement of environmental regulations.

Service Delivery

Public service delivery has improved significantly in urban areas, with enhanced access to healthcare, education, and transportation, supported by digital initiatives like Smart City and e-Government programs. These platforms leverage tools like WeChat and Alipay to provide efficient services such as tax payments and government benefit applications. However, a significant urban-rural divide remains, with less developed regions and migrant populations facing challenges in accessing adequate healthcare and quality education.

Anti-corruption measures:

The country's anti-corruption campaign, which began in earnest in 2012, has involved a multifaceted approach, targeting both "tigers" (high-ranking officials) and "flies" (low-ranking bureaucrats).

However, in 2023 Transparency International's Corruption Perceptions Index (CPI) scored China at 42 out of 100, ranking it 76th out of 180 countries. This score reflects ongoing challenges in combating corruption, which continues to impact economic efficiency and public trust.

Anti-corruption controls in China are carried out by the Central Commission for Discipline Inspection (CCDI). CCDI in particular plays a central role in investigating and punishing corrupt officials, who are almost all Communist Party members, from the central, provincial and county levels. In 2024, more than 4,000 disciplinary cases were filed against officials, resulting in the punishment of 889,000 individuals. This includes 680,000 for not adhering to Communist Party discipline and 270,000 for other violations.

Internal reforms have also aimed at improving the Party's integrity through the creation of the National Supervisory Commission (NSC), which works alongside the CCDI to investigate cases in both the public and private sectors. Over the past year and a half, at least 15 senior military officers and defence industry executives have been dismissed due to corruption investigations. Approximately 90 financial industry executives have been investigated, with 70% of cases involving the banking system.

The NSC has also sought international cooperation, especially on the issue of "fleeing officials". This refers to officials who embezzle public funds and then flee abroad. The Chinese government has worked with international law enforcement agencies like Interpol to track down these fugitives and repatriate them. Programs such as "Sky Net" and "Fox Hunt" have been launched to locate and return fugitives.

A1.7: Matching with Danish strengths and interests, engaging Danish actors and seeking synergies

Where we can have influence through strategic use of positions of strengths, expertise and experience:

Denmark's decades-long energy collaboration with China is built on trust, expertise, and a proven track record—qualities Chinese partners value highly. Denmark's strengths lie in low-carbon development, integrated energy systems, and decarbonization pathways, offering training for Chinese policymakers, regulators, engineers, and economists. As a global leader in renewable energy, Denmark combines a high share of renewables with unmatched energy security, serving as a model for China's transition. Its success in reducing energy intensity while sustaining economic growth further enhances its credibility.

Key areas where Denmark can influence China's energy transition:

1. Policy and Planning: Denmark's expertise in long-term energy policies, scenario modelling, and capacity-building can help China refine its carbon neutrality roadmap. Its sector-specific, integrated approach—covering energy, transport, and agriculture—could inspire China to adopt tailored decarbonization strategies for hard-to-abate sectors.
2. Decentralized Energy Systems: Denmark's decentralized energy model, including district heating, local cooperatives, and small-scale renewables, offers a blueprint for China to reduce reliance on centralized power and enhance local energy resilience, particularly in rural areas.
3. Grid Interconnection and Flexibility: Denmark's cross-border electricity grids enable energy trade, balancing supply and demand. China could expand regional grid integration to improve energy security and flexibility.
4. Adaptive Policy Frameworks: Denmark's long-term climate goals (e.g., 70% emissions reduction by 2030, carbon neutrality by 2050) are paired with flexible, adaptive policies. China could adopt legally binding interim targets and agile regulatory frameworks to accelerate progress.
5. Sector Coupling and Efficiency: Denmark's sector coupling—integrating electricity, heating, transport, and industry—optimizes energy use. China could scale this model to decarbonize buildings, industries, and transport, using surplus renewables and waste heat for district heating.
6. Carbon Pricing and Market Mechanisms: Denmark's experience with carbon taxes and the EU ETS could help China refine its national carbon market (ETS), improving market liquidity, pricing, and sector coverage to drive decarbonization in high-emission industries.
7. Public Engagement and Transparency: Denmark's public consultation processes and transparent climate reporting foster trust and participation. China could expand public engagement in climate policymaking to build support for renewable projects and reduce local resistance.

Concrete opportunities for synergies

Danish energy technology exports to China were valued at 4.2 billion DKK in 2023, making it Denmark's seventh-largest market. The work on energy planning and green power integration aims to further grow this market by improving policies and reducing market barriers.

There are strong synergies between government cooperation and business interests. The project directly helps Danish companies by providing expert advice and valuable market insights, which in turn helps expand the market for Danish energy goods and services. For example, Danish companies in the district heating sector can benefit from improved planning and investment proposals. The embassy's energy advisors and trade department also share information, ensuring that government efforts support Danish businesses and that companies' insights help shape government cooperation. This creates a mutually reinforcing cycle that benefits both parties.

Assessment of the development partner landscape and coordination, including opportunities for synergy with Denmark's multilateral energy/climate cooperation:

Development Partner	Areas of support
IEA	The IEA collaborates closely with Chinese government entities and experts across the energy sector on both policy design and implementation. Key areas of cooperation include power market reform, renewable energy policy, energy efficiency, accelerating sustainable development, and the deployment of heat pumps. NEA works with IEA through established partnerships aimed at improving energy security, sustainability, and efficiency. China, while not a member of the IEA, is an association country and collaborates on projects related to energy data, policy analysis, energy transitions, and environmental protection. For instance, the IEA and NEA have worked together on a three-year plan focused on energy efficiency, reducing carbon intensity, and supporting China's shift to cleaner energy sources. High-level discussions have also been held to deepen this partnership and Memorandums of Understanding (MoUs) on joint initiatives for climate change, and clean energy goals have been signed. This collaboration aligns with broader global energy governance strategies, where China's participation in initiatives like the IEA supports its growing role in international energy cooperation. Within district heating and cooling, IEA has an active collaboration with Chinese stakeholders such as Tsinghua University and China District Heating Association. Notably members of the Sino-Danish Expert Panel on district heating represent both China and Denmark within IEAs district heating and cooling collaboration programme.

	IEA also has a cooperation with NDRC and ERI on energy efficiency.
WBG	The World Bank's Board of Executive Directors recently approved a US$300 million loan to support development of heat supply from renewable energy and low-carbon energy sources and to promote a heat pricing reform pilot programme in China's Shaanxi province. In May 2024, WBG announced a new loan to support low carbon transition of Urban Mobility in Yichang, China. Over a 5 year period WBG will provide a loan at roughly USD 250 million which, with total programme funding being USD 1,114 million. The purpose is to phase out older, heavy polluting freight vehicles and buses and to promote public transit, walking and cycling. WBG also organise capacity building seminars and study tours for Chinese officials e.g., a power sector delegation with representatives from NDRC and State Grid who went to the UK for training – they also invited Danish experts to visit the seminar and give a presentation on district heating. In 2024 WBG financed a study tour for the provincial government in Shaanxi and local heating companies to visit Denmark. The World Bank actively engages in dialogue with the Danish Embassy and Danish Energy Agency, wanting to learn from Danish experience. Within the field of energy, WBG has a close collaboration with NDRCs Foreign Capital Department, Economic Adjustment Bureau and International Department. Broadly WBG active within energy, agriculture, water and environment and other topics related to the SDGs. Moreover, a $ 300 million loan to support piloting innovative energy storage and green hydrogen technology. WBG is also contributing with technical assistance to NDRCs price department on improving mechanisms and regulation of pricing for energy storage, power transmission and distribution as well as heating.
IRENA	NEA collaborates with IRENA to develop renewable energy roadmaps and decarbonization strategies. This partnership's focus on increasing China's renewable energy capacity and sharing expertise to support global energy transition. Together, NEA and IRENA also organize the bi-annual high-level Suzhou Energy Transition Forum, in which Denmark is a regular participant at high level.
UNDP	The UNDP Administrator Achim Steiner is a an executive board member of China Council for International Cooperation on Environment and Development (CCICED). UNDP partners with Chinese government agencies, such as the National Development and Reform Commission (NDRC), the National Energy Administration (NEA), and provincial governments, to support the formulation and implementation of policies that align with international climate goals and China's 14th Five-Year Plan for green development. UNDP also collaborates with several other Chinese stakeholders in joint projects, including: • Ministry of Ecology and Environment (MEE) • State-owned enterprises (SOEs) such as China National Petroleum Corporation (CNPC) and State Grid Corporation of China (SGCC) • China International Development Cooperation Agency (CIDCA)
GIZ	Germany's GIZ is partnered with the National Development and Reform Commission (NDRC) and National Energy Administration (NEA) collaborating on promoting renewable energy, sustainable heating and energy efficiency under the Sino-German Energy Partnership.
French AFD	The French AFD has been active in China for years collaborating and mainly focus on funding towards innovative renewable energy and energy efficiency, in addition to the development of a green financial sector in China.
The European Union	Since 1994, EU and Chinese officials have met for an annual energy dialogue to cooperate on energy issues at ministerial level. The dialogue forms the basis of the EU-China energy cooperation and focuses broadly on four areas to further advance the clean energy transition: • energy efficiency • renewable energy sources • design and transformation of the energy system and global energy markets

	• The role of innovative energy actors. The energy dialogue was deepened and intensified by the 2019 joint statement on the implementation of the EU-China cooperation. It has up to now resulted in high-level meetings at least annually as well as joint reports on certain topics. The EU-China energy cooperation platform is a practical tool that supports the energy dialogue and delivers on the specific objectives of EU-China bilateral energy cooperation. The EU Partnership Instrument, designed to advance the EU's strategic interests and tackle global challenges, funds the platform. It is jointly steered by the Commission's Directorate-General for Energy and the Chinese National Energy Administration (NEA). EU also has a specific MOU with NDRC focusing on circular economy and works with MEE on climate modelling, among other work streams. In particular a newer EU-China partnership on urbanisation to promote clean, sustainable, and energy efficient cities. The partnership encompasses forums, study trips, and training activities, as well as an annual meeting between the President of China and the Presidents of the European Commission and the European Council. While the partnership stretches across many economic and social sectors, the Commission acts as the overall coordinator for the EU. In energy, the partnership works on topics such as promoting energy efficient buildings, researching energy technologies, and finding ways to integrate renewable energy into urban areas.
Children's Investment Fund Foundation (CIFF)	The Children's Investment Fund Foundation (UK) (CIFF) is an independent philanthropic organisation with offices in Addis Ababa, Beijing, London, Nairobi and New Delhi. It is a registered charity in England and Wales and in 2021 disbursed $468 million and committed $772 million in charitable investments. With assets of GBP £5.2 billion (USD $6.6 billion), it is the 5th largest global development philanthropy in the world based on annual disbursements. According to OECD published data, it is the world's second largest private funder of reproductive health and environmental protection globally. In 2019, CIFF opened a Beijing office and their activities in China aims to support an accelerated transition towards sustainable development and a low-carbon economy. The CIFF China portfolio covers energy, industrial and economic transition, sustainable cities, low-carbon transport, carbon pricing and green finance, climate and environmental governance and more. CIFF is a financing partner in the China Energy Transformation Programme and has close connection with the Danish Energy Agency in China.

Annex 2: Partner assessment

Note: This annex is a considerably shortened version of DEA's very detailed partner assessment from March 2025, which is a valuable DEA reference document that can be used in programme implementation, but which is too detailed for the present CPD. The Annex is limited to Table A2.1 below.

Table A2.1: Summary of key partner features

Name of Partner	Core business	Importance	Influence	Contribution	Capacity	Exit strategy
	What is the main business, interest and goal of the partner?	*How important is the project/programme for the partner's activity-level (Low, medium high)?*	*How much influence does the partner have over the project/programme (low, medium, high)?*	*What will be the partner's main contribution?*	*What are the main issues emerging from the assessment of the partner's capacity?*	*What is the strategy for exiting the partnership?*
National Development and Reform Commission (NDRC)	Responsible for formulating and implementing national economic and social development strategies, including regional and industrial planning, investment management, and macroeconomic policies. Oversees key agencies such as NEA and ERI.	High. The program aligns directly with the NDRC's core responsibilities.	High. As it sets strategic priorities, approves key deliverables, and oversees affiliated agencies to ensure alignment and effective implementation.	NDRC will be the primary institutional anchor for China's energy transition, setting strategic direction, prioritizing initiatives, and coordinating implementation policies, informed by inputs from ERI and similar institutions.	**Strengths:** Broad authority over national policies, oversight of key agencies like NEA and ERI, significant influence in setting strategic priorities. **Weaknesses:** Coordination challenges, limited data transparency, constraints in international partnerships. **Opportunities:** Leadership in energy transition, integration of advanced technologies, strengthened global partnerships. **Threats:** Restricted international collaboration, fossil fuel sector resistance.	Through the programme period the aim will be to establish a political dialogue on the basis of the technical cooperation and a new MoU, to facilitate on-going exchanges on energy transition between Denmark and China.
Energy Research Institute (ERI)	Responsible for conducting research, studies, and analysis	High.	High.	ERI's main contributions are conducting	**Strengths**: Main provider of energy research to NDRC,	The programme period of 2026-2029 would see ERI

	to support national energy policies, focusing on medium- and long-term strategies for carbon neutrality. ERI serves as a primary provider of research and analysis for NDRC and NEA.	The program enhances ERI's core mission in energy planning and carbon neutrality while elevating its scenario modelling to international standards through collaboration with partners like DEA.	As ERI is the main implementer, driving research, scenario modelling, and policy analysis to shape and execute its objectives.	research and modelling for carbon goals, co-coordinating the program with DEA, and providing expert resources for implementation.	highly skilled experts, advanced modelling capabilities. Capability and experience in deep international cooperation, ability to secure external funding **Weaknesses:** High volumes of ad hoc requests challenge planning; limited resources constrain scalability. **Opportunities:** Providing inputs to high-level decisions, enhance international partnerships. **Threats:** Restricted rules for international collaboration, limitations on data sharing.	gradually become fully responsible for modelling tasks, and for producing the China Energy Transformation Outlook, through capacity-building aimed at running an independent model. The sustainability of the work beyond 2029 would be supported by embedding ERI as far as possible in an international modelling community, and through the creation of an open-source model available to stakeholders outside ERI to broaden the base of Chinese modelling capability. Finally, the aim would be to explore, with ERI and CIFF, whether international support for modelling could be continued beyond 2029 through some alternative funding mechanism.
National Energy Administration (NEA)	NEA drafts China's national energy strategy, implements energy policy, and regulates energy sectors, including coal, electricity, oil and gas, and nuclear power. It also supports science and technology research on energy efficiency and renewable energy.	Medium/High. The demand for capacity building and activities through Sino-Danish cooperation has varied over the years and depending upon themes. However, the Green Power programme has shown considerable interest in the themes covered by the Green Power programme.	Medium/High Together NEA and DEA specified the outputs to be delivered within the agreement/work program.	Joint formulation of priorities and activities, participation, report writing and organizing workshops/seminars to ensure dissemination of outputs. Further, NEA will use the findings of the cooperation to inform policy decisions.	NEA is understaffed. A lack of resource availability has been delaying progress in the Green Power programme. Furthermore, the coordination between technical departments is often suboptimal, which	During the programming of DEPP2026, we must assess the implications of terminating cooperation and possible mechanisms for ensuring the long-term sustainability of the capacity-building, such as: • Reports or white papers, that summarize lessons learned and best practices from the cooperation.

					increases the challenges in the cooperation.	• Preserving project outputs on websites such as the clean heating website established through the cooperation with NEA and CREEI. • Encouraging members of the clean heating expert panel to continue as a formal or informal network between experts.
Ministry of Housing and Urban-Rural Development (MoHURD)	The primary authority on urban planning, energy efficiency and district heating policy. Alongside NDRC MoHURD is driving reform of pricing and billing within the heating sector.	High The demand for capacity building and cooperation on district heating and energy efficiency has been high since the inception of the cooperation. MoHURD and CABR have expressed interest in continued cooperation after the current agreements end.	High CABR appointed by MoHURD as an implementing project partner has taken an active role in the cooperation and takes lead on several aspects of the cooperation. Work programs are jointly developed by DEA and CABR and approved by MoHURD.	MoHURD will be the primary government body for implementing policy changes, and it is expected that their role will largely consist of participating in policy dialogue whereas CABR will engage in the more technical exchanges.	As the cooperation increasingly will focus on the decarbonization there will be a need for more dialogue across government authorities e.g. MoHURD and NEA. Historically, it has been difficult to achieve, although under the current collaboration we have had representatives from NEA and MoHURD as well as the respective implementing partners join the same workshops.	As MoHURD is responsible for areas of interest to Danish companies programming of DEPP2026 should take into account the possible continuation after 2029 of the cooperation as an export-focused cooperation (EGP), or as initiative run by the Danish trade council.

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Annex 3: Results framework

- CNDEPP is essentially a capacity strengthening programme in which technical support and knowledge transfer contribute to achieving enhanced national capabilities that in turn lead to programme outcomes and impact when national partners apply these capabilities. As an important pre-cursor to the results framework below, it should be noted that Outputs and Outcomes are formulated as the concrete results arising from DEA support for capacity strengthening. Therefore, and to make the results framework more succinct, "capacity development" is generally not reflected in the wording of Outputs and Outcomes, but it is a general pre-cursor to this results framework and the capacity strengthening approach is described further in the DEPP 2026 FPD and reflected in the narrative theory of change in Section 3.1.
- While not required by the standard Danida template for results frameworks, indicative activity types/topic area clusters are listed under each output as this facilitates understanding of what is expected to lead to the outputs.
- Activities will be defined in annual workplans to be approved by the relevant Steering Groups. Capacity development reporting at activity level will be part of annual workplan reporting to the MFA.
- Baselines are defined for 2026. Baselines are informed by the results and achievements of DEPP III, which need to be considered in the development of work plans for CNDEPP during the start-up phase in 2026. Mid-programme (2028) targets for outputs have also been reflected, and end year (2029) targets are indicated.
- The CNDEPP programme will be accountable for the achievement of the outputs, which are within its control. DEA will monitor and report on outputs in progress reporting. DEA will also monitor and report on the achievement of outcomes, which are within CNDEPP/DEA influence but not within DEA control and dependent upon the assumptions from outputs to outcomes in terms of partner action and use of outputs.
- The CNDEPP distinguishes between key partners and other important partners. Key partners are defined as the main responsible partner under the relevant outcome and are also responsible for providing the necessary input to the annual work programmes and progress reports. Other important partners are defined as partners who are actively engaged in a few or more activities, dependent on the work program. Other important partners are however not responsible for providing input to annual work programs and progress reports.
- During the programme, all outcomes are to some extent flexible to address/work with priority demands from primary partners to support their areas of interest which can change.
- The assumptions (summarised in Section 3.2) underpinning the theory of change are important for achieving the stated outcomes and impact and must be closely monitored.

Programme		**China-Denmark Energy Partnership Programme (CNDEPP)**	
Programme Objective		Contribute to the implementation and acceleration of the decarbonisation of China's energy system, enabling an efficient, affordable and reliable access to energy aligned with China's climate targets[6].	
Impact Indicator		➢ Increased renewable energy share ➢ Reduced carbon emission	
Outcome 1		**Energy system analyses are informing energy policymaking and accelerating the transformation to a net-zero carbon future and can serve as a transparent platform for dialogue about China's green transition.**	
Key partners and other important partners		Key partners: ➢ Energy Research Institute (ERI) ➢ National Development and Reform Commission (NDRC) Other important partners ➢ National Energy Administration (NEA) ➢ Other state-level or provincial-level authorities, think-tanks, research organisations, universities can be included on a project basis if relevant.	
Outcome indicator		Government policies or announcements make reference to CETO and related thematic research, and/or has been informed or guided by CETO research and data.	
Baseline	Year	2026	- A foundational energy modelling platform has been established and used to generate targeted analytical outputs under DEPP III; however, challenges remain in data accessibility and publication due to China's evolving data governance, limiting broader dissemination and use of modelling-based policy support.
Target	Year	2029	- ERI have responded to queries from NDRC and/or NEA, or ERI staff have been involved in policy development, on the basis of modelling results.
Output 1.1		**China's capacity for model-based energy policymaking is strengthened through improved modelling platforms, deepened institutional capacity, and in-depth policy-driven analysis.**	
Indicative activity / topic areas		**Integrated Energy Modelling Platform** ➢ End-use model： • Improvement of Current LEAP-Based End-Use Model: enhance the existing LEAP-based end-use model by adding more functions. • Modelling Sprint in ERI and DEA on advance assumption generation method: Conduct a focused, time-limited effort to develop and refine data processing methods and improve the projection methods to increase the accuracy and effectiveness for more efficient and accurate data input into the modelling. • Development of an Energy Efficiency Technology Catalogue: Create a comprehensive catalogue of energy-efficient technologies, providing solid data for use in the end-use model to support accurate energy efficiency projections. build ERI's knowledge of energy efficiency technologies and how to integrate them into the modelling process. • Workshops in China: co-organise workshops in China with external experts to validate model assumptions and review the modelling results. ➢ Power sector model • Regular training sessions for ERI on energy modelling using the open-source model as platform. • On-demand analysis focusing on specific aspects of the power sector to support internal policy requests. • Modelling sprint in ERI to support the implementation of policies and Chinese data into ERI's private version of the open-source model.	

[6] Means of Verification: China's climate targets can be tracked through national statistics and monitoring systems, moreover DEA will make use of the International Energy Agency's country profile on China in order to keep track with China's climate targets – e.g. China's level of emissions and share of renewable energy.

		• In person training session in DEA and together with other stakeholders around the country when ERI travels to Denmark. ➢ Social economic model • Online meeting between DK expert and ERI to gather input for ERI CGE model and exchange of experiences on social economic modelling for just transition. **Generate Annual Outlook Report:** Produce the annual energy outlook report based on the analysis from the Integrated Energy Modelling Platform, providing key insights, trends, and policy recommendations. **Dissemination activities:** ➢ Organise High-Level Event to Launch the Outlook Report at COP ➢ Domestic Forums to Further Spread the Results and Findings ➢ Exchange with International Partners like IEA and IRENA. ➢ Involvement of Danish energy and climate think tanks (the Danish Climate Council and CONCITO as examples) in meetings to share Danish experiences. **Strategic Capacity Development Plan** ➢ Defined capacity goals for ERI by 2029 ➢ Comprehensive capacity development plan developed and implemented ➢ Annual capacity tracking benchmarks established and monitored	
Output indicator 1.1		ERI staff proficient in using core models[7].	
Baseline	Year	2026	- An energy modelling platform was successfully created, laying a solid foundation for energy system analysis and policy support.
Target	Year	2028	- ERI staff are proficient in running models, interpreting results, and participating in policy-relevant discussions.
Target	Year	2029	- ERI Staff can conduct full scenario development and collaborate with partners in producing thematic research. ERI has built a self-perpetuating modelling team capable of running the model independently and possessing the internal capacity to train new staff in its use.
Output 1.2		**An open-source power sector model is developed to strengthen a collaborative modelling ecosystem that expands stakeholder engagement, enhances capacity, and informs strategic energy policy making in China.**	
Indicative activity /topic areas		**Open-Source Model Deployment** • Develop and publish the open-source model on an international platform. • Ensure the model is functional with public datasets and customisable for local use. • Provide clear access and usage guidelines for external users. • Maintain and update the platform as needed. **Training and Support Materials** • Develop core training resources and model documentation. • Deliver training sessions, workshops, or webinars for different levels of users. • Establish channels for ongoing technical support (e.g. email, forum, Q&A). • Translate and localise materials to ensure broader accessibility. **Stakeholder Mapping and Engagement** • Identify and map relevant Chinese institutions (e.g., Tsinghua and other universities, DRC ERI, provincial energy institutes) and their modelling needs/interests. • Initiate bilateral dialogues with these institutions to explore interest in using or collaborating on the open-source model. • Organise targeted outreach events, including: o Outreach workshops to introduce the open-source model capabilities. o Targeted roundtables to discuss collaboration scenarios. o Model demo sessions during engagement to demonstrate use cases. • Publicly launch the open source through a high-profile event to generate national and international attention. • Further disseminate through academic and professional engagement, including presentations at modelling and energy policy conferences, exchanges or seminars at universities.	

[7] Means of verification: Technical experts continually asses the level of proficiency acquired by ERI staff.

Output indicator 1.2		The open-source power sector hosted on an international platform is made accessible to Chinese stakeholders.	
Baseline	Year	2026	China's data law and tightened restrictions on cross-border data sharing are creating significant challenges for continuing the collaboration using internal datasets.
Target	Year	2028	The open-source power sector model is developed, published online.
Target	Year	2029	The model has been tested with a range of stakeholders, their feedback has been incorporated, and the partners have the capabilities to use the model.
Output 1.3		**Targeted thematic research is jointly conducted to address urgent policy needs and critical challenges in China Energy Transition.**	
Indicative activity /topic areas		**Topics identification:** • Design a streamlined and flexible method to identify annual and ad hoc policy priorities. • Use the first PSG meeting each year to select core research topics. Use later PSG meetings to approve any additional, high-priority topics. • Coordinate with other DEA work tracks (e.g. green power, district heating) to identify joint research opportunities. **Thematic research outputs** • Organise modelling sprints to generate results based on selected topics. • Conduct drafting sprints to produce policy briefs, reports, or working papers. • Host internal and external expert workshops to discuss assumptions, methods, and results. • Hold peer review sessions to validate findings before finalising outputs. **Dissemination events** • Organise special launch events for key reports or thematic outputs. • Present findings at relevant local and international conferences or policy forums. • Coordinate policy briefings or closed-door sessions with government stakeholders.	
Output indicator 1.3		Research outputs, including special reports, policy briefs, working papers, and academic articles, based on integrated modelling results, published/disseminated.	
Baseline	Year	2026	- Ad hoc special reports produced under DEPP III, based on modelling insights, but have not been published
Target	Year	2028	- Institutionalise the process with annual topic selection and output format, agreed with ERI, and a defined dissemination pathway to ensure thematic research influences policymakers. At least 3 thematic research outputs delivered
Target	Year	2029	- At least 5 thematic research outputs demonstrated to be relevant for the institutions have been produced and published.
Outcome 2		**Sector coupling and power market integration become established principles for Chines energy policy, enabling a cost-efficient and resilient energy system capable of accomm dating high shares of variable renewables.**	
Key partners and other important partners		Key partner: ➢ NEA[8] Other important partners: ➢ EPPEI ➢ CREEI ➢ State Grid Corp. of China, China Southern Grid ➢ Power Exchanges in China	
Outcome indicator		Policies, regulations, or market frameworks in line with recommendations from the partnership adopted or officially proposed to enhance integration of renewable energy with flexible systems and overcome barriers of introducing a national wide electricity market.	
Baseline	Year	2026	- China has adopted plans to roll-out a nation-wide electricity market by 2030. but barriers exist such as lack of access for certain consumers to buy their preferred

[8] As Agreed with KLIMA, a cooperation agreement will be signed with NEA in lieu of NEA formally adopting the text of the Results Framework. This approach is chosen to take partner sensitivities into account, while still ensuring a clear common understanding, and on the basis that NEA have been involved in developing the results framework. At the same time, relevant data will be collected in close dialogue with the partner as part of the cooperation. Similar approaches are used in other government-to-government collaborations and by international organisations such as IEA and IRENA."

			and certified RE, lack of dynamic cross-provincial trade, engaging all consumers in the green transition.
Target	Year	2029	- China is well on its way to meeting the 2030 target for a nation-wide electricity market and several key barriers have been cleared.
Output 2.1		**Policy-relevant analyses, concepts and recommendations on power market design are developed and shared with Chinese authorities, focusing on mechanisms for integrating variable renewable energy, enabling multi-energy system coordination, and maximising the effect of Green Electricity Certificates (GEC) in promoting renewable energy.**	
Indicative activity /topic areas		• Online/in-person meetings to support NEA in developing the national unified electricity market with a focus on consuming and integrating renewable energy and enhancing power flexibility. To make research on mechanism design to ensure appropriate design of power system, and innovation of market mechanisms participated by new energy, etc. • Workshops on developing regulations and incentives that promote green energy and flexible energy consumption/production including Green Electricity Certificates (GECs). • Workshops and training sessions for key stakeholders (regulators, energy producers, and utilities) to gain an understanding of the evolution, operations and theoretical knowledge of international electricity markets, broaden trainees' perspectives and enhance their ability to analyze market trends and assess market risk. • Study tour to Denmark to exchange knowledge with key experts who focus on European power market, power market mechanism design with variable renewable energy and multi-energy integration, as well as • Study tours within China for DEA to understand the status quo and exchange experiences, develop case studies of best practices	
Output indicator 2.1		Relevant elements of the national power market policies reflect joint NEA-DEA findings and recommendations. [9]	
Baseline	Year	2026	- Building a unified power market is an objective of the 2025 Energy Law. NEA is mandated to issue regulations that drive incentives, standards, market procedures for transition towards renewable-based energy system.
Target	Year	2028	- Exchanges of experience between DEA and NEA has led to a joint report on best market practices that are adapted to China's power market.
Target	Year	2029	- NEA regulations on power market reflect CNDEPP exchange of experience for efficient renewable energy integration in the China energy system.
Output 2.2		**Pathways for scaling green hydrogen energy and energy storage are advanced, aiming to facilitate higher green energy consumption.**	
Indicative activity /topic areas		• Workshop to research and discuss the equitable participation of new energy storage technologies in medium and long-term electricity market trading, electricity spot market transactions, ancillary services markets, and ancillary service compensation mechanismsWorkshop to research and discuss the value chain of hydrogen energy production, storage, transportation, and utilization, as well as project cooperation, standard formulation, promotion of application scenarios, and international trade system.	
Output indicator 2.2		Relevant elements of pathways for scaling green hydrogen energy and energy storage reflect joint NEA-DEA exchanges and learnings.[10]	
Baseline	Year	2026	- Building a reliable and secure renewable-based energy system is an objective of the 2025 Energy Law. NEA is mandated to issue regulations that drive incentives, standards, market procedures for green hydrogen and storage technologies deployment.
Target	Year	2028	- Exchanges of experience between DEA and NEA has led to a joint report or other similar output demonstrating the benefit of green hydrogen and storage

[9] Means of Verification: NEA will track use of CNDEPP-informed findings and recommendations and share/discuss it with DEA during annual working group meetings. Relevant information on how NEA has adapted findings and recommendations to the China context will also be discussed.

[10] Means of Verification: NEA will track use of CNDEPP-informed findings and recommendations and share/discuss it with DEA during annual working group meetings. Relevant information on how NEA has adapted findings and recommendations to the China context will also be discussed.

			technologies deployment for further ensuring the sustainability of green energy transitions in Denmark and China.
Target	Year	2029	- NEA's framework conditions for green hydrogen and storage technologies deployment reflect CNDEPP exchange of experience for efficient renewable energy integration in the China energy system.
Output 2.3		**Strengthened capacities of Chinese partners for planning and managing power system flexibility.**	
Indicative activity /topic areas		• Regular meetings to discuss common plans and activities (Discussing workshops, study tours, missions, papers, articles etc.). • Workshops on new-type power systems, focusing on power grid system upgrades, smart microgrid technologies, distributed grid development, virtual power plant deployment, and energy storage solutions, to accommodate variable renewable energy sources, like wind and solar. • Showcase the need for standards and market-based incentives	
Output indicator 2.3		Relevant elements of power system organisation and regulations releasing flexibility reflect joint NEA-DEA exchanges and learnings.[11]	
Baseline	Year	2026	- Building a reliable and secure renewable-based energy system is an objective of the 2025 Energy Law. China is still facing significant challenges in achieving power system flexibility, particularly in integrating increasing amounts of renewable energy and meeting growing electricity demand.
Target	Year	2028	- Exchanges of experience between DEA and NEA has led to a joint report or other similar output demonstrating ways to enhance power system flexibility.
Target	Year	2029	- NEA's framework conditions for power system flexibility planning and management reflect CNDEPP exchange of experience for efficient renewable energy integration in the China energy system.
Output 2.4		**The value of an integrated heating and power system is demonstrated.**	
Indicative activity /topic areas		• Regular meetings to discuss common plans and activities (Discussing workshops, study tours, missions, papers, articles etc.). • Workshops for capacity development. • Simulation heating systems benefits from integrating with power market by the use of relevant software. • Maintain expert panel and expert panel meetings for discussing activities, proposals and for support developing renewable and flexible power and heating solutions (Including experts from universities in both China and Denmark) • Delegation visits and missions • Collecting data and evidence on renewable solutions • Technology gap analysis • Map the need for standards and map existing examples of digitalisation of heating sector	
Output indicator 2.4		NEA is presented with transition strategies for power plants, that consider the objective of decarbonising heating sector and increased flexibility of China energy system.	
Baseline	Year	2026	- Under China-Denmark Strategic Sector Cooperation, DEA and NEA have proposed and published policy recommendations regarding decarbonisation of heating supply based on joint analysis. This is the foundation for discussing, testing, demonstrating and implementing transition strategies for power sector regarding heat supply (in cooperation with district heating sector).
Target	Year	2028	- Exchanges of experience between DEA and NEA on potential transition strategies for power plants, that consider the objective of decarbonising heating sector and increased flexibility of China energy system.
Target	Year	2029	- A joint report (or other similar output) disseminated by NEA setting out lessons learned regarding potential transition strategies for power plants, the objective of decarbonising heating sector and increased flexibility of China energy system

[11] Means of Verification: NEA will track use of CNDEPP-informed findings and recommendations and share/discuss it with DEA during annual working group meetings. Relevant information on how NEA has adapted findings and recommendations to the China context will also be discussed.

Outcome 3		**Low-carbon, efficient, and smart district heating principles are promoted to be adopted in Chinese energy use for heating and heating system management.**	
Key partners and other important partners		Key partner: ➢ MoHURD ➢ CABR	
Outcome indicator		Low-carbon, efficient and smart district heating principles are reflected in Chinese policy frameworks related to energy use for heating and heating system management.[12]	
Baseline	Year	2026	- Under DEPP III, DEA and MoHURD have established a knowledge basis on holistic heat planning and grid optimisation, which is the foundation for discussing, testing, demonstrating and implementing strategies for developing networks and heat source design.
Target	Year	2029	- CABR staff have strengthened capacity for planning decarbonisation and optimisation of the heating sector, and findings have been communicated to MoHURD.
Output 3.1		**A concept for low-carbon, efficient and smart energy use for heating system has been developed.**	
Indicative activity /topic areas		• Policy collection: Sharing Danish policies related to heat sources in district heating systems, including guiding policies such as carbon taxation, development planning, heat pricing, power market, and coordination and responsibility allocation between heat sources and transmission and distribution companies. • Workshops: Introducing the development history of district heating in Denmark, including the evolution of combined heat and power (CHP), CHP cost-sharing mechanisms, heat–power coordination schemes, and the impacts, challenges and responses related to electricity market reform and energy structure transition on heat sources. • Case studies: Selecting representative cases from China and Denmark to analyse how district heating systems shift from traditional fossil fuels to low-carbon, multi-source coupled models. • Training: Delivering a series of training courses on optimal design of multi-source coupled district heating systems, including economic comparison of multiple heat sources. • Study visits to China Understanding China's heating situation and discussing the feasibility of practical demonstration projects. • Study visits to Denmark • Offline / online meetings: Regular bilateral meetings to discuss optimisation of China–Denmark multi-source coupled district heating systems. •	
Output indicator 3.1		CABR and the Danish Energy Agency (DEA) have jointly prepared concepts for MOHURD and the industry, demonstrating relevant Danish policies and concepts for harvesting the potential of sector coupling and heating flexibility in China	
Baseline	Year	2026	- Under DEPP III, the strengthened heat planning knowledge and the pilot projects have transferred tools and built strong foundation for enabling CABR and MoHURD to implement holistic heat planning based on power markets signals
Target	Year	2028	- A common understanding on how heat source design based on power market signals can advance the decarbonisation of heating sector while simultaneously increase power flexibility in China.
Target	Year	2029	- MoHURD and CABR are planning demonstration projects reflecting CNDEPP shared experience.
Output 3.2		**Integration of multiple-heat-source district heating network technologies to ensure efficient and stable system operation facilitated.**	

[12] Means of verification: MoHURD draft policy documents and guidelines, as well as official references to CABR technical inputs are presented and discussed with DEA during Steering Committee meetings.

Indicative activity /topic areas		• Policy collection: Sharing Danish guiding policies for advanced fourth-generation district heating technologies • Workshops: Introducing the core concepts of fourth-generation district heating, as well as key technologies and management measures to improve overall system energy efficiency. • Case studies: In-depth discussion of representative Danish fourth-generation district heating application cases. • Training: Covering the principles, application guidelines and relevant software tools for fourth-generation district heating technologies. • Study visits to China: Understanding China's heating situation and discussing the feasibility of practical demonstration projects. • Study visits to Denmark • Offline / online meetings: Regular bilateral meetings to discuss Denmark's advanced fourth-generation district heating technologies and management experience.	
Output indicator 3.2		Through the cooperation, the Chinese side's understanding of efficient and stable operation of heating networks based on multiple heat sources has been improved.	
Baseline	Year	2026	- Under DEPP III, China and DEA have recognised that 4th generation district heating networks is a prerequisite for collecting ambient and surplus heat sources necessarily for decarbonising district heating sector. Some demonstration projects implemented in Hebi.
Target	Year	2028	- Common events, reports, papers and articles showing requirements and technical solutions led to a common understanding.
Target	Year	2029	- MoHURD has established plans for scaling up the deployment of efficient district heating network technologies
Output 3.3		**In-depth exchanges on smart heating system optimisation for supporting safer, more resilient, efficient and low-carbon heating systems have been conducted.**	
Indicative activity /topic areas		• Policy collection: Introducing Danish smart heating policies for different stakeholders, including government authorities, heat source plants, heating companies, transmission and distribution companies, property management companies and heat users. • Workshops: Presenting the current status of digital development in Denmark's district heating sector. • Case studies: In-depth analysis of how Danish heating companies apply end-to-end smart heating across the full chain of "heat source – transmission and distribution – end use" to improve operational efficiency. • Training: Introducing the basic principles of smart heating applications, with a focus on practical tools. • Study visits to China: Understanding China's heating situation and discussing the feasibility of practical demonstration projects. • Study visits to Denmark • Offline / online meetings: Regular bilateral meetings to discuss how smart heating can support safer, more resilient, green and low-carbon heating systems.	
Output indicator 3.3		Learnings and conclusions jointly produced by CABR and the Danish Energy Agency, have been disseminated to and discussed with MOHURD and the heating sector. .	
Baseline	Year	2026	- The China heating system is facing challenges in ensuring secure and reliable provision of clean heating energy.
Target	Year	2028	- The partnership led to a common understanding of how optimisation of the operation of district heating systems in China and their interactions with other energy sectors can benefit the energy system in general and heating sector in particular.
Target	Year	2029	- MoHURD has established plans for piloting projects

Annex 4: Risk management

Contextual risks[13]:					
Risk Factor[14]	**Likelihood**[15]	**Impact**[16]	**Risk response**	**Residual risk**	**Background to assessment**
CR1: Global geopolitical tensions impacting energy planning and green energy investments.	Unlikely	Major	Demonstrate the benefits of the green and just energy transition through least-cost energy modelling and long-term scenarios, with emphasis on security and reliability of supply.	Minor	The Chinese government is explicitly committed to the green transition, not only for climate reasons but also for the economic growth it relies on.
CR2: Vested interests in the political economy working for continued reliance on coal and natural gas, working against the green energy transition.	Likely	Major	CNDEPP is a partnership with the government institutions who have the mandate and the power to regulate the electricity sector and who implement the Government's ambitious energy transition and power market reforms while working to increase the percentage of renewable energy (RE) in the energy mix and increased flexibility in fossil-based power generation.	Significant	The political economy in the sector has its drivers but also opponents of transformational change. The 15th Five-Year Plan (2026-2030) presents a pivotal opportunity for reducing level of fossil fuels in power generation and district heating. CNDEPP is engaging into demonstrating the possibility and value of the green transition.
CR3: Ineffective inter-ministerial and inter-agency coordination also between national and provincial levels and insufficient transparency in decision making.	Likely	Major	As an external catalyst, support increases transparency through modelling and planning information used in decision making. Through strong anchoring with key national level authorities and working on district heating across different State Agencies, CNDEPP contributes to improved clarity and coordination between agencies.	Minor	Unclear decision-making responsibilities, ineffective coordination and information sharing between ministries and other stakeholders.

[13] This category covers the range of potential adverse outcomes that may arise in a particular context, including the risk of harm beyond the immediate context or the country's borders and may include governance failure (e.g. the failure of effective public financial management or law enforcement); competition for resources; natural hazards; and pre-existing socio-political tensions. (Danida Guideline to Risk Matrix 2018).

[14] To illustrate the linkages between assumptions and risks, contextual risks are numbered CR1, CR2, etc; programmatic risks are numbered PR1, PR2, etc.; institutional risks are numbered IR1, IR2, etc. These numbers are then used in the table under the risk matrix, which makes the connection between assumptions and risk analysis:

[15] Danida classification categories are: very unlikely, unlikely, likely, almost certain (see link)

[16] Danida classification categories are: insignificant, minor, major, significant (see link)

Programmatic Risks[17]**:**					
Risk Factor	**Likelihood**	**Impact**	**Risk response**	**Residual risk**	**Background to assessment**
PR1: Limited staff resources and managerial capacity in national partner institutions and staff turnover.	Likely	Major	In line with DEA's approach to capacity development, emphasise development of institutional capacity, Where training of individuals is done, ensure sharing within the institution, training of trainers, and wider institutional uptake and use of knowledge and experience. Align capacity development to the partner institutions' internal competence and capacity development strategies and programmes. Where relevant, engage with academic institutions that can capture knowledge for development of their curricula. Strengthen alumni-network across institutions as possible.	Major	There are limited human resources in national partner institutions, and this is compounded by staff turnover, including of staff trained through the programme.
PR2: Insufficient ability to share available data can affect the quality of the technical assistance provided.	Likely	Major	Demonstrate the importance of data availability and quality for efficient and effective partnership and sustainable results. CNDEPP will also engage in the development of an Open-Source Power Sector Model to overcome data sharing barriers and build a collaborative modelling ecosystem that expands stakeholder engagement.	Minor	China's data law and tightened restrictions on cross-border data sharing created significant challenges for continuing the collaboration using internal datasets under DEPPIII.
Institutional risks[18]**:**					
Risk Factor	**Likelihood**	**Impact**		**Residual risk**	**Background to assessment**
IR1: Risk of duplicating and/or failing to build synergies with other relevant initiatives in the	Likely	Minor	Continued careful identification of other relevant bilateral donor and multilateral development partner support. Through the Embassy and DEA, Denmark participates actively in relevant develop-	Minor	Limited effectiveness of national coordination of development partner support.

[17] This category includes two kinds of risk: (1) the potential for a programme to fail to achieve its objectives; and (2) the potential for the programme to cause harm in the external environment. With regard to (1), the risk factors for programme failure include many of the contextual risks outlined above, as well as institutional and political factors. But there are many other reasons for potential programme failure, including inadequate understanding of the context or flawed assessment of what needs to be done; management and operational failures; and failures of planning and co-ordination. Risk is also associated with new or innovative programme approaches (although there may also be risk in failing to innovate). (Danida Guideline to Risk Matrix 2018). The categorisation of likelihood, impacts, and residual risk is also consistent with Danida guidelines.

[18] This category includes "internal" risk from the perspective of the donor or its implementing partners. It includes the range of ways in which an organisation and its staff or stakeholders may be adversely affected by interventions, e.g. damage to a donor's reputation if it fails to achieve its objectives, or from financial/fiduciary failure (Danida Guideline to Risk Matrix, 2018).

highly dynamic Chinese context.			ment partner coordination within energy and climate action, including with other EU member countries. Ensure synergy with Denmark's multilateral cooperation.		
IR2: Any unintended use of resources or misconduct could reflect negatively on the partnership.	Very unlikely	Significant	There will be no direct fund transfers to partner institutions. The Programme will follow DEA financial and contracting procedures, and the risk of direct corruption is considered unlikely.	Minor	Any fraud or misconduct associated with the Programme would have major consequences for partner institutions.

As mentioned in Section 3.2, assumptions relate to factors that are not (fully) within the control of DEA in implementing CNDEPP, but which underpin the theory of change (ToC). As also mentioned in Chapter 7, assumptions and risks factors are connected. Risks can be seen as the factors that might have given rise to failure of assumptions. The table below makes the specific connection between assumptions and risk analysis:
:

Assumptions	**Where covered in the risk analysis**
➢ China government's sustained political support for NDC and net zero emission targets and policy initiatives related just energy transition.	CR1, CR2
➢ Sustained climate-diplomacy relations, that support China in addressing both climate action and a just energy transition, such as China-Denmark Joint Green Work Programme signed in 2023	CR2
➢ CNDEPP partner institutions share the necessary data for providing technical assistance in energy modelling, planning and policy work.	PR2
➢ Additionality and synergy with other international partners are maintained (avoiding duplication).	IR1
➢ The partnership develops in a way that strategically supports transformational change aligned to China's NDC targets and related policies and strategies.	CR2, PR1, PR2
➢ Main CNDEPP partners (ERI, NEA, MoHURD/CABR) engage effectively throughout the programme and value peer-to-peer exchanges of good practice and paths to avoid.	PR1
➢ CNDEPP governance structure and management mechanisms are effective in monitoring progress and results and in providing strategic guidance to implementation including ensure continued alignment to China priority needs and with emphasis on assumptions and risk factors as well as capacity development results for sustainable outcomes.	CR1, PR2, IR2
➢ Renewable energy is an enabler to meet future energy demand in China, including the electrification of other sectors such as district heating, while protecting low-income groups.	CR1, CR2

Annex 5: Budget details

Table A5.1: Summary budget allocations at output level.

All numbers in DKK.

Outcomes	Outputs		2026	2027	2028	2029	Sub-total
1: Energy system analyses are informing energy policy-making and accelerating the transformation to a net-zero carbon future, and can serve as a transparent platform for dialogue about China's green transition	**1.1:** Model-based energy policy-making is strengthened	DEA staff	863,893	1,660,538	1,560,146	692,336	4,776,914
		Consultants	1,393,328	2,059,992	2,059,992	499,731	6,013,043
		Other Costs	120,000	160,000	160,000	40,000	480,000
		Subtotal	**2,377,221**	**3,880,530**	**3,780,138**	**1,232,067**	**11,269,957**
	1.2: An open-source power sector model is developed to strengthen a collaborative modelling ecosystem	DEA staff	863,893	1,660,538	1,560,146	692,336	4,776,914
		Consultants	570,706	878,353	878,353	404,177	2,731,590
		Other Costs	-	40,000	40,000	-	80,000
		Subtotal	**1,434,600**	**2,578,892**	**2,478,500**	**1,096,513**	**7,588,504**
	1.3: Targeted research is jointly conducted to address urgent policy needs and critical challenges in China Energy Transition	DEA staff	431,947	830,269	780,073	346,168	2,388,457
		Consultants	400,000	400,000	320,000	100,000	1,220,000
		Other Costs	60,000	60,000	60,000	60,000	240,000
		Subtotal	**891,947**	**1,290,269**	**1,160,073**	**506,168**	**3,848,457**
						Outcome 1 Subtotal:	**22,706,918**
2: Sector coupling and power market integration become established principles for Chinese energy policy, enabling a cost-efficient and resilient energy system capable of accommodating high shares of variable renewables	**2.1:** Policy-relevant analyses, concepts and recommendations on national power market design	DEA staff	896,392	1,093,898	1,093,898	433,023	3,517,210
		Consultants	200,000	700,000	100,000	-	1,000,000
		Other Costs	130,000	200,000	20,000	10,000	360,000
		Subtotal	**1,226,392**	**1,993,898**	**1,213,898**	**443,023**	**4,877,210**
	2.2: Pathways for scaling green hydrogen energy and energy storage are advanced	DEA staff	440,588	619,261	619,261	255,982	1,935,093
		Consultants	150,000	300,000	100,000	-	550,000
		Other Costs	50,000	100,000	20,000	10,000	180,000
		Subtotal	**640,588**	**1,019,261**	**739,261**	**265,982**	**2,665,093**
	2.3: Strengthened capacities of Chinese partners for planning and managing power system flexibility	DEA staff	440,588	619,261	619,261	255,982	1,935,093
		Consultants	150,000	150,000	100,000	-	400,000
		Other Costs	50,000	50,000	20,000	20,000	140,000
		Subtotal	**640,588**	**819,261**	**739,261**	**275,982**	**2,475,093**
	2.4: The value of an integrated heating and power system is demonstrated	DEA staff	552,128	776,058	776,058	340,055	2,444,298
		Consultants	25,000	135,000	185,000	47,500	392,500
		Other Costs	25,000	135,000	205,000	67,500	432,500

		Subtotal	**602,128**	**1,046,058**	**1,166,058**	**455,055**	**3,269,298**
						Outcome 2 Subtotal:	**13,286,694**
3: A sustainable low-carbon integrated heating system has been introduced to China to support decarbonization and high-quality development of the sector	**3.1:** A concept for low-carbon, efficient, and smart energy use for heating systems	DEA staff	387,037	586,263	586,263	295,605	1,855,168
		Consultants	115,556	173,333	173,333	-	462,222
		Other Costs	166,000	70,000	60,000	30,000	326,000
		Subtotal	**668,593**	**829,596**	**819,596**	**325,605**	**2,643,390**
	3.2: Integration of multiple heat source district heating network technologies to ensure efficient and stable system operation facilitated	DEA staff	387,037	586,263	586,263	295,605	1,855,168
		Consultants	115,556	173,333	173,333	-	462,222
		Other Costs	60,000	166,000	60,000	40,000	326,000
		Subtotal	**562,593**	**925,596**	**819,596**	**335,605**	**2,643,390**
	3.3: In-depth exchanges on smart district heating systems optimization	DEA staff	398,766	604,028	604,028	304,563	1,911,385
		Consultants	115,556	173,333	173,333	-	462,222
		Other Costs	60,000	80,000	166,000	40,000	346,000
		Subtotal	**574,321**	**857,362**	**943,362**	**344,563**	**2,719,607**
						Outcome 3 Subtotal:	**8,006,387**

Sub-totals per year:	**9,618,972**	**15,240,724**	**13,859,744**	**5,280,561**	**44,000,000**
				Grand Total	

Budget notes:

- Since China is projected to graduate out of developing-country status within the programme period, this next phase of CNDEPP is set to be the last DEPP programme with China. The intention is to complete substantive programme activities by mid-2029, with full closure of the programme by the end of 2029. In the second half of 2029 the focus will shift to closure and handover, including final steering committee meetings, dissemination activities, reporting, and concluding missions under each outcome. In this second half of the year, the budget will therefore allocate some funds to support these final activities including final results reporting to the MFA plus final financial reporting.
- Outcome 1**:** A certain level of programme activity will be maintained in the final phase of DEPP, as the work is currently expected to continue with partners other than DEA (and without CNDEPP funding) beyond 2029. There are encouraging signs that external funding may be available to support additional expert assistance for ERI after 2029.
- Output 1.2: The development of the open-source model requires substantial involvement of both DEA staff and local consultants. Under this output, a broader range of Chinese stakeholders will be furthermore engaged, both national and international, who are identified as modellers interested in using the open-source model. This process involves providing training, engaging stakeholders on their intended use of the model, capacitating the modellers in using the model, and ensuring its effective dissemination. It is a dynamic and iterative effort that demands careful planning and sustained commitment from DEA and the relevant partners.

Annex 6: List of supplementary materials

#	Document/information	Internet link if available
1.	Denmark's Strategy for Development Cooperation, A Changing World - Partnerships in Development, June 2025	(link)
2.	DEA Global Cooperation on China - website	(link)
3.	DEA Memorandum on the Multidimensional Concept of Poverty and the Human Rights-Based Approach in the Danish Energy Agency's Government to Government Cooperation	
4.	DEA Political Economy Analysis in a Global Cooperation context	
5.	DEA Integrated Approach to Exit Strategies	
6.	Danida Guidelines – Bilateral Cooperation	(link)
7.	China NDC update	(link)
8.	The Energy Progress Report 2025 (by World Bank ESMAP; IEA; IRENA, WHO and United Nations Statistics Division)	(link)
9.	World Bank ESMAP RISE indicators for China	(link)
10.	China energy data, International Energy Agency (IEA)	(link)

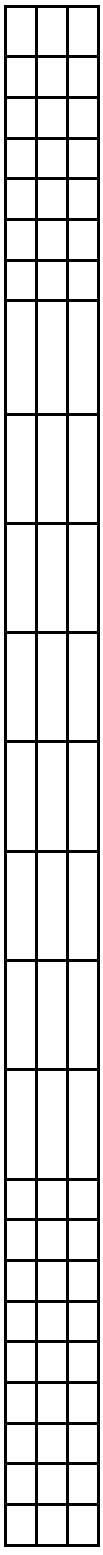
Annex 7: Plan for communication of results

Communicating key events, significant results and / or positive effects of the programme will happen on an ongoing basis and in close coordination between DEA, MCEU, and MFA.

The execution of this external communication plan is contingent upon the availability and appropriate use of DEA and MCEU communication channels. Implementation will be aligned with the priorities and requirements of the wider organization, ensuring that communication activities are coordinated, consistent, and supportive of overall organizational objectives. Adjustments to the plan may be made as necessary to reflect evolving needs, resources, or strategic direction.

What? (the message)	**When?** (the timing)	**How?** (the mechanism)	**Audience(s)**	**Responsible**
CNDEPP programme information, selected results targets and results updates against targets.	When DEPP 2026 approved - and updated regularly/ annually	Danida Open Aid	The Danish resource base and taxpayers.	MFA(MYNSEK)
Fact sheet/small brochure ("Kernefortælling") on CNDEPP. Key messages from CNDEPP, results, achievements, and effects communicated through relevant channels and / or communication products.	Fact sheet when CNDEPP is approved and updates as relevant. Other key messages as relevant during implementation.	DEA Global Cooperation website. MCEU website. Social media. Reports and other material produced under CNDEPP (DEA website for China: link)	Danish resource base and Danish taxpayers. International development partners.	DEA MCEU
For consideration: Fact sheet/small brochure on CNDEPP in Chinese. Key messages from CNDEPP and information on CNDEPP-related key events.	Fact sheet immediately when CNDEPP approved and updates as relevant.	Fact sheet/small brochure on CNDEPP in Chinese and English on Embassy website.	Chinese national partners and professional community.	Embassy of Denmark in Beijing
Key messages on CNDEPP results and achievements, including "impact stories".	During CNDEPP implementation.	MFA/Danida website and newsletters. World's Best News campaign. State of Green. Social media.	The Danish resource base, international partners.	MFA(MYNSEK)
Key messages on CNDEPP results and achievements.	As relevant during implementation.	Websites, social media etc. of key national partner institutions.	National partners and stakeholders.	National partners

Annex 8: Process action plan



Action/deliverable	Target date	Responsible
Danida Programme Committee Meeting on early draft Framework Programme Document (FPD)/concept note for DEPP 2026	8 April 2025	MFA(KLIMA)

Country formulation mission and consultations with national partners on virtual platforms and in connection with other DEA technical missions, including via brief consultation notes	2nd-3rd quarters 2025 and again, as relevant, after appraisal	DEA
Full DEPP 2026 document package (FPD with 5 country programme documents (CPDs[19])) to appraisal team	24 October 2025	DEA with MFA (KLIMA), MCEU, and formulation consultants
Appraisal of proposed DEPP 2026	24 October 2025-2 February 2026	MFA (LEARNING) with appraisal consultants
Meeting in the MFA External Technical Panel on DEPP 2026	19 February 2026	MFA (LEARNING)
Submission of DEPP 2026 FPD and CPDs for final verification by MFA /LEARNING)	9 March 2026	MFA (KLIMA)
Final verification of DEPP 2026 FPD and CPDs	11 March 2026	MFA (LEARNING)
Approval of DEPP 2026 by the Danish Minister for Foreign Affairs	tbd	Minister for Foreign Affairs
Approval of the DEPP 2026 grant by Finance Committee of the Danish Parliament	tbd	Danish Parliament
CNDEPP 2026 implementation	1 May 2026 – December 2029	DEA
Mapping of capacity and stakeholders with regard to transition strategy	May – October 2026	DEA
Consultation of primary partners with regard to transition strategy	August – December 2026	DEA
Broader stakeholder dialogue with regard to transition strategy	August – December 2026	DEA/MFA
Formal confirmation of role in transition strategy from partners and other stakeholders	January – March 2027.	DEA
Development and drafting of transition strategy	March – May 2027.	DEA
Meetings of the project teams at Outcome level	Throughout the year	DEA
Meetings in each of the Steering Groups (ERI, MoHURD and NEA)	Annually	DEA/Partner organization
DEA internal meetings on assessment of assumptions and risks	Quarterly	DEA
Meetings of the DEPP Programme Advisory Group (PAG) to consider progress and issues as inputs to the Strategic Advisory Group (SAG) for any decisions required	Annually	DEA, MFA (MYNSEK & KLIMA), MCEU
Mid-term Review of DEPP 2026 including CNDEPP	2028	MFA (LEARNING)
End of CNDEPP 2026-2029	31 December2029	DEA

19 For CNDEPP (China), INDODEPPII (Indonesia), MXDEPP (Mexico), SADEPP (South Africa), and VNDEPP (Vietnam).

Ministry of Foreign Affairs of Denmark (MFA)
Ministry of Climate, Energy and Utilities of Denmark (MCEU)
Danish Energy Agency (DEA)

Indonesia-Denmark Energy Partnership Programme (INDODEPP II, 2026-2030)

Country Programme Document

Final

6 March, 2026

MFA-file: Public 360 No. 25/06726

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Key abbreviations and acronyms

ADB	Asian Development Bank
AI	Artificial intelligence
Bahasa	Indonesia's national language
Balmorel	Model developed to support analyses of the energy sector with emphasis on electricity and combined heat and power systems
BAPPEDA	Badan Perencana Pembangunan Daerah (Indonesian regional body for planning and development)
BAPPENAS	Ministry of Development Planning of the Government of Indonesia
BAU	Business as usual
BPSDM	Human Resources Development Agency
CBAM	EU Carbon Border Adjustment Mechanism
CEFIM	OECD Clean Energy Finance and Investment Mobilisation programme
CETP	Clean Energy Transition Programme (of the IEA)
CO_2	Carbon dioxide
COP	Conference of the Parties (to the UNFCCC)
CPD	Country programme document in DEPP 2026
DAC	OECD Development Assistance Committee
Danida	Danish International Development Cooperation
DEA	Danish Energy Agency
DEA-GC	DEA Global Cooperation
DEPP	Danish energy partnership programmes
DGE	Directorate General of Electricity, MEMR
DI	Confederation of Danish Industry
Dinas ESDM	Dinas Energi Sumber Daya dan Mineral (regional offices of ESDM – MEMR in English). Note: for regional entities, the Bahasa acronyms are generally used in this PD.
DKK	Danish kroner
DPR	Indonesian House of Representatives (called DPRD at regional level)
DSIF	Danida Sustainable Infrastructure Finance
DTU	Danish Technical University
EBTKE	Directorate General of New, Renewable Energy and Energy Conservation, MEMR
EE	Energy efficiency
EGP	Energy Governance Programme
EIFO	Danish Export and Investment Fund
Energinet	Danish Transmission System Operator (TSO)
EOR	Energy Outlook Report
EPC	Emergency power control
ESMAP RISE	World Bank Energy Sector Management Assistance Program (ESMAP) Regulatory Indicators for Sustainable Energy (RISE)
EU	European Union
FPD	Framework programme document
GDP	Gross domestic product
GHG	Greenhouse gases
GOI	Government of Indonesia
GtG	Government to Government
GW	Gigawatt

HRBA	Human Rights Based Approach
IDR	Indonesian Rupiah
IEA	International Energy Agency
INDODEPP	Indonesia-Denmark Energy Partnership Programme
IPCC	Intergovernmental Panel on Climate Change
IPP	Independent power producers
IRENA	International Renewable Energy Agency
JETP	Just Energy Transition Partnership
LKPP	Lembaga Kebijakan Pengadaan Barang-Jasa Pemerintah, the National Public Procurement Agency
LNOB	Leaving no one behind
LTA	Long-term advisor
MCEU	Danish Ministry of Climate, Energy and Utilities
MEMR	Ministry of Energy and Mineral Resources, Government of Indonesia (MEMR is also referred to as ESDM in Bahasa). In this PD, the MEMR acronym for the Ministry is used, in line with common practice in international cooperation.
MFA	Ministry of Foreign Affairs of Denmark
MFA(KLIMA)	MFA Department for Green Diplomacy and Climate
MFA (LEARNING)	MFA Department for Evaluation, Learning, and Quality
MFA(MYNSEK)	MFA Secretariat for Strategic Sector Cooperation
MEPS	Minimum energy performance standards
MOI	Ministry of Industry
MTR	MFA/Danida Mid-term Review
NDC	Nationally Determined Contribution under the UNFCCC
NEC	National Energy Council of Indonesia
ODA	OECD Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
PAG	Programme Advisory Group (for DEPP, consisting of the MFA, MCEU, and DEA-GC as the secretary)
PANT	Human rights principles of participation, accountability, non-discrimination, and transparency
PD	Programme Document
PLN	PT Perusahaan Listrik Negara (Indonesian State-Owned Electricity Utility)/TSO
PLN-E	PLN Engineering
PPA	Power purchase agreement
PPSDM	Pusat Pengembangan Sumber Daya Manusia (Center for Human Resources Development), MEMR
PU	Ministry of Public Works (in Bahasa: Kementerian Pekerjaan Umum)
PV	Photovoltaic
RDE	Royal Danish Embassy in Indonesia (in some cases also referred to as the Embassy of Denmark (EDK))
RE	Renewable energy
RPJMD	Provincial mid-term plans
RSL	PLN planning department
RUED	Regional Energy Plan
RUPTL	10-year Electricity Supply Business Plan
RUKN	National Electricity Plan
SAG	Strategic Advisory Group (consisting of the MFA, MCEU, and DEA-GC as the secretary)

SC	Steering Committee
SDG	Sustainable Development Goals
SMART	Specific, measurable, achievable, reliable/relevant, and time-bound
SPI	Strategic province initiative
SSC	Strategic sector cooperation
TJ	Tera Joule
TSO	Transmission system operator
TWG	Technical Working Group
UNFCC	United Nations Framework Convention on Climate Change
VRE	Variable renewable energy

Exchange rates: 1 IDR= 0.000378 DKK 1 DKK = 2.645 IDR

2 March 2026

Source National Bank of Denmark (link)

1. Introduction, context, strategic considerations, rationale and justification

1.1 Introduction and background

This Country Programme Document (CPD) outlines the background, justification, objectives, theory of change, results framework, and management arrangements for Danish support under the Indonesia-Denmark Energy Partnership Programme, Phase II (INDODEPP II). This CPD is one of a total of five CPDs under the Danish Energy Partnership Programme with China, Indonesia, Mexico, South Africa, and Vietnam 2026-2030 (called DEPP 2026 for its acronym, as 2026 is the year the programme starts). A DEPP 2026 Framework Programme Document (FPD) provides the overarching description of DEPP 2026 and contains information relevant to all five country programmes. The CPDs are kept short and cross-references to the FPD are made where relevant.

There has been a strategic partnership between Indonesia and Denmark since 2015 when a Memorandum of Understanding (MoU) was signed (which was extended in 2020 and again in April 2025, to April 2030). The history of energy cooperation is summarised in Table 1.1. below.

Table 1.1: History of Indonesia-Denmark energy cooperation

SSC 2016-2018	SSC II 2018-2020	SSC III 2020-2022	INDODEPP I 2020-2026
Partners: National Energy Council, MEMR (DG Electricity, DG EBTKE), PLN Highlights/outcomes: • Energy modelling and RE planning, including scenario modelling, developing the Indonesian Energy Outlook and regional outlooks. This included the "Lombok Energy Outlook 2030" and a Pre-Feasibility Studies for RE for Lombok", which were well received and served as the basis for the subsequent cooperation using Lombok as a pilot area. • Support for RE integration, mapping of resources and RE possibilities, technical catalogues, and incentive schemes • Support for enhanced energy efficiency, including focus on industry CHP, energy audits, peer review of energy efficiency policies and incentive schemes. • Another notable result was the study on EE in selected power plants, which showed that all of the power plants were operating at only approx. 32% efficiency. This led to the focus in subsequent cooperation on EE and flexibility of power plants.	Partners: National Energy Council, MEMR (DG Electricity, DG EBTKE), PLN Highlights/outcomes: • Support for national capacities for energy modelling and long-term energy planning to be enhanced to support further application of renewable energy in Indonesia • Support for enhancement of national capacity and mechanisms to increase the production of RE by PLN and independent power producer, and to support integration of renewable energy through a focus on forecasting of variable RE • Support for national capacity and technical evidence base to support an enabling environment for energy efficiency in buildings and power production, including through delivering assistance to new building codes in cities and reducing fuel-consumption in power plants.	Partners: National Energy Council, MEMR, regional partners (Dinas ESDM in Lombok and Riau Islands) Highlights/outcomes: • Assisting the local authorities in identifying and improving an integration of circular economy, solid waste management and renewable energy in the regulatory and practical framework, enhancing the implementation of provincial policies and action plans for circular economy, waste management and energy • Providing assessments of the potential and pre-feasibility of circular economy, solid waste management and waste-to-energy development on Lombok and Riau Islands • Supporting and promoting the foundation for private sector stakeholders' engagement and funding opportunities for waste-to-energy in the two islands.	Partners: National Energy Council, MEMR (DG Electricity, DG EBTKE), PLN, regional partners (Dinas ESDM in Aceh, West Java, West Sumatra and West Nusa Tenggara) Highlights/outcomes: • Direct contribution to Indonesia's electricity plan through modelling capacity development and support. • Direct contribution to local energy plans in four provinces. • Strengthened PLN through completion of a wind tender, capacity development related to forecasting, grid stability, data management and cyber security. • Conduct of 15 energy audits in large industries leading to implementation of EE measures in 10 companies. • In this way, the partnership with Denmark has contributed with technical support to the launch of new targets to add 42.6 GW RE generation capacity before 2034

As the world's fourth most populous country, Indonesia faces both profound challenges and significant opportunities in advancing a green energy transition. The electricity sector has historically been dominated

by fossil fuels – primarily coal – resulting in a structural carbon lock-in and the continued allocation of substantial fossil fuel subsidies that complicate the integration of renewable energy (RE) resources into the national grid. Coal currently accounts for approximately 69% of Indonesia's electricity generation, underscoring the scale of the transition challenge. This dominance is rooted in decades of energy planning centred on domestic coal abundance, long-term power purchase agreements for coal-fired power plants, and state-supported infrastructure investments. As one of the world's largest coal producers and exporters, Indonesia has developed an energy system where coal is not only a fuel source but also a pillar of industrial policy and regional economic development.

At the same time, Indonesia has less than 1% wind and solar energy deployed in the electricity sector, illustrating the historical difficulties of shifting from fossil-based generation to renewables. While this transformation is far from straightforward, the INDODEPP programme has demonstrated that transitioning toward variable renewable energy (VRE) is not only the most sustainable pathway but also economically viable. Over the past decade, wind and solar prices have declined significantly and are now price competitive with market-based fossil fuels in Indonesia. The potential for especially solar power as well as for onshore wind is huge in Indonesia, and Danish experiences and expertise can help Indonesia transition away from its carbon lock-in through deployment of these VRE sources. Indonesia has just launched a concrete target in the latest 10-year electricity supply business plan (RUPTL) of deploying 17.1 Gigawatt (GW) solar and 7.2 GW wind power by 2034. Although this expansion remains insufficient to fully decarbonize the electricity sector, it marks a critical first step toward scaling VRE deployment. In selected provinces, these additions could substantially increase the renewable share of the local energy mix and serve as pilot regions for accelerated green transition pathways across the archipelago.

Through the cooperation with the Danish Energy Agency (DEA), Denmark has since 2015 managed to establish itself as a trusted and long term committed partner to the Indonesian energy authorities. INDODEPP II builds on the previous cooperation, most importantly INDODEPP Phase I (now referred to as INDODEPP I), which ends in April 2026 after a no-cost extension from end-2025. The formulation process for INDODEPP II has comprised consultations with current and potential new national partners, through DEA technical missions and a formulation mission in May 2025. Consultation notes outlining DEA's proposed results framework for INDODEPP II were shared with all primary partners, and online follow-up meetings were held with each partner to collect feedback and ensure alignment and partner buy-in.

1.2 Country context

Continued Danish support to Indonesia's green energy transition holds significant potential for climate change mitigation and for strengthening access to reliable and clean electricity for all segments of the population, including marginalized groups and industry. A recent change of government has meant new ambitious goals for RE deployment but at the same time also demonstrated that the new government continues to adjust goals and policy to the existing reliance on coal and natural gas. The Government of Indonesia (GOI) under President Prabowo who was inaugurated in late 2024, has a highly ambitious target of annual GDP growth of 8%, which also forms the basis for the new ambitious energy plans. Energy independence through self-sufficiency is a top priority and GOI has announced an ambitious target of developing 75 GW new RE generation capacity before 2040, compared to 9.15 GW today. This ambition presents a window of opportunity to accelerate RE deployment in an electricity system where around 82% of generation remains fossil fuel–based and demand is rising rapidly in line with economic growth and industrialization.

Due to many years of over-investments in the energy infrastructure of Java-Bali, the energy sector has had surplus capacity in electricity generation in the most populated areas, but this situation is now changing, and additional generation capacity will be needed in the near future. Thus, the new 10-year Electricity Supply Business Plan (RUPTL) 2025-2034, that was published in May 2025, plans to add RE generation capacity of 42.6 GW, as well as 16.6 GW fossil-based generation capacity, based on coal and gas. The emerging need

for new capacity is also expected to renew attention to energy efficiency (EE), which remains a low-cost and underutilized measure across multiple sectors and represents the most economical way to curb electricity demand—potentially postponing or avoiding costly grid expansions.

At the same time, the political economy of Indonesia's energy sector is complex and characterized by strong vested interests advocating continued coal and gas utilization. Indonesia is among the world's largest coal producers and exporters, and coal production plays a critical role in the national economy. Approximately half a million people are employed in the coal sector and coal briquettes account for 13% of the country's export. Indonesia is also the largest natural gas supplier in Southeast Asia, and the world's largest producer of biofuels, primarily palm oil based. It is the world's largest archipelago with about 17,000 islands where only Bali and Java are grid connected. This challenge reliable access to electricity and makes large industries expand their captive power production to ensure own supply security. The energy mix results in high levels of GHG-emissions, air pollution and high electricity production costs related to costly coal- and gas-based electricity production.

Low-income households are disproportionately affected by poor air quality, as they often live in the most polluted areas and lack the resources to mitigate health impacts. At the same time, these households benefit from substantial government subsidies directed to the state-owned utility Perusahaan Listrik Negara (PLN), which allow consumer electricity prices to remain artificially low and ensure access for poorer households. This is enabled through the domestic market obligation regulation that ensures that coal-based power plants owned by the national electricity utility PLN can buy subsidized coal from domestic coal producers at a fixed and low price. As a result, coal-based electricity generation is structurally incentivized, while renewable energy projects—lacking equivalent subsidies—are often perceived as comparatively expensive additions to the energy mix. In some cases, RE developers struggle to offer tariffs that compete with consumer prices suppressed by fossil fuel subsidies. In 2024, Indonesia's fuel subsidies amounted to more than USD 45 billion1. Concerns persist among certain stakeholders that variable renewable energy (VRE), such as wind and solar, could threaten security of supply. In 2022, wind and solar represented 0.24% in the electricity mix, despite its potential to reduce the electricity price substantially if built on equal terms as other technologies and energy sources. Besides unfavourable framework conditions, lack of technical knowledge and experience and public financing pose a challenge for achieving the new goals for RE expansion.

At the 2022 G20 summit in Bali a Just Energy Transition Partnership (JETP) agreement was signed with the aim of mobilising USD 20 billion to help Indonesia phase out coal power plants and expedite the transition to low carbon energy production, with a stronger emphasis on creating jobs and ensuring social equity alongside the energy transformation. Cooperation under INDODEPP I has been synergetic with these efforts, including in energy planning and energy efficiency. It is also worth noting that Indonesia has a vibrant community of non-governmental institutions, think tanks, and academia and that cooperation under INDODEPP I has engaged with some of these stakeholders.

It is estimated that more than 90% of Indonesia's natural disasters over the past decade have been exacerbated by climate change. In the coming years, the impacts of climate change are estimated to cost between 2.5–7% of the country's GDP. Impacts of climate change in Indonesia disproportionately affect rural people and socially and economically disadvantaged groups, who often lack the resources and adaptive capacity needed to recover quickly.

Further information on the national context can be found in the detailed context analysis in Annex 1.

1.3 Results and lessons learned

The backbone of the INDODEPP cooperation has been on long term energy planning, integration of renewable energy and possibilities for a more energy efficient future. The Ministry of Energy and Mineral Resources (MEMR) now has a very detailed power sector model which supports both long- and short-term

[1] Ref. IISD

power sector plans and which has recently been used to develop the national electricity plan (RUKN), which is aligned with the national net-zero target by 2060. Furthermore, this cooperation has strengthened MEMR's technical capacity and credibility enabling the Ministry to provide oversight, validate, and challenge PLN's RUPTL by showing more ambitious cost-efficient scenarios for the inclusion of RE in the power sector in both the medium and long term. The Danish support to build national modelling capacity has contributed to developing an in-house modelling unit, where experts independently can develop most scenarios in the Balmorel modelling tool. In addition to Balmorel, certain capacity related to the modelling tools of SISYFOS and LEAP has been built, the latter both at national and provincial levels. While many experts have strong capacity, they are still not able to run the models 100% independently, and not able to train and teach colleagues. Institutionalisation of this capacity is important to be able to run, maintain and develop and adjust the national model, which is a goal for the next phase of INDODEPP. PLN has been strengthened in its role as an electricity company and transmission system operator (TSO) through workshops on operational technology cyber security and data management as well as through peer-to-peer activities with the Danish TSO Energinet, and INDODEPP has supported the completion of a wind tender. These are vital steps towards implementation of the recently finalized RUPTL which includes plans of significant increases in RE infrastructure.

The MEMR Directorate General of New, Renewable Energy and Energy Conservation (EBTKE) has been presented to pilot projects and energy audits showcasing the benefits, both financial and socio-economic, of enhanced energy efficiency (EE) in buildings and industry. EBTKE now has access to catalogues showing potential EE investments with significant CO_2-reduction potentials and short pay-back times, many under 5 years. Furthermore, 15 energy audits for large industries have been conducted, resulting in a proof of concept of a voluntary agreement scheme, which has been presented to EBTKE. Ten companies have already implemented concrete investments based on the audits, hereof some have installed equipment manufactured by Danish technology providers with presence in Indonesia. While the energy audits showcased many possible efficient investments, EBTKE did not show strong interest or willingness to discuss or apply the voluntary agreement scheme mechanism. In general terms, EBTKE is willing to engage in project specific activities, while it has been more hesitant to engage in implementing EE regulation and schemes.

INDODEPP I was in 2022 supplemented by a provincial level component. Based on mapping of RE potentials, socio-economic analysis, and long-term power system scenarios, provincial partners have developed ambitious draft provincial energy plans. The provinces of West Java and West Nusa-Tenggara are currently using the analytical results in their advocacy to the national government for higher RE targets in their respective provinces, and in their advocacy to the national electricity utility PLN for integration of more RE projects in PLN's Electricity Supply Business Plan for their provinces. The formulation mission to Indonesia in May 2025 met the Governor of the West Nusa-Tenggara Province in the Island of Lombok, which clearly demonstrated the commitment and initiative at provincial level to the energy transition and the usefulness of Danish support. The Governor, who is a former diplomat and ambassador, further emphasized the importance of provincial energy planning by stating that 'Indonesia cannot be changed only from Jakarta'. The formulation mission also met with officials of the Ministry of Energy and Mineral Resources at the highest level, demonstrating the solid anchoring of the partnership at the highest levels of decision making. The results, to date, across the four outcomes of INDODEPP I are summarised in Table 1.2 below.

Table 1.2: Key results achieved under INDODEPP I

Outcome	Key results
Outcome 1- Scenario-based long-term energy plans and regulation.	Direct contribution to Indonesia's electricity plan through modelling capacity development and support. Modelling capacity has equipped MEMR's Directorate General of Electricity (DGE) with the tools to better lift their role as regulator and to enter more critical dialogue with PLN. Though progress has been limited in periods due to capacity limitations of DGE's relatively small staff group, the new targets of the governments will enable DGE to apply their modelling capacity. A

	lesson learned is that future capacity development should have a stronger focus on institutionalization in order to ensure that capacity stays in the organization even in case of turn-around in DGE's staff group.
Outcome 2 - Integration of variable renewable energy	PLN has received consolidated support and relevant capacity development regarding system operation on key topics such as, but not exclusive to, completion of a wind tender, forecasting, grid stability, data management and cyber security. This enables PLN to make educated choices regarding the optimization of day-to-day operations and planning. Key topics for deep dives and further peer-to-peer capacity building has been selected and initiated in order to support PLN in integrating larger shares of VRE.
Outcome 3 - Enhanced national strategy for energy efficiency	A pilot project of an incentive scheme with 8 energy intensive enterprises was completed. In the pilot project, the enterprises enter into a voluntary agreement with EBTKE in return for an energy screening of the production facility and a pre-feasibility study of one or more enterprises. The pilot project showcased potential savings of between 4-12 million tons CO_2 with cost effective investments with pay-pack time of maximum 3-5 years. However, implementation appears to be slow as EBTKE is mainly in charge of develop regulation and EE schemes, and not to foster implementation of these selected projects.
Outcome 4 – Low carbon development in provinces (Sustainable Province Initiative)	Direct contribution to the local energy plans (RUED) of four partner provinces Aceh, West Sumatra, West Java and West Nusa-Tenggara. Contribution provided through modelling support, long-term scenario development, mapping of renewable energy potentials, socio-economic analysis and conduction of pre-feasibility studies of onshore wind and solar PV projects. Progress has demonstrated to be implementation-near and support concrete uptake of renewable energy which will be important cases at the national level.

Lessons learned from INDODEPP I include the importance of aligning energy transition goals with national climate targets, the need for strong institutional coordination, and robust regulatory frameworks. Despite its intuitive advantages as "the first fuel", the challenges to EE posed by fossil fuel subsidies and other complexities are also a key lesson highlighting the importance of political economy in terms of shaping the aims of the cooperation and the need for a flexible and innovative approach. As an example, EE activities are expected to have more implementation traction in INDODEPP II due to potential security of supply challenges stemming from a significant expected growth in national energy demand and current inefficient use of electricity. The 2023 MTR of INDODEPP I also highlighted a number of lessons including the need to strengthen the approach to capacity development and the benefit of thorough and early partner assessments. DEA has recently developed a guide that builds on learning across many programmes, and INDODEPP II (and DEPP 2026 in general) will be systematically guided by this strategy.

1.4 Justification and alignment with Denmark's development policy priorities

INDODEPP II is directly relevant to Indonesian partner needs and priorities, in strengthening the enabling framework for a just and cost-efficient, transparent electricity sector transition that increases supply security, expands renewable energy share, and reduces energy intensity in line with Indonesia's Net Zero Goal and NDC targets. This was confirmed during formulation mission and partner feedback on consultation notes. The high-level meetings held with national primary partner institutions also reflected that Denmark is a trusted long-term partner in this transition. INDODEPP II builds directly on the above-cited results achieved through the previous and current cooperation, and Section 2.2. in the following reflects how a progression is achieved from the previous to the next phase.

The Programme is fully aligned with priorities in Denmark's Strategy for Development Cooperation "A Changing World - Partnerships in Development", which has a just, sustainable, and green transition as one of its five prioritised focus areas, and which among other things states that "Denmark will expand renewable energy in partner countries through Danish solutions, international alliances, and strategic sector cooperation". In this context, INDODEPP is also contributing to establishing equal partnership with the government of Indonesia in the energy sector.

The Strategy also emphasises the importance of economic diplomacy and mentions that Danish companies have solutions and technologies that already contribute to sustainable social and economic development. Synergies with private sector efforts have already been considered under INDODEPP I and will be reinforced in the next phase, including through synergies with initiatives supported by Danish financial mechanisms that can leverage private initiative and investment. INDODEPP II will continue promoting ambitious RE targets and framework conditions conducive for RE investments and improved EE that could be relevant for Danish financial support, investors and technology providers. Synergies in Danish knowledge and competencies will be explored during implementation. Danish private sector companies and investors (examples are mentioned in Annex 1, section A1.7) have shown interest in the Indonesian market for on-shore and off-shore wind. Also, multiple Danish companies have been engaged in EE in Indonesia through a consortium of Danish companies and the Danish Export and Investment Fund (EIFO), and there are examples of Danish EE solutions being implemented by Indonesian industrial companies having participated in energy audits under the current INDODEPP. The Impact Fund Denmark (formerly IFU) and Danida Sustainable Infrastructure Finance (DSIF) are also active in Indonesia. Synergies with these efforts will be pursued not least via the sector advisor at the Danish embassy in Jakarta who will link interests between the programme, the embassy's Trade Council, Danish commercial interests and investment providers, and financial instruments offered by such as EIFO and Impact Fund Denmark.

1.5 Target groups and cross-cutting concerns

Poverty, human rights, gender equality:
In recent decades, Indonesia has become an upper middle-income country. However, due to a significant urban-rural divide in development, parts of the population, particularly in rural areas, still lack reliable access to electricity. Around 2 % of Indonesia's population lives in extreme poverty, amounting to 6.7 million people – 89 % of those living in the rural areas, which is particularly noteworthy as Indonesia is the world's largest archipelago.

Historically, ensuring affordable energy for all has been an important goal for Indonesian policy makers, mostly realized through subsidies on electricity and fossil fuels. This has materialized partly through a fiscal framework making coal-produced electricity consumption very cheap, thus indirectly incentivizing carbon consumption. Around 530,000 Indonesians work with the production and transportation of coal or coal-fired electricity generation, of whom the majority live in less developed rural areas of the country.

In line with DEA's *"Memorandum on the Multidimensional Concept of Poverty and the Human Rights-Based Approach in the Danish Energy Agency's Government to Government Cooperation",* INDODEPP will integrate the HRBA principles of transparency, participation, accountability, and non-discrimination (PANT) into its institutional and technical collaboration, and furthermore through dialogue with partners be attentive to the importance of do-no-harm, acknowledging the risk of unintended adverse socio-economic impact of transitions to renewables. In dialogue with partners, and when agreeing on annual work plans, DEA will do the following:

- Advise partners to conduct consultations with stakeholders, including in affected communities and the private sector.
- Include consideration of equal access to reliable electricity services for all societal groups, especially vulnerable populations, including actual lifetime and externality costs, such as air pollution in energy models and scenarios.
- Ensuring that energy models and specific analyses do not exclude parts of society, e.g., vulnerable groups and that the employment effects of different green energy transition scenarios are examined.
- Enhancing relevant synergies to IEA, IRENA, WBG and UN Agencies who develops complementary socio-economic analytical knowledge work, that support a deeper understanding of costs, benefits and implications of a just energy transition
- Support partner authorities conduct open consultations, allowing relevant stakeholders, including the private sector, to contribute data and knowledge.

- Encourage partners to publish analyses and data to inform stakeholders and the broader society and seek to make the learnings and results from the energy modelling available and disseminated to inform further macro-economic analysis including engaging in relevant coordination, exchanges and knowledge sharing with other development partners.
- Discuss with partners how new regulations and policies that take vulnerable groups into account.
- Propose and advise in new assumptions and criteria in model development to ensure the inclusion of more regions or population groups (where disadvantaged population groups are targeted if they were previously excluded).

INDODEPP's contribution to implementation of poverty-oriented efforts in Indonesia's energy transition and development is particularly important in the programme's work with provinces under Outcome 4, where INDODEPP supports local governments in conducting sustainable local energy planning leading to green transition.

In recent decades, several steps promoting gender equality have been taken by the Indonesian government, however significant gender gaps still persist, in terms of participation, representation, leadership positions and wage both inside and outside the energy sector.

1.6 Choice of partner institutions

The Context Analysis in Annex 1 includes a brief stakeholder analysis[2] reflecting the structure of key government institutions in the sector. The Partner Assessment in Annex 2 provides summary information on the primary national partners.

The Ministry of Energy and Mineral Resources (MEMR) is the main national partner for INDODEPP II, as it has been in INDODEPP I because it has the key mandate for policy development and regulation of the sector. Within MEMR, two Directorates General are key partners:

i) Directorate General of New, Renewable Energy and Energy Conservation (EBTKE), which is the principal institution responsible for developing Indonesia's Net Zero Energy Roadmap, input to NDC targets, etc.
ii) Directorate General of Electricity (DGE), which is responsible for national planning and regulation of the electricity system, acts as the technical regulator of the state-owned electricity company PLN as well as private electricity utilities and has a key role in setting the direction for RE planning and implementation.

The **National Energy Council (NEC)** is also an important national partner due to its role in national policy development, including the development of the National Energy Policy (KEN), and its responsibility for guiding local energy planning.

PLN (Perusahaan Listrik Negara), the state-owned electricity company of Indonesia, is a key partner as it is responsible for the generation as well as operation of the transmission and distribution networks and formulating the 10-year electricity development plan. Other relevant partners such as the Ministry of Industry (MOI) and the Ministry of Public Works (PU) are also involved in various energy efficiency activities. Table A2.1 in Annex 2 summarises key information on each primary partner and the assessments of partner capacity. A general issue is that energy authorities in Indonesia have well-established mechanisms for energy policy formulation, but face challenges in the maintenance and enforcement of regulations. Specifically, lack of manpower with appropriate and sufficient skills to implement and execute in a timely manner pose a challenge. Lack of transparency in decision making and management of the sector is also a challenge, including a lack of effective coordination between ministries and between national and regional government.

[2] Further details are available in more detailed context analysis and partner assessments prepared as background documents by DEA.

INDODEPP II also engages with partners at provincial level to support holistic provincial energy planning in regions across Indonesia, and support implementation in regions with high RE targets and potentials.

Key stakeholders at provincial level include primarily the local Energy and Mineral Resources Agencies, Dinas ESDM (also briefly assessed in Annex 2), and secondary stakeholders such as governors and local development agencies. INDODEPP II will support a strengthened approach to local energy planning promoting increased local renewable energy targets and support the provinces' ability to support concrete project implementation through for example identification of strategies to involve and consult the local population in the development of renewable energy projects, including local consultations, job creation and mitigation of adverse impacts on affected rural populations.

1.7 Coordination with other development partners

INDODEPP II will continue to coordinate closely with bilateral and multilateral development partner agencies and Indonesian agencies and think tanks, such as GIZ, IEA's CETP, IRENA, OECD CEFIM, IISD, the JETP secretariat, and the Institute for Essential Service Reform (IESR, an Indonesian think tank). The Danish Embassy in Jakarta is actively involved in the JETP International Partner Group (IPG). However, global commitment to JETP is challenged in the current geopolitical situation, the US withdrew early in 2025, and a new set-up is currently being sought. Meanwhile the embassy energy sector counsellor, as part of the general bilateral and international cooperation on support for the green transition in Indonesia, continues to stay informed about new developments of the JETP to explore potential opportunities and risks arising in the future related to Indonesia's green energy transition. The Danish Embassy is also actively involved in international donor coordination, where meetings are scheduled on ad hoc basis. In late-2024, EBTKE initiated a donor coordination forum to enhance their own coordination with international donors. However, it resulted in a one-off meeting with limited follow up, and there are presently no recurrent donor coordination meetings in the sector. DEA is coordinating closely with GIZ on the energy efficiency agenda, as GIZ is also actively involved with various energy efficiency programmes with a greater financial portfolio. Coordination meetings are held regularly with GIZ to share experiences, as well as provide feedback no activities. Annex 1 Context Analysis has in Section A1.7 a list of other development partners (many of which are also supported by Denmark through other funding) with whom there are current and potential synergies.

2. The INDODEPP II Country Programme

2.1 Country Programme Objective

The INDODEPP II objective is: *Indonesia has strengthened the enabling framework for a just, cost-efficient, transparent electricity sector transition that increases supply security, expands renewable energy share, and reduces energy intensity, in line with Indonesia's Net Zero Goal and NDC targets.*

2.2 Summary description of INDODEPP II

INDODEPP II will build on the progress, results and trust-based relationships achieved through the previous and ongoing collaboration during which the ambition of improving planning and modelling capacity was the primary priority amongst the energy authorities. Central planning documents such as the national electricity plan, local energy plans and PLN's electricity supply business plan are now in place. Therefore, the priorities of most partner authorities are to provide for instruments and regulations guiding the implementation of the strategic plans. This marks an important progression from INDODEPP I where the focus was mainly on capacity development within planning, while the new programme phase will focus more on implementation of actual plans, as well as institutionalisation of national capabilities across all four outcomes to strive for sustainable capacity in partner institutions with limited resources. INDODEPP II will therefore accommodate the demand for technical cooperation on new regulations and at the same time

support further institutionalization of already introduced skills and best practice related to long-term planning.

Also, as mentioned earlier, in INDODEPP I, the potential of EE measures with low pay-back times was illustrated for both the industry and building sectors. Improved EE remains a source of significant potential for Indonesian CO_2-savings and presents an opportunity for implementation of Danish technical solutions. EE in industry and buildings will therefore continue as a priority of the programme, albeit with a change of focus compared to INDODEPP I. In INDODEPP II, the EE track will focus on implementation of industry EE measures in the food and beverage sector through training and technical capacity development, as well as technical support for development of regulatory frameworks in the industry and building sectors. The Indonesian Ministry of Industry (MoI) and the Indonesian Ministry of Public Works (PU) are introduced as new partners in order to mitigate the limitations in partner institutions, incl. EBTKE's EE sub-directorate.

The Sustainable Province Initiative launched as part of INDODEPP in 2022, showed great results in supporting a bottom-up push for increased RE shares in the energy mix in the partner provinces. Therefore, the work with provinces will continue in INDODEPP II with emphasis on supporting planning capacity across a wider range of provinces through a train-the-trainers approach, and with an increased focus on improving local implementation conditions, particularly in provinces where PLN has announced plans to increase renewable energy production in the coming 10 years.

The below listed four substantive areas of cooperation have been identified based on consultations with existing and potentially new partners, who have provided written and oral feedback to shared "partner consultation documents". A strategic decision to focus on the low hanging solutions under the current framework conditions (which implies subsidised consumer electricity prices, subsidised coal, etc.) has been made, which is supported by the partners. Therefore, though there is a huge potential for substituting fossil fuels directly, this has been evaluated to be too difficult and politically challenging to address under the INDODEPP II. It is also worth noting that such a political challenge is being discussed with-in the JETP, which is also supported by Denmark[3].:

Outcome 1 – MEMRs capacity for least cost and robust energy planning is strengthened through use of expanded modelling toolkit, significant advancements in quality of data used, and own model-driven analyses informing its policy recommendations: Long-term energy planning and modelling with MEMR, specifically DGE. In recent years, the DGE has institutionalized the planning tools developed under the INDODEPP and thereby strengthening their role vis-à-vis PLN and other stakeholders in the energy sector. Despite advancements, there are still needs for capacity strengthening at individual and organizational level. As such, strengthened power sector modelling and co-development of comprehensive documentation will be key priorities facilitating eventually a sustainable exit from modelling support through the programme. In order to ensure institutionalization, cooperation is strengthened with MEMR's national level training unit, who has the ability to store and update training material, making it continuously available to new or existing employees in DGE or other relevant entities.

A strong power sector model is necessary to get an overview of various complexities, such as fluctuations in production and security of supply, which occur in the power system when more wind and solar is deployed. A well-founded power sector model has the ability to show various development scenarios, analysing both the costs and carbon dioxide emissions. Such scenarios provide choice awareness for decision makers in order to make fact-based decisions for the expansion of the electricity sector in Indonesia. To ensure robust energy modelling, data quality is critically important and remains a challenge for Indonesia's energy planning. In this regard, the programme will support processes for development-and updates of technology catalogues and guidelines. It is furthermore the intention to contribute to key analyses and outlook reports to support decision-making processes. It is the expectation that Indonesia will have institutionalised this capacity during INDODEPP II, and hence that Indonesian partners will have at hand state-of-the-art modelling tools with profound focus on availability and affordability of electricity, and are

[3] Denmark also supports fossil fuels subsidy reform through IISD's Global Subsidies Initiative.

fully capable of using and sustaining the modelling tools and updating relevant input data. This will enable partners to develop high-quality energy policies and plans for the green energy transition.

Outcome 2 – Increased integration of variable renewable energy in the Indonesian energy system: Indonesia's vertically integrated TSO and utility company PLN's new 10-year electricity supply business plan (RUPTL) includes a huge expansion of wind and solar with plans to deploy 7.2 GW wind and 17.1 GW solar PV over the next decade. However, PLN currently has very limited experience with planning, tendering, developing and operating these technologies. These are all areas where Denmark has many years of experience, and the INDODEPP II thus has the potential to help bridge the gap between PLN's ambitious plans and limited experience and capacity.

The deployment of wind and solar will require new approaches and skills in PLN's control centres. This is an area where Denmark has world class experiences. Therefore, the INDODEPP II aims to support PLN in technically managing integration of increasing shares of variable renewable energy. INDODEPP II will share Danish best practices in electricity system operation and particularly seek peer-to-peer collaboration with relevant Danish experts. Indonesia's short- to medium-term wind energy targets are particularly ambitious with PLN being central to implementing the necessary plans and reforms and procure capacity additions. Collaboration is envisaged with dedicated PLN teams in procurement and RE planning. It is expected that this component will lead to concrete investments both in the pipeline and under implementation, and that PLN has concrete plans on how to integrate more variable renewable energy. Furthermore, synergies between outcome 2 and outcome 4 will be explored in terms of strengthening provincial partners' ability to support the implementation.

Outcome 3 – A transparent and effective regulatory and institutional framework leading to cost-effective implementation of energy efficiency policies, strategies and plans for buildings and industry, which will also contribute to decarbonisation of the sectors toward 2050: EE is considered the first step towards decarbonisation of the energy sector. It plays a central role in energy planning by reducing the need for expansion of the electricity sector and leading to reduced CO_2-emissions even with an unchanged energy mix. Furthermore, EE in industry is central to meeting the EU Carbon Border Adjustment Mechanism (CBAM) requirements, which will be relevant for Indonesia's exports to EU, today corresponding to approximately 8% of Indonesia's total exports.

Outcome 3 will focus on 'low-hanging fruits' in energy efficiency by strengthening partners' ability to implement existing incentive schemes, which are non-fiscal incentive schemes that do not include any fiscal inducement. Focus will be on targeted initiatives for EE and decarbonisation specifically in the food and beverage industrial sector. Danish commercial interests in this sector are strong, and it holds energy saving potential through non-fiscal incentives of estimated 3.1 TWh annually (≈8% of Denmark's total energy consumption in 2024) corresponding to 1.54 million tonnes of CO_2 reductions per year. Furthermore, outcome 3 will support the implementation of energy efficiency measures in buildings. Focus will be on implementation of existing and new national energy efficiency regulation, specifically in the public building sector. This may be demonstrated through implementation efforts in a pilot province selected in close collaboration with key partners. With expected high economic growth and rapidly expanding demands for energy, EE measures increasingly become key for a least-cost development of the energy system. The current INDODEPP is working with EE through the DG EBTKE conducting various technical assistance activities. EE policies, roadmaps and basic regulation are in place; however, DG EBTKE needs technical assistance and capacity strengthening to better enforce implementation in order to achieve the national EE targets, thus MoI and PU will be introduced as secondary partners as they play key roles in implementing EE policies and roadmaps in industry and building sectors. Building on the energy audits and data collected during the current INDODEPP, emphasis will be on implementation.

Outcome 4 –Energy transition in provinces supported through inclusive energy planning and increased reliance on renewable energy: INDODEPP has so far supported four provinces in conducting energy planning through use of long-term energy scenarios, mapping of renewable energy potentials, assessing socio-economic effects of renewable energy build-out, and two pre-feasibility studies in each

province. The work showed great local support for renewable energy and enabled the provincial energy agencies, Dinas ESDM, in partner provinces to strengthen their bottom-up push for higher local renewable energy targets. However, many provinces across Indonesia still lack the fundamental tools to map local renewable resources and conduct energy planning. Furthermore, there is limited capacity in many provinces to support concrete project implementation, and some provinces have even seen planned renewable energy projects be called off due to local opposition.

The next phase of INDODEPP will therefore strengthen institutionalization of the built capacity and dissemination to other provinces of planning tools, -training materials and -processes and address the need for better coordination and information sharing between national and local level energy planning to contribute to ambitious local plans for RE. The purpose is also to move from enhanced modelling capacity, and closer to operationalisation and implementation of concrete reforms, policies and tenders. Institutionalization of the capacity building will be pursued through a 'train the trainers'-approach of strengthening the National Energy Council's (NEC) toolbox and ability to support provincial governments' planning efforts. This will include development of training material and guidelines in cooperation with MEMR's centralized training unit, which can make the material continuously accessible to provincial staff. Additionally, INDODEPP will seek to strengthen local governments' ability to support RE project deployment, in order to support the move from national planning to concrete action at provincial level. This may be done through support for good governance, including strengthened approaches to involvement of local communities, knowledge-sharing on project scoping that may strengthen local project support, improved long-term project planning that takes into account local conditions and needs and lowers risk for developers, increased capacity to maintain small-scale power plants, or other initiatives that support de-risking of projects and a just and sustainable roll-out of RE. The selection of partner provinces in INDODEPP II is done in cooperation with EBTKE and NEC based upon mutually agreed selection criteria, including (but not limited to) high solar- and wind targets in the RUPTL, capacity for and interest in international cooperation, local political commitment to renewable energy development and/or high local renewable energy targets. Furthermore, priority is given to provinces where INDODEPP is already engaged.

Progression

Compared to INDODEPP I, examples of progression include:

- Expanding the modelling toolkit, collecting and utilizing high quality data, and institutionalizing modelling capacity development.
- Updating and expanding technology catalogue to include newest technology developments and more accurate data, for which national partners should institutionalise processes for doing this automatically.
- Developing additional high-quality datasets on key topics to improve model-based decision making, e.g., including demand side flexibility, electricity demand profiles, impacts of electrification and EE, electric vehicle charging, etc.
- Increased focus on wind energy and grid stability to achieve more VRE % in the electricity mix, in line with the ambitious goals of the new RUPTL.
- Strengthened focus on non-fiscal incentives schemes for energy efficiency in the food and beverage sector leading to concrete energy savings and climate benefits.
- Recommendations on cost-efficient and resilient implementation of energy plans based on sound techno-economic analyses, including socio-economic assessment of RE development.
- Geographical expansion of efforts to strengthen provincial authorities' ability to undertake local energy planning and promote ambitious local renewable energy plans, including a strengthened focus on train-the-trainers, knowledge-sharing between provinces, and the links to socio-economic development and job creation.
- Increased focus on supporting the implementation of RE locally, including (but not limited to) through support for better involvement of local people and community engagement.
- Strengthened approach to contributing to economic diplomacy in the programme's implementation-focused activities, through increased awareness of barriers and opportunities for Danish investments in

renewable energy in Indonesia, and information exchange with the embassy's Trade Council, Impact Fund Denmark, and EIFO.

Approach to capacity strengthening
A systematic approach will be used to enhance knowledge sharing and the uptake and application of knowledge and experience. The programme will be guided by the DEA "Integrated Approach to Capacity Development in Global Cooperation", which applies across DEA's global cooperation programmes. The Outcome technical working groups (TWGs) will work to validate- and, as relevant, further expand the assessments of partner needs and priorities to reflect a structured approach to knowledge exchange and capacity development and monitoring as an integral part of workplans, applying the DEA tools. In line with Indonesian government norms as applicable, attention will be given to the gender balance in capacity development activities. From the start of implementation, there will be focus on sustainable knowledge transfer and uptake as an integral part of all activities. This is also seen as part of a structured approach for eventual exit and will feed into the development of a consolidated exit strategy.

3. Theory of change and key assumptions

3.1 Theory of change

The narrative Theory of Change can be summarised as:

If Denmark contributes grant funds to INDODEPP II.
And if INDODEPP II focuses on strategically chosen areas of cooperation in support of Indonesia's just energy transition, its Net Zero Goal and NDC targets.
And if INDODEPP II engages effectively with national partners who have the relevant mandates in these areas and a strong continued commitment to the partnership.
And if these activities are strategically designed to address the specific needs and priorities of partners in support of cost-efficient, transparent electricity sector transition that increases security of supply, expands the share of renewable energy, reduces energy intensity in industry and buildings, and strengthens local energy planning in Indonesia provinces.
And if DEA collaborates closely with key national partners leveraging its core competences, best practice knowledge and experience, and applies a structured and effective approach to knowledge exchange and capacity development approaches including peer-to-peer exchanges, embedded long-term advisors, delegation visits including in Denmark, workshops, seminars, learning events, and training courses, triangular/South-South exchanges.
And if a multi-dimensional poverty approach and human rights principles underpin the cooperation related to long-term energy planning and just energy transition.
And if the cooperation engages other relevant stakeholders in non-governmental organisations, academia, and think tanks.
And if DEA serves as an effective and efficient implementing partner for this cooperation drawing on extensive experience previous Strategic Sector Cooperation and INDODEPP I in Indonesia as well as experience from other DEPP programmes.
And if the national partners sustain their commitment to effective uptake, application and use of knowledge and experience in the areas of cooperation so as to increasingly take on the responsibility for development results with reducing external support.
And if the national partners strive for synergy between INDODEPP II and other initiatives in Indonesia in support of its just and inclusive energy transition and climate action.
And if Denmark strives for synergy between INDODEPP II and Denmark's multilateral energy and climate cooperation such as with the IEA, IRENA, the World Bank, the NDC Partnership, IISD, OECD and others.
And if attention is given to potential synergies with initiatives and investments by the private sector, including through Danish economic diplomacy efforts in Indonesia.

Then, ministerial recommendations on energy policy and planning will be based on high-quality data and diverse modelling toolkit, ultimately strengthening and least cost and robust power planning and choice awareness in Indonesia's energy transition. Procedures and internal capabilities in energy planning and modelling will have been institutionalized and sustainable with only limited support from DEA.
And then, the national TSO and utility company will have gained a significant increase in capability on handling VRE as part of its daily operations, and concepts and tools will have been shared with relevant control centers in Indonesia and implemented as found relevant by the partner.
And then, non-fiscal incentive schemes and targeted initiatives for EE in the food and beverage industrial sector will have been implemented and EE standards, labelling and targeted initiatives to promote energy efficient building operations will have been implemented.
And then, Indonesian provinces will use a coordinated approach, guidelines and tools supported by national partners to develop streamlined holistic local energy planning of improved quality, and implementation of renewable energy projects and attraction of investments will have begun in selected provinces in accordance with implementation plans. In this process, supported provinces will have strengthened capabilities to involve local people, improved permitting processes that take into account local conditions and needs, increased capacity to maintain small-scale power plants, or other initiatives that support de-risking of projects, and a just and sustainable roll-out of renewable energy enabling affordable and reliable energy for their citizens.
And then, conditions will be more favourable for an increased and sustained renewable energy share in Indonesia's energy mix and a reduced energy intensity which demonstrates that future energy demand can be met by renewables as the most cost-efficient transition pathway.
And then public tenders for renewable energy and energy efficiency projects may increasingly attract international investors, including Danish export credits, Danish investors and technologies.
And then, a long-term contribution will have been made towards a resource-efficient electricity system, providing more affordable, secure, and reliable electricity supply benefitting large parts of Indonesia's 300 million people.
And then, Indonesia's just energy transition will have been supported through partnership with Denmark, strengthening the enabling framework for a cost-efficient, transparent electricity sector transition that increases supply security, expands renewable energy share, and reduces energy intensity, in line with Indonesia's Net Zero Goal and NDC targets (the INDODEPP II Objective).

3.2 Key assumptions and drivers

Assumptions
As implementing partner, DEA will be responsible for inputs and use of budgets for programme activities. National partner inputs will be provided in-kind, based on agreed workplans and related budgets. It is also important to note that as implementing partner DEA will be accountable for actively contributing to the achievement of results at output level while outcomes and impact are within DEA influence and interest, respectively, but highly dependent on partner action – however, DEA is required to monitor results at outcome and impact levels and if relevant adjust its approach if the contribution to outcomes and impact are not as strong as expected. Assumptions[4] relate to factors that are not (fully) within the control of DEA in implementing INDODEPP II, but which underpin the theory of change and include:

- Government of Indonesia's sustained political support for NDC targets and related policy initiatives related to transparent governance of renewable energy and energy efficiency.
- Climate-diplomacy relations that support partner institutions in addressing both climate action and a just energy transition, including community consultations and last-mile distribution.

[4] Assumptions and risks factors are connected. Risks (see Annex 4) can be seen as the factors that might have given rise to failure of assumptions – at least for the programmatic and institutional level.

- Indonesian authorities share the necessary data for providing technical assistance in energy modelling and planning, and on broader topics such as socio-economic and environmental impacts of renewable energy and open tender processes.
- Indonesian partners secure staff resources, procedures and processes to institutionalise nationally driven modelling, update technology catalogues to make informed decisions for least-cost energy investment, and long-term energy planning to increase uptake of more renewable energy sources.
- Additionality and synergy ensured in a dynamic field with many actors and initiatives and insufficient national coordination of development partner support.
- The partnership develops in a way that strategically supports transformational change aligned to partner countries' NDC and SDG targets and related policies and strategies for a just transition.
- Indonesian partners engage effectively throughout the programme and value peer-to-peer exchanges of good practice and paths to avoid.
- The Steering Committee meets regularly as foreseen and is effective in monitoring progress and results and in providing strategic guidance to implementation including ensuring continued alignment to Indonesian priority needs and with emphasis on assumptions and risk factors as well as capacity development results for sustainable outcomes.
- Renewable energy coupled with energy efficiency measures are an enabler to meet future energy demand, including the electrification and digitalisation of society, while improving access to affordable, reliable and clean energy to populations including low-income groups.
- The cooperation contributes effectively to enabling investment to be mobilised, where required, to complement institutional strengthening.
- Indonesian partners' commitment to an inclusive approach engaging and consulting communities including disadvantages population groups, as well and business communities.

Key drivers of sustainable impact

- There are political incentives and drivers for ensuring a continued partner high-level political commitment and strategic engagement with Denmark to meeting energy transition and climate targets.
- Advanced government processes to move from ambition and enhanced capabilities to implementation and operationalisation of the new renewable energy targets.
- A structured approach to knowledge sharing, including delegation visits "seeing is believing".
- Continued attention to the socio-economic aspects of the energy transition ensuring broad community and citizen support of the new policies and actions.
- Effective communication of results and lessons learned targeted at decision makers to strengthen institutional, sustainable uptake of peer-to-peer learnings and technical assistance
- Triangular cooperation and sustained peer-to-peer exchanges also with other countries.

4. Results framework at outcome level

INDODEPP II is essentially a capacity strengthening programme in which technical support and knowledge transfer contribute to achieving enhanced national capabilities that in turn lead to programme outcomes and impact when national partners apply these capabilities. Simply put, Outputs and Outcomes are achieved through capacity strengthening of partner institutions contributed to by INDODEPP, consistent with DEA's "Integrated Approach to Capacity Development in Global Cooperation". To make the results framework more succinct, the term capacity development or capacity strengthening are generally, however, not reflected in the wording of outputs and outcomes to avoid repetition, but it is a general pre-cursor to this results framework. The capacity development approach is reflected in the narrative theory of change in Section 3.1 and described further in the DEPP 2026 FPD.

The results framework at outcome level is summarised in Table 4.1 below, where the primary and secondary partners are also indicated under each outcome. The more detailed results framework at output level is found in Annex 3 where typical types of activities and topic area clusters are also indicated under each output.

Table 4.1 INDODEPP II results framework at outcome level

Programme		Indonesia-Denmark Energy Partnership Programme, Phase II (INDODEPP II)	
Programme Objective		Indonesia has strengthened the enabling framework for a just, cost-efficient, transparent electricity sector transition that increases supply security, expands renewable energy share, and reduces energy intensity, in line with Indonesia's Net Zero Goal and NDC targets.	
Impact Indicators		• Renewable energy is deployed and integrated in supported provinces and at national level in accordance with national targets • Increased share of renewable energy in Indonesia's total energy mix • Improved rate of energy intensity in industry and public buildings	
Outcome 1		**MEMRs capacity for least cost and robust energy planning is strengthened through use of expanded modelling toolkit, significant advancements in quality of data used, and own model-driven analyses informing its policy recommendations.**	
Key partners and other important stakeholders		<u>Primary partners:</u> DGE (MEMR) <u>Secondary partners:</u> EBTKE, PPSDM KEBTKE/BPSDM, NEC, PLN	
Outcome indicator		Technical energy analysis, policy recommendations, and planning by MEMR based on high quality data and diverse modelling toolkit, which contributes to a reliable energy with high shares of VRE.	
Baseline	Year	2026	While DGE has basic energy analysis and modelling capabilities in place, more advanced skills and deeper understanding of appropriate use of tools is needed for DGE to better assess the requirements for a cost-efficient and robust development of the power system, as higher shares of renewable energy are being deployed. This calls for advancement of modelling skills and expansion of modelling toolkit.
Target	Year	2030	By 2030, MEMR base their energy policy and planning recommendations on high-quality data and diverse modelling toolkit and are increasingly able to independently conduct model-driven topical analyses to inform its policy recommendations for an affordable and reliable electricity sector.
Outcome 2		**Increased integration of variable renewable energy in the Indonesian energy system.**	
Key partners and other important stakeholders		<u>Primary partner:</u> PLN <u>Secondary partners:</u> See under each output in Annex 3.	
Outcome indicator		Ability to increase the amount of electricity generated from VRE in line with RUPTL VRE targets, is strengthened.	
Baseline	Year	2026	PLN has limited capacity and experience with securing stability and control of grids with higher VRE share, and with planning and implementing renewable energy projects. VRE production in 2024 was for Wind 465.5 GWh and for Solar PV 407.1 GWh. This constitutes a total of 0.27% of Indonesian total electricity production in 2024[5].
Target	Year	2030	PLN has sufficient capacity to handle planning and prioritization of new VRE projects in order to integrate the planned 24.3 GW solar and wind by 2034. For system operation, PLN has gained sufficient capacity to handle a higher share of VRE without compromising day-to-day operations, grid stability and security of

[5] Data for the baseline year (2026) is pending.

			supply ensuring more affordable and reliable access to electricity, including for poor and disadvantaged groups.
Outcome 3		**A transparent and effective regulatory and institutional framework is in place leading to cost-effective implementation of energy efficiency policies, strategies and plans for buildings and industry and contributing to decarbonisation of the sectors toward 2050.**	
Key partners and other important stakeholders		Primary partner: EBTKE (MEMR) Secondary partners: MoI, PU, PPSDM	
Outcome indicators		Key energy efficiency regulation and measures for the buildings and industrial sectors are identified and implemented reducing the overall energy intensity in support for the national goal of annual improvement of energy efficiency by 1%	
Baseline	Year	2026	Energy efficiency regulatory and institutional framework for industrial and building sectors are fragmented and difficult to implement
Target	Year	2030	Energy efficiency regulatory and institutional framework for industrial and building sectors more transparent and effective and implementation has successfully begun.
Outcome 4		**Energy transition in provinces supported through socially inclusive energy planning and increased deployment of renewable energy.**	
Key partners and other important stakeholders		Primary partners: NEC, EBTKE (MEMR) Secondary partners: Dinas ESDM, Bappeda, PLN, local governors	
Outcome indicator		Local energy planning is strengthened across Indonesia, and implementation of planning of renewable energy projects has successfully begun in selected provinces.	
Baseline	Year	2026	Most provinces lack capacity to conduct local energy planning, and there is only limited support from national authorities and no commonly applied approaches or tools to rely on for local energy planners. Provinces with ambitious energy plans with high targets for renewable energy lack the tools to support project realization in the upcoming implementation phase.
Target	Year	2030	NEC supports provinces in using a coordinated approach, guidelines and tools to develop streamlined holistic local energy planning of improved quality. Selected provinces have demonstrated strengthened capabilities to plan and develop RE projects in their province with a holistic approach and an enhanced focus on integrated social and environmental assessments and consultations related to planned RE infrastructure.

5. Inputs, budget, financial management

5.1 Inputs and budget

Inputs

DEA as the Implementing Partner will be responsible for the organization and timely delivery of technical cooperation inputs by DEA staff, LTAs, sector advisors and external consultants to activities guided by demands and priorities as defined in the annual work plans. Inputs will be delivered based on TOR that ensure the accountability for delivery in alignment with agreed work plans and partner availability and capacity to engage.

Inputs will be staff time inputs from DEA-Global Cooperation (GC) and other DEA units, as well as consultant inputs from DEA Consortium partners under the framework contracts. Where specific inputs by knowledge partners or other external national consultants or institutions in Indonesia are required, such inputs will be procured through DEA under existing and/or new framework contracts.

Indonesian national partner inputs will be delivered in-kind, aligned to the same annual work plans, which are approved by the Steering Committee. There is participation of senior/decision making level staffing at the steering committee level, and of middle level management/technical experts at TWG level.

Building on the successful experience of long-term advisors (LTAs) in INDODEPP I and other DEPP programmes, it is expected to engage two LTAs, tentatively anchored with MEMR and PLN. Preliminary job profiles are included in Annex 9, but will vary dependent on MEMR and PLN request and focus. Representatives from the hosting partner institutions for the LTAs will participate in the recruitment panel together with representatives from DEA and the Embassy of Denmark.

Budget
The budget for the INDODEPP II Programme is DKK 75.0 million of ODA-eligible grant funds sourced from the Danish Finance Act (FL-konto 06.31.01.70). The budget level is similar to the current INDODEPP I programme but in real-time funding a bit lower due to inflation during the past five years.

Table 5.1 below reflects the budget allocation by outcome, and Annex 5 contains tentative budget at output level by year, broken down into the relevant budget lines. These are allocation budgets not activity-based budgets, and they will be allocated in further details at output and activity levels in work plans to be agreed by the national Steering Committee.

Table 5.1: Summary budget allocations by outcome

Outcomes (shortened titles)	**Budget allocations**
Outcome 1: Strengthened energy planning	20.23
Outcome 2: Integration of variable renewable energy	18.90
Outcome 3: Energy efficiency in industry and buildings	10.86
Outcome 4: Energy transition in provinces	13.01
Long-term Advisors	12.00
Total, DKK million	**75.00**

5.2 Financial management and reporting

Grant funds will be transferred from the MFA to DEA upon written request, and DEA will be responsible for all financial management and reporting on INDODEPP II funding. The financial management and reporting procedures are further defined in the DEPP 2026 Framework Programme Document.

As no cash funds will be transferred or disbursed though national partners directly, there will be no Danish requirements for accounting of funds and financial reporting by national partners[6]. To monitor the delivery by DEA of technical cooperation in-country consistent with work plans agreed between DEA and the national partners, DEA time spent with partners is reported in the annual progress reporting to the MFA (MYNSEK)[7]. Budgets and actual expenditures at outcome and output level broken-down on the cost-categories: DEA staff; Consultants; Other Costs will be presented in the annual financial reporting to the MFA (MYNSEK). The progress-and the financial reports will help PAG to assess value for money at its annual meeting.

[6] However, as part of the implementing agreement for INDODEPP, compliance with the Indonesian reporting mechanism through the Berita Acara Serah Terima (BAST) will be adhered to by the national partners. A BAST report should be developed yearly, serving as the national partner institutions' reporting to the Indonesian Ministry of Finance. The process under INDODEPP I has shown that each partner organization has its own reporting requirements. The detailed BAST reporting requirements will therefore be determined during the start-up phase, building as relevant upon the experience and template developed under INDODEPP I.

[7] The formulation of INDODEPP II was made and finalised by the MFA Department for Green Diplomacy and Climate (KLIMA) but when formulation is completed, the management of DEPP 2026 will be moved to the MFA Secretariat for Strategic Sector Cooperation (MYNSEK).

6. Institutional arrangement and management set-up

Institutional set-up, governance, and management

The INDODEPP II Programme will build on the governance structure of the earlier cooperation under INDODEPP I, consisting of a strategic level and an operational level. A Steering Committee will function at the strategic level and cover the entire cooperation. Partner participation expectations on activity level will be aligned at each Steering Committee meeting through approval of annual work programmes. At the operational level, there will be technical working groups (TWGs) for each outcome. Table 6.1 summarises this set-up.

Table 6.1 Functions in the governance and management set-up

Structure	Functions	Composition/meeting schedule
Steering Committee (SC)	Give strategic direction and guidance to the Programme. Undertake broader dialogue on development in the sector and progress towards meeting Paris Agreement Commitments and national energy transition goals and targets. Approve annual work programmes and related overall resource allocation from Danish and Indonesian partners. Monitor progress and results framework, based on half yearly progress reports, identifying deviations from set targets and identifying the underlying causes and whether remedial action is needed. Monitor programme progress and work programmes, determining if adjustments are needed. Monitor risks, determining whether changes to risk factors are required. Monitor synergies and potential overlaps with other initiatives and take remedial action.	Co-chaired by the Director General EBTKE, the Danish Ambassador to Indonesia, and the Deputy Director General from DEA. Membership to include the Secretary General of NEC and PLN Director General of Electricity. Participation in SC meetings by expert staff from MEMR, the DEA, and the Danish Embassy. The SC will meet twice per year and have a written procedure for consultations between meetings.
Outcome TWGs	Formulate annual workplans, coordinate daily implementation of workplans: Draft progress half yearly reporting for the Steering Committee. Validate and expand the assessments of partner needs and priorities. Define a structured approach to knowledge exchange and capacity development, including monitoring as an integral part of workplans. Monitor assumptions and risk factors. Monitor synergies with other initiatives identify gaps and address risks of overlap.	Membership defined by the key partners under each outcome (see Table 4.1). TWGs will meet at least twice a year.

Work planning

Work planning is an ongoing process with each primary partner, where the annual workplans will be co-developed jointly with the partners to align to their annual work programmes and needs, and availability of DEA specialists and consultants, balanced with available resources from partner's side as well as from the programme's side. For this DEA will present the resources available from the programme as part of prioritization of program resources jointly with partners. Staff and other resources allocated by partners to achieve the outputs and outcomes specified in the results framework, should be discussed with partners and considered in the annual work planning submitted for final endorsement by the Steering Committee. It is very important to gain sufficient confidence in partners willingness and ability deploy resources when planning a specific activity albeit the Danish side can hardly influence partner's resource allocations and impose or require any specific resource allocation from partners. DEA will continuously assess, if sufficient partner resources are available to secure up-take, use and institutional strengthening of knowledge sharing

and technical assistance. The annual work plans will define annual activities, annual output targets and link these directly to the Results Framework in this Programme Document. Workplans should have indicators that reflect the intended outputs and increased institutional capabilities to produce them. TOR will be formulated for required Danish specialist inputs, and DEA consortium partners and consultants.

Results monitoring
Monitoring towards targets will be reported through the progress reporting from the outcome TWGs once a year to the Steering Committee using a "traffic-light" system, where:

- "green" is on-track – implementation progresses as scheduled.
- "yellow" is partly on-track, which requires attention and potentially remedial action to get back on-track.
- "red" is off-track, which requires urgent attention by the oversight committee with a decision on necessary adjustments or re-scoping to get back on-track and/or recommend reallocation of funding/ activities. If "red" in two consecutive reporting periods, the oversight could consider extraordinary remedial measures such as setting up a task force.

Results reporting
Following Danida Aid Management Guidelines (AMG), monitoring and reporting will be based on the results framework at output and outcome level and each key partner institution will, jointly with DEA, monitor progress towards achieving these outputs and outcomes via annual progress reporting to the Steering Committee. An Annual Progress Report and annual financial report for the MFA will be prepared by DEA for approval by the PAG as part of the consolidated DEA annual progress reports across all five DEPP 2026 countries as further described in the FPD. The annual progress reporting for the MFA will assess the development of partner capacity in relation to achievement of outputs and outcomes. Further, it will consider risk mitigation measures informed by systematic assessment of assumptions and risks as part of DEA internal quarterly meetings with participation at DEA-GC Director level.

Communication of results
DEA together with the Embassy of Denmark and the national partners will actively engage in targeted communication of progress and results informing stakeholders both in Denmark and in Indonesia. The focus will be on raising awareness on the opportunities and choices in the clean energy transition and how the INDODEPP II programme contributes to this, including concrete examples of strategic decisions to which the activities and outputs have contributed. In close dialogue with the Indonesian partners, DEA will publish "result stories" to communicate the positive value and effects of the collaboration to decision makers, opinion leaders, and the general public, through a variety of means, including websites, social media, press releases and reports published on the DEA website. A communication strategy is found in Annex 7.

7. Risk management

A brief summary of key risk factors and mitigating measures is provided below. A detailed risk management matrix consistent with Danida guidelines is found in Annex 4. The risk analysis also responds to risk factors emerging from the context analysis in Annex 1.

Contextual risks

- Global geopolitical tensions impacting energy planning and green energy investments. Reduced geopolitical pressure to accelerate a green energy transition.
- Vested interests in the political economy working for continued reliance on coal and natural gas, working against the green energy transition.
- Government subsidies on fossil fuels keeping electricity costs low and resulting in disincentives for energy efficiency (EE) measures.
- Ineffective inter-ministerial and inter-agency coordination.

Mitigating measures: Demonstrate the benefits of the green and just energy transition through least-cost energy modelling and long-term scenarios, with emphasis on security and reliability of supply. Engage in

robust partnership with and provide capacity development support to government institutions that have the mandate and the power to regulate the electricity sector and who implement the Government's ambitious energy transition and climate action agenda. Emphasise transparency and stakeholder engagement. Engage more provincial level partners where concrete investments will contribute to affordable and reliable energy supply.
Residual risks: Significant as regards continued reliance on coal. Other residual risks: Major.

Programmatic risks

- Limited staff resources and managerial capacity in national partner institutions.
- Insufficient willingness or ability to share available data.
- Insufficient ability to institutionalise learning within the partner institutions including inadequate procedures and processes to institutionalise modelling work on a regular basis thus limiting institutional uptake and sustainable use of acquired knowledge and experience by the end of the programme.

Mitigating measures: Emphasise development of institutional capacity abased on thorough partner assessments and tailor-made support responding to key partner needs and priorities. Demonstrate the importance of data availability and quality for efficient and effective partnership and sustainable results.
Residual risk: Minor (to major).

Institutional risks

- Risk of duplicating and/or failing to build synergies with other relevant initiatives in the highly dynamic Indonesian context.

Mitigating measures: Actively seek synergy with other initiatives including those supported by Denmark in multilateral cooperation including through coordination with JETP activities.
Residual risk: Minor

Assumptions and risks factors are connected. Risks can be seen as the factors that might have given rise to failure of assumptions. A table illustrating the linkages between assumptions and risks is found at the end of Annex 4. Risks and related assumptions will be systematically monitored throughout implementation. In addition to the risks identified in the risk matrix in Annex 4, selected critical assumptions underpinning key outputs and outcomes will also be monitored as part of regular programme dialogue, progress reporting, and review processes. Where residual risk is assessed as significant, this will be closely monitored from the start of programme implementation, and scenarios/red lines for remedial action will be formulated by DEA who will keep the Strategic Advisory Group (SAG) informed through progress reporting and make any recommendations for decisions required by SAG such as reallocation of resources for outputs or outcome that may no longer be relevant or feasible. Remedial action will in such cases be considered in further detail by the Steering Committee.

Where residual risk is assessed as major, the programme will define clear warning signs that indicate when an output or outcome might no longer be relevant or feasible to achieve significant progress with the Danish support. These are not rigid cut-off points or red lines, but triggers for dialogue and reassessment. Such conditions could include:

- Major shifts in geopolitical developments, national policy priorities or technological development/prices.
- Structural changes in institutional mandates affecting core partner institutions and effective inter-ministerial/inter-agency coordination.
- Critical deficiencies in managerial capacity in national partner institutions and major staff turnover, including of staff that benefits from programme capacity development support.
- Persistent fossil fuels subsidies that dis-incentivise energy efficiency action.

If monitoring indicates that a residual risk is increasing *towards a significant level*, or that critical conditions are emerging, this will trigger a structured reassessment of the affected outputs and outcomes. Remedial actions may include adjustment of scope, redesign of support modalities, temporary suspension of activities, or

reallocation of resources, as decided by SAG based on recommendations from DEA. The Steering Committee will consider the more detailed implications of such remedial action. This adaptive management approach ensures that support remains relevant and proportionate to the evolving risk environment, while maintaining alignment with programme objectives.

8. Sustainability, transition and exit

Considering the temporary nature of development cooperation, a well-structured strategy for sustainability and exit is essential to guarantee that Danish-supported energy initiatives continue to drive sustainable development beyond 2030. Exits from work streams and partners must be planned with efficiency and sustainability in mind, minimizing transaction costs while maintaining long-term benefits. Stakeholder input will be essential to ensure that the transition is effective and aligns with the broader objectives of a green energy transition. Some notes are made in Annex 2 Partner Assessment on exit. The very purpose is that knowledge transferred, and new capabilities have resulted in institutional uptake which has contributed to institutionalising national energy modelling and long-term energy planning (e.g. by integrating Balmorel modelling as key tool[8] managed and used in long-term power planning), training national trainers to sustain capacity-development of new staff and retraining of existing staff, strengthening inter-agency coordination, and fostering data-driven decision-making, contributed to improving new regulations or policies promoting more renewable energy and/or energy efficiency, and attracting investment in the energy sector.

Exit strategy is not merely seen as an administrative closure, but as a dynamic transformation process intended to support national partners on a sustainable development journey. Criteria for successful exit from specific areas of cooperation include evidence of uptake and use of knowledge and experience that has been exchanged through the partnership. Exit from cooperation or a specific component or workstream could also be triggered by shift in policy priorities or limited progress against joint targets. Exit or potential continuation with each partner institution will also depend upon the completion of outputs in agreed workplans and any further needs in these workstreams and/or the emergence of potential new priority workstreams and availability of resources.

The world is experiencing geopolitical divides when it comes to climate action and at the same time rapid technological development when it comes to AI and energy transition. The transformation of INDODEPP is likely to be influenced and informed by this. New opportunities may also arise for stronger Danish private sector engagement if public tenders are launched at the sub-national level (outcome 4). If the energy partnership needs to find new ways of collaborating, then a new Energy Governance Programme (EGP) for emerging economies focusing more on commercial relations could be one way forward. Sustainability could be achieved by handing over some areas of work to multilateral agencies such as IEA or WB/ESMAP or by engaging the new Team Europe Global Gateway projects. A more structured approach to a sustainable transition or exit will be a key delivery for the Mid-Term Review.

Prior to the MFA Mid-term Review, DEA will – in liaison with national partners and the Embassy - prepare a consolidated exit strategy, to be assessed by the MTR. A key focus in this phase of the programme will be to enable partners to strengthen institutional capabilities and uptake of practices to operate with no or limited support from DEA by the end of the programme. It is also evident that partners might need additional specific support within the same thematic areas or in other areas, but any such additional support will require that the national partners have institutionalised human resources and institutional procedures e.g. to apply and use the Balmorel modelling tool in long-term energy planning and integration of renewable energy. Continued Danish energy partnership with Indonesia beyond 2030 is therefore likely to consider transition to other forms of collaboration including ability to increase engagement of a broader resource base and investments through the private sector and mechanisms that foster partnerships for mutual learning and developing forefront green technologies.

[8] A challenge to be considered are the future costs of modelling (software costs, cloud costs, support costs, etc.) which are currently covered by INDODEPP.

Annex 1: Context analysis

Notes:

- As agreed with the MFA, this annex has been considerably shortened compared to DEA's detailed context analysis dated March 2025, which is an invaluable reference document that can be used in INDODEPP implementation, but which is too detailed for the present CPD.
- The structure of the annex remains consistent with Danida guidelines, but the shortened version inevitably means that some details are not included here, such as the detailed document references under each section, which can be found in DEA's more detailed version.
- The MFA has decided that a subsection A.1.3 on Fragility, Conflict and Resilience (that is normally part of the standard template for Context Analysis), is not required.
- Generally, no additional studies or analytical work are required in the formulation and approval process for INDODEPP II. Some information in this Annex may be updated during the start-up phase after approval and during implementation so that the context analysis remains a useful tool and reference in programme implementation.

A1.1: Poverty and inequality analysis

Key points, poverty:

- Indonesia is an upper middle-income country with a significant urban-rural divide in development, income and access to clean and reliable electricity.
- The coal sector is a large employer in Indonesia, but economic dependency on revenue from coal production varies greatly across regions.
- Indonesia has public subsidies on electricity and fossil fuels with the purpose of ensuring affordable energy for all, however this has materialized partly through a fiscal framework making coal-produced electricity consumption very cheap, thus indirectly incentivizing carbon consumption and disincentivising energy efficiency.

The status of multidimensional poverty in Indonesia:

From 1970 to 2021, Indonesia has reduced its poverty level significantly, from 60% to less than 10%, and experienced a total GDP growth of 174 % from 2000 to 2021. According to World Bank data, Indonesia's GDP per capita was at USD 4,876 in 2023. OECD DAC classifies Indonesia as an upper middle-income country. Access to electricity increased from around 60 % in 2008 to 100% in 2022 (according to the latest Energy Progress Report, with 2022 data). However, there are still parts of the population, particularly in rural areas, who lack reliable access to electricity.

Currently, around 2 % of Indonesia's population lives in extreme poverty, amounting to 6,7 million people – 89 % of those living in the rural areas, indicating a serious rural/urban divide. Indonesia is the world's largest archipelago, which worsens challenges of rural island areas by increasing isolation, lack of access to markets and lack of access to a common electricity grid. Rural residents are to a larger degree experiencing deprivation with cooking fuel and sanitation than urban residents.

Historically, ensuring affordable energy for all has been an important goal for Indonesian policy makers, mostly realized through subsidies on electricity and fossil fuels. This has materialized partly through a fiscal framework making coal-produced electricity consumption very cheap, thus indirectly incentivizing carbon consumption. According to the World Bank (2024), in 2022 fuels, electricity and LPG subsidies accounted for 22,3% of total central government expenditure, a notable increase from the historical average of 13,2% between 2017-21. As a percentage of central government spending, subsidies for fuel products accounted for more than three-quarters (76%) of total energy subsidies in 2022. The targeted subsidies are estimated to have offset potential rises in poverty and inequality rates that may otherwise have occurred in recent years due to increased fuel prices (World Bank, 2024). The Indonesian government has implemented various measures to reform fuel subsidies, with key milestones in 2005 and late 2014 that adopted an expanded social assistance programme to mitigate the impact on vulnerable households and an automatic fuel price adjustment mechanism. More recent efforts have focused on a gradual shift from subsidizing fuel prices to subsidizing people. There have also been improvements in the targeting of subsidies in the electricity sector, which has been enhanced by using a social registry database. However, studies show that fuel subsidies remain a costly and inefficient means of reducing poverty, especially when compared to direct transfers, which are estimated to lift more than five times as many people out of poverty as when the same amount of money is spent on fuel subsidies.

Regional differences in electricity access are large considering quantity and quality. In addition to differences in general electricity access, there are also regional differences in the occurrence of blackouts. Indonesia is heavily dependent on coal, with a high share of coal in the total energy supply and electricity generation, and coal briquettes being its biggest export product. Around 460 000 Indonesians work with the production and transportation of coal. Moreover, coal-fired electricity generation employs 70 000, which is more than the number of employees in electricity generation from renewables and from oil and natural gas. Thus, the coal sector is a large employer, and Indonesia also has a high physical asset lock-in.

Economic dependency on revenue from coal production varies greatly across regions. IEA estimated that mining and quarrying accounted for around 4-8 % of total labour income within the most coal-dependent provinces in 2021. Furthermore, oil and natural gas extraction and coal mining account for nearly 10 % of Sumatra's GDP, and 22 % of Kalimantan's GDP comes from coal mining. Thus, transitioning the economy away from coal and other fossil fuels could make more Indonesian households vulnerable to poverty, if not done gradually. One way to ensure that coal-workers are not losing their income permanently, is to provide training and career services to support their way into other sectors. IEA (2022) estimates that Indonesia's green transition will mean a significant generation of new jobs largely in the electricity sector and bioenergy supply. However, those jobs would not necessarily be located in the same places as the jobs lost in coal mining, because of its spatial concentration. Moreover, for Indonesia's transition to be fully just, it is relevant to account for the 70-80 % of the workforce working in the informal sector which typically receives lower wages, fewer benefits and a higher job insecurity. Informal work is more prevalent in the rural areas of Indonesia. Women are also more likely to work in the informal sector than men. A large coal sector also leads to large amounts of air pollution.

Key risks in relation to ways in which a green transition of the Indonesian energy sector could cause harm to poor and vulnerable groups include the following:

- *Loss of jobs* particularly in the typically less developed coal producing provinces whose economies are largely dependent on revenue from production of coal and other fossil fuels.
- *Lack of access to rights in project implementation* – right to participate/be heard and/or conflict over land rights when building out renewable energy infrastructure. Indonesia has previously experienced cases of land use issues related to both RE development and other infrastructure projects which has delayed and in some cases prevented projects (e.g. cancellation of a floating solar project in West Sumatra). This risk is however expected to be mitigated through activities under the programme's outcome 4, which will include capacity building on good governance related to implementation of renewable energy projects.

There are no risks of doing direct harm emanating from the INDODEPP II programme and associated activities. Rather, through awareness of and knowledge sharing around these overarching transition-related risks, INDODEPP II will seek to support the development of approaches that address and minimise such risks, especially through the provincial cooperation under outcome 4, as mentioned above.

A1.2: Political economy and stakeholder analysis

Key points, Political Economy Analysis:

- The inauguration in late 2024 of newly elected president Prabowo Subianto (The Great Indonesia Movement Party) marked a new chapter for Indonesia, which had for the previous 10 years been ruled by former president Joko Widodo (former member of The Democratic Party of Struggle). Prabowo has announced a mission to increase national independency through self-sufficiency in, amongst other areas, energy.
- Indonesia is the largest gas supplier in Southeast Asia the world's fourth largest producer of coal and the world's largest producer of biofuels, primarily palm oil-based biofuel, and has plans to increase production.
- Due to a political priority to ensure affordable energy to all Indonesians, a subsidy scheme is currently in place which enables the public to utilize fuel and electricity at artificially low prices.

Indonesia is an archipelagic country and the world's 4th most populous nation and the 7th largest economy in the world. GDP annual growth has been steady around 5% in the past 10 years with the exception of COVID-19 period, and the country aims to reach 8% growth of GDP by 2029. Indonesia's economy has been supported by its richness in natural resources, though in recent years the country has gradually shifted its focus towards manufacturing with the purpose of increasing its economic growth. The economy's growth is also reflected by the growth in energy production and consumption. From 2013 to 2023, the average growth rate of energy production was 4.46% and the average growth rate of consumption was 5%.

Indonesia is heavily reliant on fossil fuels, which in 2022 had a share of more than 77.2% in the total energy mix. Though the country has a national oil production, it officially became an oil importer in the early 2000s. While Indonesia is increasingly reliant on imports of oil, it is the largest gas supplier in Southeast Asia with exports of petroleum gas worth 9,26 billion USD in 2023, equivalent to 3,1% of Indonesia's export revenue. However, today the domestic use of gas is limited compared to other fossil fuels. Furthermore, Indonesia is the world's fourth

largest producer of coal along with China, India and Australia, and accounting for 13% of the country's export, coal briquettes is Indonesia's main export product with an export value of 38,8 billion USD. Domestic use of coal is primarily linked to the electricity sector, as coal-fired power plants account for around 66% of Indonesia's total power generation. This translates to an annual emission of around 374.807 Mt CO_2 from coal alone. Finally, Indonesia is the world's largest producer of biofuels, primarily palm oil-based biofuel, and has plans to increase production.

After Indonesia's first Nationally Determined Contribution (NDC) in 2016, an enhanced NDC was published in 2022 with an unconditional reduction target of 31.89% and conditional reduction 43,20%. Indonesia's current National Medium-Term Development Plan (RPJMN), which is established by the government, is in line with the NDC pledge. It should be noted that Indonesia is currently preparing to submit its second NDC.

In terms of electricity, Indonesia is looking at geothermal, hydro, wind and solar as potential sources of renewable power generation. Indonesia has, in collaboration with IEA, developed a Net Zero Emission roadmap for the energy sector with the goal of reaching net zero emission by 2060 or sooner. Despite the targets and roadmap, the generation of renewable energy is still far from overtaking fossil fuels as the primary source of power in Indonesia. The government's main argument for continuously focusing on fossil fuels, especially coal, has been affordability - despite technological advancements making renewables cheaper and readily available, and international partners such as those involved in the Just Energy Transition Partnership (JETP) having committed to supporting investments. This leaves political willingness by decision makers as a crucial element to realize energy transition in Indonesia. Denmark has played a key role in the JETP secretariat but has decided to downscale this in the light of its experience.

The energy sector in Indonesia is regulated by the Ministry of Energy and Mineral Resources (MEMR). There is a state-owned company for oil and gas, called Pertamina and Perusahaan Gas Negara (PGN). The provision of electricity remains state-owned because it is seen as an important sector that requires state control. Therefore, the generation, transmission and distribution of electricity in Indonesia is mostly done by a state-owned enterprise namely Perusahaan Listrik Negara (PLN), which is also the national Transmission System Operator (TSO). An effort to challenge this was made in recent years but was rejected by the constitutional court in reference to Article 33 of the constitution, which states that important production branches as well as the earth and water and natural resources contained therein should be controlled by the state. Thus, as a state-owned company, PLN's management and operation is overseen by the Ministry of State-Owned Companies (MSOE). Furthermore, as the only company appointed by the Government of Indonesia (GOI), PLN is mandated to ensure availability, accessibility and affordability of electricity to all, including underprivileged people and small businesses. To be able to do so, GOI has provided subsidies through the Ministry of Finance. There is a direct transfer from the Ministry of Finance to PLN to cover the gap between the cost of electricity production and price charged to consumers. Due to the involvement of the state, energy prices in Indonesia are closely tied to political decisions and social policy rather than market price. In practice, the government partially or wholly subsidizes production and/or distribution costs regardless of the actual cost of energy production which follows the international market price. For electricity generated specifically through coal, GOI has set a Domestic Market Obligation (DMO), which requires coal producers to sell a portion of their output at a discounted price to domestic power plants, particularly those that supply PLN. The price is typically much lower than the price which coal is sold for on the global market and is currently set at USD 70 per ton.

For electricity distribution, GOI provides cross-subsidies, in which revenues from higher-paying customers is used to subsidize electricity costs of the lower-paying customers. GOI has specified certain customer categories who will automatically receive subsidies. These are customers who are categorized as households with 450 VA to 900 VA power who are usually from underprivileged communities. Additionally, some public facilities are included in the category, such as schools, hospitals, houses of worship and Small-to-Medium Enterprises. For the non-subsidized customers, tariff adjustments are proposed every quarter with consideration to exchange rate, Indonesian crude price, coal prices and inflation. However, the plan to increase tariffs often gets withheld by GOI to avoid backlash from the public.

Formally, subsidy and tariff adjustments need to pass through approval processes within the House of Representatives (DPR). In the past, there have been cases where the government's recommendations of subsidy and tariff adjustments for both fuel and electricity differed from the final adjustments approved by the DPR. This further adds to the complexity of energy prices in Indonesia and emphasizes the importance of political priorities in the process.

The current subsidy scheme which enables the public to utilize fuel and electricity at artificially low prices, causes strain on Indonesia's public finances. Furthermore, the government acknowledges that the subsidized energy prices come from sources with high carbon emissions. Despite this, GOI hesitates to remove the subsidy due to fears that it could negatively impact social and economic conditions. It is the perception that removing coal subsidies could increase energy prices and thus reduce people's purchasing power due to the increased prices of goods – which is

ultimately seen as a risk to productivity especially in energy intensive sectors. Since the perception that renewable energy is more expensive than fossil fuel still persists amongst policymakers, the same argument is applied to energy transition efforts. This continues to be the case despite technological advancements having made renewable energy a cheaper energy source than fossil fuels in recent years.

Proponents of RE have publicly advocated that development of RE will create a more reliable power supply, reduce dependence on imported fossil fuels and create new commercial opportunities (CIPP, 2023). This has resulted in changes mainly amongst private sector actors. Multinational companies and large companies have started to shift towards sustainable business activities, attempting to include RE-based power at their facilities or purchasing RE credits. However, their commitment is limited by the regulatory landscape and thus they are waiting for GOI's decision before expanding RE use and/or investments. An example of a policy that is expected to significantly affect the use of RE is on power wheeling, since it will allow private actors to buy and sell electricity generated from RE. Currently however, power wheeling is not permitted in Indonesia mainly because PLN is the only entity with a right to build and operate transmission and distribution networks. However, there is currently an ongoing discussion at the House of Representative to include power wheeling in the draft of the upcoming New and Renewable Energy Bill (RUU EBT).

Another attention point in the debate is how transition to RE production will affect the labour market in the energy sector and the supporting sectors, especially in regions that today have significant fossil fuel production. Currently, there are more than 361 000 people working in the electricity and gas supply sectors. Additionally, there are more than 1.7 million people who work in the mining and quarrying sector – including oil, gas and coal – and they are mostly centralized in the regions where resources are available abundantly, most notably in Sumatra Island and Kalimantan Island. Opportunities related to reschooling, alternative jobs, alternative local sources of incomes or other local benefits should be carefully considered in the transition to support local people's livelihoods and support for the transition, based on open and transparent public debate based on facts and analysis presenting opportunities and benefits.

MEMR in May 2025 published a new 10-year Electricity Supply Business Plan (RUPTL) 2025-2034, which is intended to add RE power generation capacity of 42.6 GW, 16.6 GW fossil-based generation capacity (coal and gas), and 10.3 GW storage. The added RE is planned to comprise 17.1 GW of solar, 7.2 GW of wind, 11.7 GW of hydro, 5.2 GW of geothermal, 0.9 GW of bioenergy, and 0.5 GW of nuclear energy. According to the MEMR press conference material, this is expected to lead to investment opportunities of almost 3,000 trillion IDR and job creation in the order of 1.7 million in construction, operation and maintenance of power generation facilities and transmission, substations, and distribution. Specifically, MEMR estimates job creation in wind farms at about 59,000 and in solar PV at about 348,000. A Village Electricity Programme (Lisdes) 2025-2029 is planned to provide 780,000 households with access to electricity 24 hours per day.

Worth mentioning is also a Collaborative Network of New and Clean Technology Investment in Electricity (CONNECTIVITY (see link)), which will serve as a one-stop gateway helping to reduce search costs in energy transition project investment.

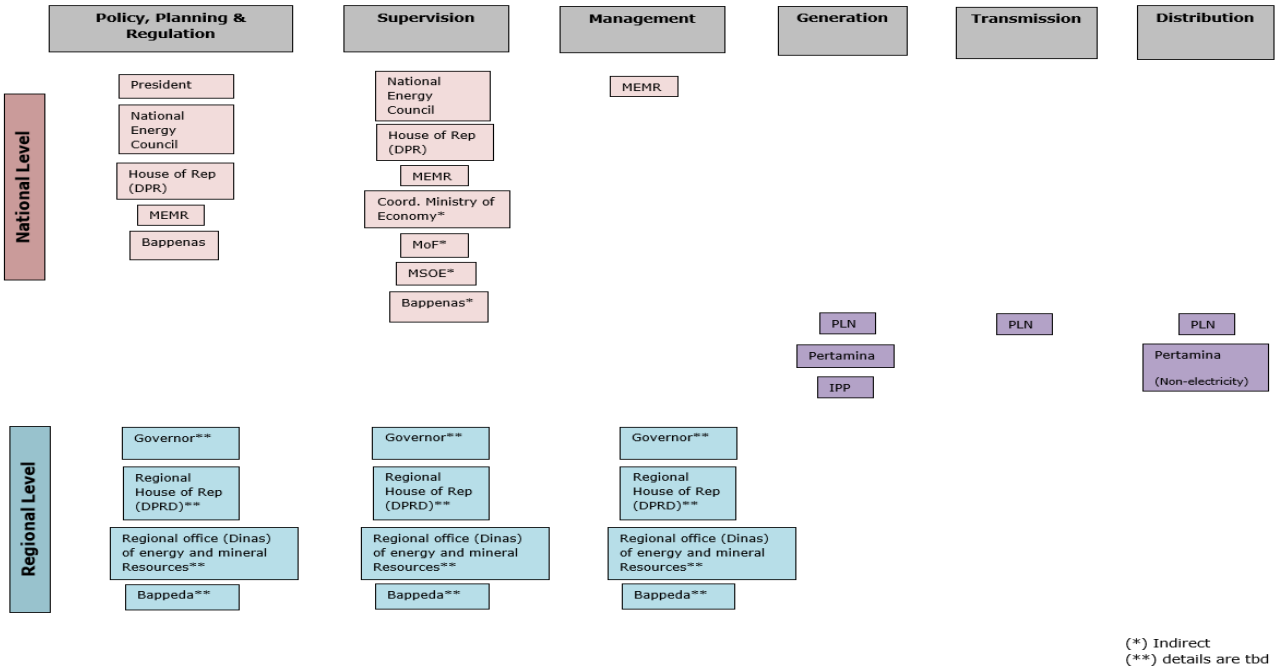
There are many changes in the government bodies after the election in the fall of 2024 that are expected to impact the future of Indonesia's energy sector. MEMR will focus on revision and simplification of regulations to ease downstreaming of activities and implementation of 'new renewable energy' projects. MEMR is looking for support to develop biofuels to replace oil. Concurrently, there is also a focus on attracting investments in geothermal and hydropower since both are considered to be potential replacements of coal as the baseload for electricity., The ratification of the energy related law RUU EBT has been delayed for many years for various reasons. This law is crucial to the regulation of New and Renewable energy in Indonesia and also complements existing energy laws and regulations such as National Energy Policy (KEN), National Energy Plan (RUEN) and National Electricity Plan (RUKN).The transition to the new government has affected the issuance of energy plans that have been prepared by the MEMR and PLN before the inauguration, since these plans now need to accommodate changes in the new government's vision and targets. Furthermore, Indonesia's second NDC that was planned to be announced in 2024 has been postponed to 2025.

Changes of the heads at the provincial and regional government level should also be noted, especially in energy-producing regions and regions with significant energy consumption. In recent history, most of the energy authority has been allocated to the national government with only limited authority at the provincial level (Law 23/2014). However, in early 2023, the government established Presidential Decree 11/2023 with the purpose of giving more room for the local government to participate in energy planning. Through this presidential decree, both provincial and regional governments are now able to 1) manage supply of biomass and/or biogas for fuel within the provincial area, 2) manage demand of biomass and/or biogas for fuel within the provincial area 3) manage various renewable energy within the area, 4) manage energy conservation of activities with permits issued by provinces, 5) implement energy conservation on infrastructure managed by local apparatus administering energy and mineral resource affairs and 6) guide and supervise the implementation of energy conservation at provincial level. While the details and the

derivatives are still in working progress, the implementation of this new authority is already seen through the requirements for provincial governments to prepare Regional Energy Plans (RUED). Given this expansion of authority, the newly elected heads of local government may have significant influence in the development of renewable energy. New local heads of governments might either strengthen or weaken this trend depending on their priorities.

Stakeholder Analysis:

Key public stakeholders most relevant to INDODEPP II within the current administration are reflected in the brief overview of Indonesian power sector institutions below, with their dynamic relationships and influence. Some of the key sector institutions were mentioned above in Section A1.2. More information is found in Annex 2, Partner Assessment.



Besides partners and stakeholders in the government structure, there are various important stakeholders in civil society, non-governmental organisations, universities and other academic institutions including major think tanks.

A1.4: Human Rights, Gender, Youth and applying a Human Rights Based Approach

Key points:

- Indonesia has formulated relatively extensive human rights related regulation but still faces several human rights challenges.
- Impacts of climate change in Indonesia disproportionately affect rural people and socially and economically disadvantaged groups, who often lack the resources and adaptive capacity needed to recover quickly.
- In recent decades, several steps promoting gender equality have been taken by the Indonesian government, however significant gender gaps still persist in terms of participation, representation, leadership positions and wage both inside and outside the energy sector.
- In INDODEPP promotion of human rights, gender equality, youth and rural people will be applied in capacity development activities, socio-economic studies, and in the programme's provincial activities.

There are clear linkages between human rights principles and the green transition in Indonesia. Coastal flooding, exacerbated by rising sea levels and climate change, has caused widespread destruction of assets and livelihoods. These impacts disproportionately affect economically disadvantaged groups, who often lack the resources and adaptive capacity needed to recover quickly. Nearly 20% of households still rely on traditional biomass fuels for cooking, contributing to indoor air pollution and severe health impacts, which disproportionately affects women, children, vulnerable populations, and rural populations. Similarly, unreliable energy access and negative consequences stemming from black-outs and brown-outs disproportionately affect rural and vulnerable people.

At the regulatory level, the Indonesian Government has emphasized its commitment to respect, protect and fulfil human rights through several national regulations. Law No. 39 of 1999 concerning Human Rights was enacted following Indonesia's reformation process in 1999. Serving as the legal foundation of the human rights protection in Indonesia, this law outlines 10 basic rights to be guaranteed by the Indonesian Government. Importantly, current

legislation highlights the rights and roles of local communities, mandates their participation in formulating the National Energy General Plan, and requires business entities to empower local communities. At the government level, Government Regulation No. 79 of 2014 underscores the importance of achieving energy resilience with affordable pricing while ensuring equitable access to energy infrastructure. To promote energy affordability and support economic rights, the government provides subsidies for electricity and liquefied petroleum gas (LPG). The current structure of the subsidies benefits millions of low-income households but simultaneously supports a financially and environmentally unsustainable use of coal. Regulation No. 79 of 2014 also mandates community participation in energy policymaking, reinforcing the principle of inclusivity. Similarly, Presidential Regulation No. 22 of 2017, concerning the National Energy General Plan, emphasizes the rights of communities to actively participate in the development of energy plans at both national and local levels. At a local regulative level, local governments play a critical role in ensuring that human rights and GEDSI considerations are included in the local energy plan RUED and that local transition practices are well integrated.

Despite the relatively extensive human rights related regulation, Indonesia still faces several human rights challenges. For example, according to Human Rights Watch, the government has failed to stop militant Islamist groups from threatening religious minorities.

In recent decades, several steps promoting gender equality have been taken in Indonesia by both the government and the international society present in Indonesia. In 2023, the Just Energy Transition Partnership Secretariat outlined a policy and investment blueprint for Indonesia's energy transition, emphasizing the equitable distribution of risks and opportunities in alignment with human rights, accountability, and gender equality principles. Guidelines for the formulation of the National and Regional Energy Plans suggest involving experts and communities in their development. Yet a lack of sex-disaggregated data in data collection processes undermines the ability of these plans to address the specific needs and challenges of different population segments, particularly women.

Furthermore, certain community norms and beliefs still impede women's full participation, particularly in sectors traditionally dominated by men, such as energy. In the energy sector, key challenges to gender equality include underrepresentation of women in policymaking and leadership positions, as well as limited access to education and training opportunities in energy-related fields. In 2022, only 5% of decision-makers in the sector were women, only 51 out of 1,128 energy auditors were women, and just 3,4% of energy managers in Indonesia were women. As of August 2023, the gender wage gap in Indonesia was around 24% in urban areas and 29% in rural areas. Compared to the previous year, the gender wage gap in urban and rural areas had increased by about 2% and 0.1%, respectively.

The application of a gender lens is thus central in assuring a just transition in Indonesia. It is expected that the green transition, including build-out of RE, will increase job opportunities including in sectors such as trade and manufacturing which typically have a higher share of women and younger workers. Additionally, build-out of renewable energy may increase the health of Indonesian households. Nearly 20% of households still rely on traditional biomass fuels for cooking, contributing to indoor air pollution and severe health impacts. This disproportionately affects women, children, vulnerable populations, and rural populations. A shift towards renewable energy is thus expected to improve the health of, especially, these groups.

Ensuring a gender lens in INDODEPP activities is key to supporting a just transition, particularly in capacity development activities, and in activities with a socio-economic element, including in relation to studies on job creation and health effects and involvement of local people.

While the population of Indonesia still consists of a majority of younger people, the country has over the past three decades experienced a gradual demographic shift towards an older population from a median age of 20.6 in 1990 to a median age of 30.4 in 2025. This trend is expected to continue in the coming years.

Indonesia's green transition is expected to lead to a significant increase in the demand for a skilled workforce specific to renewable energy. IEA projects that about 1.3 million jobs could be available in Indonesia's renewable energy sector by 2030, up from just over 100,000 in 2017. While there is no shortage in the number of workers, skills mismatch is a primary concern, and graduates lack the skills to match the needs of the electricity sector related to energy transition. Core skills that are expected to be in demand in coming years include RE project development, system design and planning, construction and implementation, testing and commissioning, and operation and maintenance. The industry will also need supporting skills, such as electricity supply planning, system level planning, and grid management, and information and communication technology. Indonesia's green transition thus presents an opportunity for education and upskilling of young people as well as creation of more skilled jobs, which typically offer both a higher salary and better working conditions.

Furthermore, upskilling will be required. Skilled labour is mainly centred in urban areas, and the lack of local expertise has been seen to cause operational problems in micro and mini-grid photovoltaic and hydro systems, leaving a number of projects installed through the State Electricity Corporation, and MEMR stranded in various regions. Additionally, youth engagement in the green transition through activities such as volunteering projects, community initiatives, business start-ups, and educational programmes are also currently often concentrated in

urban centres. Ensuring awareness of youth, gender and rural people's opportunities in INDODEPP's capacity development activities will support the upskilling and building of opportunities for these groups in Indonesia's future renewable energy sector.

A1.5: Inclusive sustainable growth, climate change and environment

Key points:

- Indonesia is highly vulnerable to climate change impacts. It is estimated that more than 90% of Indonesia's natural disasters over the past decade have been exacerbated by climate change. In the coming years, the impacts of climate change are estimated to cost between 2.5–7% of the country's GDP, with the poorest bearing the brunt of this burden.
- Indonesia's electricity generation is primarily based on coal and other fossil fuels, with a little over 10% renewables including hydro, geothermal and insignificant amounts of solar PV and wind.
- Socio-economic considerations will be included in relevant activities concerning provincial energy and project planning.

As the world's fourth most populous country with an electricity consumption primarily supported by coal-based power production, Indonesia plays a central role in global efforts to combat climate change. According to the International Energy Agency, Indonesia's electricity generation in 2022 was based primarily on coal and other fossil fuels with 66% coal, 13,6% natural gas, 2,2% oil, 6,3% biofuel, 7,2% hydro, 4,4% geothermal and an insignificant amount of solar PV, wind and waste.

Indonesia is highly vulnerable to climate change impacts, including extreme events such as floods and droughts, more intensive seasonal fires, shifts in rainfall patterns and increasing temperature. While rapid economic growth has led to a reduction in poverty in recent decades, high population density in hazard prone areas, coupled with strong dependence on the country's natural resource base, make Indonesia vulnerable to the projected climate variability and climate change. Indonesia's national disaster agency estimates that more than 90% of Indonesia's natural disasters over the past decade have been exacerbated by climate change. In the coming years, the impacts of climate change will be felt across multiple sectors and regions as the impacts of climate change could cost between 2.5–7% of the country's GDP, with the poorest bearing the brunt of this burden.
Although climate change affects the whole population, the poor and vulnerable–one-third of the population–are likely to carry a disproportionate burden. Their livelihoods are more often reliant on agriculture, and they often live in areas prone to natural hazards, but without the necessary resilience to cope with shocks and the ability to protect their assets. Impacts are also differentiated by gender, with women and girls at greater risk due to relatively poorer access to assets, services, and financial resources.

As mentioned in section A1.2 above, Indonesia submitted an enhanced NDC to the UNFCCC Secretariat in 2022. The current NDC targets are aligned with Indonesia's Long-Term Strategy for Low Carbon and Climate Resilience 2050. The current targets are as follows:

- NDC conditional reduction target at 31.89%
- NDC unconditional reduction target at 43,20%
- Indonesia submitted its Long-Term Strategy for Low Carbon and Climate Resilience 2050 to UNFCCC in 2021. The Long-Term Strategy outlines the country's goal to reach peak national GHG emissions by 2030 and to progress further towards net-zero emissions by 2060 or sooner.

It should be noted that Indonesia is currently preparing to submit its second NDC.
INDODEPP supports transformational changes in the energy sector aligned with Indonesia's NDC's and related policies and strategies. This includes supporting relevant governmental bodies, the national TSO and provincial actors in conducting energy planning, system management and implementation efforts in the field of renewable energy and energy efficiency.

- Indonesia has three major National Development plans, namely National Long-Term Development Plan (RPJPN) covering the future 20 years, National Medium-Term Development Plan (RPJMN) covering the future 5 years, and National Annual Development Plan or Government's workplan. The long-term RPJPN is considered the main plan, and in 2024, the Indonesian government issued Law no. 59 of 2024 regarding the RPJPN 2025-2045. The RPJPN consists of five main targets, of which the fifth target is to reduce greenhouse gas emission towards net zero emission. Furthermore, the document has eight development agendas or 'missions'. The fifth 'mission' concerns socio-cultural and ecological resilience. This mission guides the planned direction of Indonesia's development in regard to 1) religious, welfare and advanced culture; 2) quality family,

gender equality and inclusive society; 3) quality environment; 4) resilience of energy, water and food independence; 5) resilience to disasters and climate change.

- In addition to the National Development plans, three Regional Development Plans are formulated at a local level, namely Regional Long-Term Development Plan (RPJPD) covering the future 20 years, Regional Medium-Term Development Plan (RPJMD) covering the future 5 years, and Regional Annual Development Plan. These documents must be synchronized with the targets and guidelines of the national level plans while taking local conditions and development stages into consideration.
- In terms of energy planning at a local level, 33 out of 38 provinces in Indonesia have included a Regional Energy Plan (RUED) in the Regional Regulation. Each province is expected to draft their respective RUED with the assistance of the National Energy Council (DEN). The RUED is designed as a cross-sectoral guide for local governments to achieve sustainable and efficient energy management targets in each province. The RUED is considered an extension of the National Energy Plan (RUEN) but is developed locally with considerations taken to local conditions and needs.

There is political will to implement the above-mentioned policies and strategies at both presidential, ministerial and provincial government levels. While the recently elected president Prabowo has publicly announced ambitions to significantly increase the amount of renewable energy in Indonesia, it should however be noted that his primary focus in relation to the energy sector appears to be energy self-sufficiency and self-reliance. Furthermore, energy policies in Indonesia have historically been closely linked with social policies, which has led to the provision of subsidies for coal production, as outlined in section A1.2 above.

In terms of institutional and human capacity limits, lack of manpower with appropriate and sufficient skillsets to implement and execute in a timely manner pose a challenge. Lack of transparency in decision making and management of the sector is also a challenge for Indonesia's implementation of renewable energy-related policies, as is the significant lack of effective coordination between ministries and between national and regional governments.

The Indonesian government's support for green growth is strongly linked to national development goals. Indonesia has formulated a vision to achieve a 'Golden Indonesia 2045', which is a goal for the country to be a sovereign, advanced, fair and prosperous nation by the year 2045. The goal is set in 2045, since by then Indonesia will commemorate 100 years of its independence. Green economy is one of six strategies of Indonesia's economic transformation to achieve the Golden Indonesia 2045 vision, and green economy practices centred around low carbon development and climate resilience have thus been incorporated into the country's National Long-Term Development Plan for 2025-2045. In addition to the above-mentioned NDCs, it can be highlighted that Bappenas (the agency in charge of the National Long-Term Development Plan), is targeting the green economy index in 2045 to reach 90.65%, with the share of new and renewable energy in the primary energy mix reaching 70%.

Since the programme will not include any physical infrastructure investments, no concrete environmental impact assessments are required. However, environmental considerations will be included in activities involving mapping, identification or evaluation of potential renewable energy project sites, and socio-economic considerations will be included in relevant activities concerning provincial energy and project planning.

A1.6: Capacity of public sector, corruption

Key points:

- Indonesian energy authorities have well-established mechanisms for energy policy formulation, but face challenges in the maintenance and enforcement of regulations.
- Specifically, lack of manpower with appropriate and sufficient skillset to implement and execute in a timely manner pose a challenge.
- Lack of transparency in decision making and management of the sector is also a challenge, including a lack of effective coordination between ministries and between national and regional governments.

These public sector dynamics often cause slow, inconsistent and uncoordinated bureaucratic processes. An example is permitting of energy projects. A complicated mix of multiple permits and approvals from different levels of government and different non-dependent institutions such as MEMR, PLN and local government are required to ensure implementation of RE projects. The complication encourages rent seeking behaviour in exchange for speeding up approvals or providing favourable terms.

. The majority of energy plans and projects are implemented by MEMR and PLN, and the budget, plan and implementation can be accessed by the public through state budget information and a state budget report released by the Ministry of Finance, and PLN's business report.

While GOI is trying to increase transparency especially through the publication of state budget information and reports, the public participation in monitoring the actual implementation of the budget for energy development is insufficient. Corruption still plays a significant role in the energy sector. According to the Corruption Perceptions index, Indonesia ranked as number 115 in 2024.
Some CSOs advocate for transparency and accountability in policy-making and implementation.
While no specific GOI body is assigned to address corruption practices in the energy sector, the independent state institution Corruption Eradication Commission (KPK) has been formed specifically to eradicate corruption, collusion and nepotism and act as a stimulus for institutions to run more effectively and efficiently. KPK commits to eradicate corruption in the energy sector by giving assistance and counsel on corruption prevention and eradication to several domestic energy companies in order for their business processes to become more transparent, reliable and efficient. The campaign against corruption currently has a high priority in the Indonesian government, partly due to a number of significant corruption cases in the past decade.
In November 2024, president Prabowo issued a Presidential Regulation 169/2024 which establishes a new Directorate General of Law Enforcement in the MEMR. This new directorate general could enhance supervision and law enforcement in the sector.

A1.7: Matching with Danish strengths and interests, engaging Danish actors and seeking synergies

Key points:

- INDODEPP II is clearly in line with Denmark's stated policy priorities in development cooperation.
- Through INDODEPP and its predecessor programmes, Denmark has managed to establish itself as a trusted and long term committed partner on energy transition.
- Denmark has significant commercial interest within the energy sector in Indonesia.
- The Danish Embassy in Indonesia is a Green Frontline Mission.
- The energy transition and climate action are crowded fields in Indonesia with many bilateral and multilateral development partners engaged.

Danish priorities, policies, and strategies are currently articulated in Denmark's Strategy for Development Cooperation" A Changing World – Partnerships in Development", which was published in June 2025 and has a just, sustainable, and green transition as one of its five prioritised focus areas, and which among other things states that *"Denmark will expand renewable energy in partner countries through Danish solutions, international alliances, and strategic sector cooperation"*. The Strategy also emphasises the importance of economic diplomacy and mentions that Danish companies have solutions and technologies that already contribute to sustainable social and economic development. Under economic diplomacy, the Strategy states that to ensure the engagement of Danish companies, Denmark's development policy engagement serves as a door opener. Risks must be reduced, and the potential in the markets must be made visible and activated through partnerships, pilot projects, and business instruments. Impact Fund Denmark and the Export and Investment Fund of Denmark (EIFO) are important actors in this regard.
Further, the Danish Government's Foreign and Security Policy Strategy (May 2023), states that the climate crisis constitutes the 21st century's greatest challenge, requiring global cooperation and action and emphasizing that Denmark must continue to be at the forefront of the global climate action through its climate diplomacy efforts, continuing to assume a leading role in pushing for increased ambitions with regard to emission reduction efforts and other climate action.

Through INDODEPP and its predecessor programmes, Denmark has managed to establish itself as a trusted and long term committed partner on energy transition. A key driver for the programme's stronghold position has been the deployment of long-term advisors within partner institutions and the consistent commitment with partners over many years.
The long-term commitment with MEMR has enabled INDODEPP to be the main partner in developing the official electricity development plan for Indonesia with engagement in every step from data assessments in the Danish inspired technology catalogue, development of the official power system model in MEMR to the development of the product itself. Denmark's unique position was clearly reflected during the May 2025 formulation mission, where meetings were held at the highest levels in MEMR. In INDODEPP II, this position can enable a continued and potentially increased influence on political decision-making regarding Indonesia's long-term renewable energy targets and development.
With GOI's commitment to a more than 10-fold increase in the wind pipeline over the next 10 years, there is a strong link to Danish expertise. The Danish experiences with development of wind power have already in INDODEPP I led to many concrete requests for cooperation, especially from PLN relating to both the Danish expertise in assessing and implementing a pipeline of projects, and to approaches to handle fluctuating power production from the perspective of a TSO. In terms of the programme's position in PLN, it can further be highlighted that Denmark is – along with Japan – one of very few donor countries to have an LTA positioned on

a daily basis within PLN. This significantly strengthens the programme's ability to gauge PLN's needs and possible opportunities for collaboration and influence – although there is an arms-length principle to Danish commercial interests.
EE is a Danish stronghold with potentials for both Danish influence and significant CO_2 emission savings. Both Danish companies and the Danish embassy have been pushing for this for a long time.
The Danish energy engagements in Indonesia have successfully increased the influence of Danish climate diplomacy. The most significant examples of this effect are the fact that the Danish PM was invited to participate in the 2022 G20 in Bali, and the inclusion of Denmark in the G7 led Just Energy Transition Partnership.

Denmark has been engaged at a political level through the Just Energy Transition Partnership (JETP) led by G7. The INDODEPP I programme has to some extent been involved in two JETP technical working groups (energy efficiency, led by UNEP, and energy planning, led by IEA), however, since it to some extent sends a different signal to the partners and can cause doubt on the integrity of the programme, it has been decided to not be involved in the JETP. The DEA will however coordinate closely with the Embassy and the Danish MCEU, who are actively involved. Significant pledges have been made through the Danish institutions Impact Fund Denmark and Danida Sustainable Infrastructure Finance (DSIF). Synergies with INDODEPP include DSIF pledges to support PLN on development and financing of grid infrastructure in Indonesia. While DSIF will work on a specific project, there is significant potential to involve the INDODEPP programme especially through Danish transmission system operation specialists in the process. While Impact Fund Denmark explores opportunities in investments within energy and climate as well as through JETP, synergies are expected to be minimal.
INDODEPP provides a valuable platform also for climate policy engagement on wider topics such as NDC development, just transition and more in collaboration with other bilateral programmes supported by the Danish Embassy, which is a Green Frontline Mission.
Denmark has significant commercial interest within the energy sector in Indonesia. On the supply side, Danish companies are exploring both solar, onshore and offshore wind projects. Direct support on especially wind energy development within PLN and offshore wind in a wider sense can provide valuable positioning for Denmark in these developing markets. Multiple Danish companies have been engaged in energy efficiency in Indonesia. The Danish Embassy has also been working for a long time to promote a government-to-government agreement to develop energy efficiency in Indonesia through a consortium of Danish companies and the Danish Export and Investment Fund (EIFO), thus in line with the above-mentioned emphasis in Denmark's new Strategy.
Denmark has been working with the NGO Foreign Policy Community Indonesia and a network of Indonesian climate journalists to promote climate change messaging. The collaboration serves as a platform where messaging from both Danish climate policy and INDODEPP can be promoted. It can be noted that there are plans to bring a delegation to Denmark during 2025.
The Danish Technical University DTU is engaged through DEA.

The energy transition and climate action are crowded fields in Indonesia with many bilateral and multilateral development partners engaged. There is therefore a risk that the programme could duplicate existing activities and/or fail to build synergies with other initiatives. The number of donor/development partner supported activities is large, and coordination remains relatively weak due to e.g. a competitive donor environment. EBTKE under MEMR was recently put in charge of coordinating donor activities related to energy transition, however it is still unclear how they will carry out this task and how successful the result will be.
The Embassy of Denmark is actively engaged in relevant coordination efforts.

Agency	Areas of support
ADB	ADB serves as the foundation for the JETP secretariat and the main MDB partner in Indonesia. ADB havs administered the JETP secretariat since its inception in 2023, also being the leader of the Financial working group under JETP. ADB has also led multiple projects to financial close, latest leading the blended finance for its 4. Geothermal transaction Muara Laboh in 2025.
AFD	The French development agency AFD is engaged in multiple areas within energy. They are currently scoping their first potential provincial collaboration tentatively focused on Maluku and are also designing a TA program under the Indonesia Energy Transition Facility alongside the EU that aims to support and promote energy transition in collaboration with government institutions and state-owned enterprises.
CIF	The Climate Investment Funds (CIF) is engaged through its commitment mainly through CIF-ACT, which is a programme established and supported by Denmark to accelerate large-scale energy transitions in fast growing middle-income countries highly dependent on coal-fired power plants.
EU/ EIB	EU is mainly engaged with Indonesia through its participation in JETP, with a pledge of 1 billion EUR through the European Investment Bank (EIB). EU furthermore supports many initiatives of

	members states like France (AFD initiatives), Germany (KFW initiatives) and a Dutch proposal for offshore wind development.
GIZ/ KfW	Germany remains the one of the biggest donors in Indonesia's energy sector, mainly through commitments through GIZ and KfW. GIZ's partners overlap in many cases with the Danish partners through its many programmes, most clearly through the EE engagement SETI focused on MEMR, the power system planning engagement Green Energy with PLN, and MEMR, and KFW's concessional financing agreements on grid infrastructure with PLN.
IEA	The International Energy Agency (IEA) has been a long-standing partner to Indonesia and while Indonesia is not a member, Indonesia is a longstanding association country. Much of IEA's engagement has historically been on a direct engagement on EE and energy system planning, including with Danish support under the Clean Energy Transition Programme. Since the IEA was chosen to lead the JETP Technical Working Group, their work has focused and been strengthened on power system planning with MEMR-
IRENA	IRENA has historically had a successful engagement on developing the ASEAN energy outlook, in part with Danish support, an dhas supported long-term planning. IRENA is now looking to initiate further activities on decentralized RE in Indonesia and collaboration in the region through their Utilities for Net Zero Alliance and Alliance for Industry Decarbonization.
OECD	Denmark supports the OECD Clean Energy Finance and Investment Mobilisation (CEFIM) Programme, which has provided support in Indonesia on sustainable finance solutions for small scale RE in remote areas and for EE, including through capacity development on innovative Energy Savings Insurance (ESI) schemes. The main national partner is the Financial Service Authority of Indonesia (OJK). A review of the previous RUPTL was also published by CEFIM.
JICA	JICA is a major development partner with JICA advisors placed in both MEMR and PLN – where INDODEPP similarly have LTAs posted. JICA focuses on specific projects and technologies mainly on Geothermal and Ammonia, in the regional alliance Asia Zero Emission Community.
UNIDO	UNIDO has been a longstanding partner to the Ministry of Industry mainly focusing on sustainability within Indonesian Industrial parks.
UK	Besides being and active member in JETP UK is mainly engaged through its 2 programmes MENTARI and UK-PACT. Mentari works with the same main partner as INDODEPP, namely MEMR, but with different focus areas: Policy, Brokerage, Demonstration Projects. UK-PACT is a regional energy programme that operates with larger projects tendered for implementing by a third party. While the topics are varied, the potential main overlaps with INDODEPP are within Energy Efficiency.
USAID	USAID was a major development partner in energy in the past, but the current US Government has discontinued its activities

Annex 2: Partner assessment

Note: This annex is a considerably shortened version of DEA's very detailed partner assessment from March 2025, which is a valuable DEA reference document that can be used in programme implementation, but which is too detailed for the present CPD. The Annex is limited to Table A2.1 below, which focuses on the INDODEPP's primary partners (see the distinction between primary and secondary partners[9] in the notes at the beginning of Annex 3 below). However, given the importance of the provincial level, some information is also given on provincial Dinas ESDM who has a key role at provincial level. However, it must be noted that there are also other key secondary partners at provincial level, including the Governors' offices, local PLN offices, Bappeda, etc. Further information on these partners is found in DEA's detailed partner assessment.

A2.1 Summary of key partner features

Name of Partner	Core business	Importance	Influence	Contribution	Capacity	Exit strategy
	What is the main business, interest and goal of the partner?	*How important is INDODEPP for the partner's activity-level (Low, medium, high)?*	*How much influence does the partner have over INDODEPP (low, medium, high)?*	*What will be the partner's main contribution?*	*What are the main issues emerging from the assessment of the partner's capacity?*	*What is the strategy for exiting the partnership?*
Directorate General of New, Renewable Energy and Energy Conservation (EBTKE), Ministry of Energy and Mineral Resources (MEMR)	Responsible for formulating and implementing policies on RE and EE, focusing on promoting solar, wind, hydro, geothermal, and bioenergy development, while advancing EE measures and regulations.	Medium	High, EBTKE co-chairs the Steering Committee.	Staff time in-kind, information and data, support improvement of EE in industry and building, supporting integration of EE measures with RE technologies, decision making power, leverage within Government of Indonesia (GOI) agencies, and participation and facilitation of the bi-annual steering committee meeting.	Limited resources, both financial and in terms of man-power, may limit effective capacity building. EBTKE has the mandate to coordinate donor engagement, however, they do not seem to have the necessary capacity to fulfil the mandate. The DEA has previously proposed to include other key ministries to work proactively on EE, however, EBTKE is not positive about the inclusion of other	The current demand-driven capacity development gradually shifts to a lesser, more supporting role as partner capacity is enhanced. Capacity development gradually increasing partner input to ensure that the transition is effective and aligns with the broader objectives of a green energy transition to sustain INDODEPP results.

[9] As noted in Section 2.2 under Outcome 3., MoI and PU are introduced as secondary partners. DEA has prepared partner assessments of these institutions as part of background documentation for DEPP 2026.

Name of Partner	Core business	Importance	Influence	Contribution	Capacity	Exit strategy
					ministries as primary partners.	
Directorate General of Electricity (DGE), MEMR	Develop the national electricity plan (RUKN) which sets the direction for PLN and private utilities. Ensure alignment with other government policies. Review and approve utility business plans incl. PLNs RUPTL as well as ongoing technical regulation and monitoring of implementation Develop and maintain tools to conduct technoeconomic analyses for system development used by MEMR and other stakeholders. Lead and provide input to various policies and regulation related to electricity system development and decarbonization efforts Support provincial governments in electricity system planning incl. development of RUKDs and RUEDs. Has a clear desire to have a stronger role in high-level policy development with a stronger voice to	Medium-High. It provides financing and capacity development for use of Balmorel, which is essential for RUKN. For aspects outside of power sector modelling, the importance is much lower, providing information and knowledge in a broader sense.	Medium-High. As a core partner DGE has high influence on activities directly involving them, especially under outcome 1. DGE is very selective in their partnering and projects, and it is important to tailor activities to their direct needs to ensure engagement. The planning in DGE is very dynamic and therefore flexibility is needed in the engagement, naturally giving DGE an important role in defining details of activities.	Developing and publishing the RUKN. Hosting and owning the Balmorel system model used for developing RUKN and other analyses Providing necessary information and data to carry out technical studies Provide input to and participate in the development of technical studies and policy recommendations Hosting workshops and courses for capacity building purposes together with other entities	High level of openness and eagerness to cooperate and build technical capacity. Strongest entity within MEMR to provide planning and policy direction based on technical analyses with potential for direct impact on decisions by PLN and other utilities. Well anchored management with high support and awareness of importance of planning and system modelling. Number of technical staff is very limited and high turnover results in vulnerability, which has been stressed at various high-level dialogues. Resources to take on projects outside narrow-scoped technical work is limited. Limited transparency in internal decision-making results in inefficient processes and low level of cooperation outside	Targeted capacity development. Financial support for continued access to Balmorel software and technical support after programme completion is a specific concern which needs consideration to ensure long-term impact.

Name of Partner	Core business	Importance	Influence	Contribution	Capacity	Exit strategy
	influence other ministries and utilities				narrow-scoped activities. Limited influence in high-level policy developments.	
National Energy Council (NEC) Secretariat	Promote the transition to clean, renewable, and low-carbon energy, increasing access to and quality of energy services for communities, and strengthen governance and coordination of national energy policies.	Medium.	Medium While the NEC plays a key role in supporting energy transition policies and providing guidance for the development of KEN, RUEN and RUED, its ability to directly implement or control these projects is limited by its reliance on political commitment, intergovernmental coordination, and available resources.	Staff time in-kind, relevant information and support with regard to facilitating activities.	Limited implementation power. Coordination challenges with other authorities Dependence on political commitment. Some resource and monitoring gaps. PLN's dominant role.	Gradually increase partner role and input to ensure that the transition is effective and aligns with the broader objectives of a green energy transition to sustain INDODEPP results.
PT Perusahaan Listrik Negara (Indonesian State-Owned Electricity Utility)/ Transmission system operator (PLN)	Conduct electricity business oriented to customer satisfaction, company members and shareholders. Make electricity a medium to improve the quality of people's lives. Keep electricity as driving economic activity. Conduct business activities that are environmentally sound.	Low. PLN is a very large organization (50,000 staff) with a large number of other partners and donors.	Medium-high. PLN decides on focus for partnership and demand driven tasks.	Staff time inputs in-kind, workshop facilities, relevant data and information.	Shifting internal and external priorities hold large sway on possible implementation of VRE. Financial restraints play a large role in reaching targets. PLN holds the potential to drive and implement the transition agenda in Indonesia, but uncertainty exists due to current PLN setup and framework.	Capacity development gradually increasing partner input to ensure that the transition is effective and aligns with the broader objectives of a green energy transition to sustain INDODEPP results.
Provincial level:						

Name of Partner	Core business	Importance	Influence	Contribution	Capacity	Exit strategy
Dinas ESDM (Regional Energy and Mineral Resources Office)	Government affairs and development in energy, electricity, oil and gas geology and groundwater, minerals including coal. Formulating and determining technical policies for mining, energy, and mineral resources.	Medium. Supports the selected provinces in developing RUED and is currently assisting the development of RPJMD (mid-term plans). Additional support in proposing Pre-Feasibility Studies (PFS) specifically for solar and wind projects to be included in RUPTL thus aligning provincial RE development with national energy targets, enhancing investment opportunities, and ensuring structured implementation of the energy transition.	Medium Dinas ESDM play a key role in supporting energy transition policies at provincial level and providing data for the development of RUED and RPJMD. The Regional Development Planning Agency (Bappeda) has the authority to direct resource allocation and formulate RE development plans within the provinces. Dinas ESDM play a role in issuing licenses and regulations related to RE development.	Staff time inputs in-kind and providing relevant data nd information.	The strength and capacity varies greatly from province to province. Generally, the main challenges are budget limitations, a lack of technical capacity and human resources, and planning and implementation constraints set by national-level government and PLN.	Capacity development gradually increasing partner input to ensure that the transition is effective and aligns with the broader objectives of a green energy transition to sustain INDODEPP results.

Annex 3: Results framework

Notes:

- INDODEPP II is essentially a capacity strengthening programme in which technical support and knowledge transfer contribute to achieving enhanced national capabilities that in turn lead to programme outcomes and impact when national partners apply these capabilities. As an important pre-cursor to the results framework (RF) below, it should be noted that Outputs and Outcomes are formulated as the concrete results arising from DEA support for capacity strengthening. Therefore, and to make the results framework more succinct, "capacity development" is generally not reflected in the wording of Outputs and Outcomes, but it is a general pre-cursor to this results framework and the capacity strengthening approach is described in the DEPP 2026 FPD and reflected in the narrative theory of change in Section 3.1.
- While not required by the standard Danida template for results frameworks, indicative activity types/topic area clusters are listed under each output as this facilitates understanding of what is expected to lead to the outputs.
- Activities will be defined in annual workplans to be approved by the Steering Committee. Capacity strengthening reporting at activity level will be part of annual workplan reporting.
- The INDODEPP programme will be accountable for the achievement of the outputs, which are within its control. DEA will monitor and report on outputs in progress reporting. DEA will also monitor and report on the achievement of outcomes, which are within INDODEPP/DEA influence but not within DEA control and dependent upon the assumptions from outputs to outcomes in terms of partner action and use of outputs.
- The INDODEPP II distinguishes between primary and secondary partners. Primary partners are defined as the main responsible partner under the relevant output and are also responsible for providing the necessary input to the annual work programmes and progress reports. Secondary partners are defined as important partners who are actively engaged in few or more activities, dependent on the work programme. Secondary partners are however not responsible for providing input to annual work programmes and progress reports.
- During the programme, all outcomes are to some extent flexible to address/work with priority demands from primary partners to support their areas of interest which can change.
- The assumptions (summarised in Section 3.2) underpinning the theory of change are important for achieving the stated outcomes and impact and must be closely monitored.

Programme	**Indonesia-Denmark Energy Partnership Programme, Phase II (INDODEPP II)**
Programme Objective	Indonesia has strengthened the enabling framework for a just, cost-efficient, transparent electricity sector transition that increases supply security, expands renewable energy share, and reduces energy intensity, in line with Indonesia's Net Zero Goal and NDC targets.
Impact Indicators	➢ Renewable energy is deployed and integrated in supported provinces and at national level in accordance with national targets ➢ Increased share of renewable energy in Indonesia's total energy mix ➢ Improved rate of energy intensity in industry and public buildings
Outcome 1	**MEMRs capacity for least cost and robust energy planning is strengthened through use of expanded modelling toolkit, significant advancements in quality of data used, and own model-driven analyses informing its policy recommendations.**
Key partners and other important stakeholders	Primary partners: DGE (MEMR)

		Secondary partners: EBTKE, PPSDM KEBTKE/BPSDM, NEC, PLN	
Outcome indicator		Technical energy analysis, policy recommendations, and planning by MEMR based on high quality data and diverse modelling toolkit, which contributes to a reliable energy with high shares of VRE.	
Baseline	Year	2026	While DGE has basic energy analysis and modelling capabilities in place, more advanced skills and deeper understanding of appropriate use of tools is needed for DGE to better assess the requirements for a cost-efficient and robust development of the power system, as higher shares of renewable energy are being deployed. This calls for advancement of modelling skills and expansion of modelling toolkit.
Target	Year	2030	By 2030, MEMR base their energy policy and planning recommendations on high-quality data and diverse modelling toolkit and are increasingly able to independently conduct model-driven topical analyses to inform its policy recommendations for an affordable and reliable electricity sector.

Output 1.1		**MEMR has access to and are using high quality energy data and are updating technology catalogues on a regular basis.** Primary partner: DGE (MEMR) Secondary partners: EBTKE (MEMR), NEC, PLN	
Indicative activity / topic areas		1. Technology catalogue a. Updating the existing technology catalogue and expanding it to include newest technology developments along with establishing a guideline for using Technology Catalogue for energy planning. 2. Workshops on the overview of data required for energy models and how to collect and assess such data. 3. Development of additional high-quality datasets on key topics to improve model-based decision making. For example, such as: a. Fuel price developments b. Availability of Renewable Energy incl. potentials and electricity generation profiles. c. Demand side flexibility: Electricity demand profiles, impacts of electrification and energy efficiency, EVs charging, etc d. System flexibility and resilience	
Output indicator		Availability of high quality, and transparent data for modelling and general energy planning through frequent updates and publication of technology catalogues and other technical data-related products. Internalization by DGE of technology catalogue development and of updating process.	
Baseline	Year	2026	DGE has developed the capacity to operate energy model Balmorel. However, there is a lack of good quality and transparent data for modelling. DGE also needs a good overview of data required, and understanding on how to collect it in a transparent manner and make it publicly available. Three Technology Catalogues on Power Generation and Storage have been published with substantial support from DEA.
Target	Year	2028	Technology catalogue is updated regularly by national authorities. Guidelines on technology catalogue use in energy planning are published.
Target	Year	2030	Several datasets on key energy topics are collected and published. DGE has standardised documentation and guidelines for technology catalogue development/updating process, hence is capable of keeping technology catalogue updated with minimal DEA support.
Output 1.2		**MEMR has institutionalised the use of enhanced toolkit for energy system planning to provide choice awareness for least cost development.**	

		Primary partner: DGE (MEMR) Secondary partners: PPSDM KEBTKE/BPSDM (MEMR)	
Indicative activity /topic areas		● Continuation of ad-hoc modelling support and model infrastructure access (cloud, licensing, modelling software). ● Power system analysis and planning courses o Continued organisation and development of power system planning courses o Online course package on energy planning for PPSDM/BPSDM's online learning platform. o Further module development on key energy topics. For example, electricity markets, renewable energy support policies, green hydrogen, energy demand side modelling etc. ● Hands-on training workshops and user guidelines to enhance assessments for power system development, operation, security of supply (or adequacy), and financial implications.	
Output indicator		Strengthened and institutionalized modelling capabilities	
Baseline	Year	2025	DGE modelling team has basic level capabilities in the Balmorel modelling tool, and in handling input data and analysing results. Capabilities to independently use the model and maintain it, to gain policy insights is lacking. Hands-on training is conducted by the DEA on ad-hoc basis, with limited involvement of DGE in training of new staff. Knowledge transfer is not institutionalised and vulnerable to high staff turnover.
Target	Year	2028	Power system analysis and planning course is available online on training platform. Training for expanded modelling toolkit for new staff are conducted with DGE modelling experts as trainers. Model user guidelines are published.
Target	Year	2030	Modelling toolkit is expanded to include the security of the supply assessment tool (SisyfosR). Modelling capacity is further institutionalized as online courses are actively used by modellers and developed further. Partner staff is able to conduct modelling analysis and training independently with minimal DEA support.
Output 1.3		**Energy policy recommendations are based on sound technical and socio-economic analyses.** Primary partner: DGE (MEMR) Secondary partners: EBTKE (MEMR), NEC, PLN	
Indicative activity /topic areas		1. Knowledge sharing workshop on power sector regulations 2. Based on sound techno-economic analyses, recommendations on a cost-efficient and resilient implementation of energy plans will be developed. This can be in a broad range of formats such as full study reports as well as shorter energy technology assessments, policy briefs and knowledge sharing workshops. Examples of topics: ➢ Efficient organisation and structure of power sector ➢ Least-cost system development scenarios ➢ Role of flexibility in future power sector ➢ Evaluation of energy storage policy ➢ Socio-economic assessment of renewable energy	
Output indicator		Energy models and analyses are actively used for choice awareness in policy recommendations based on increased understanding of the complexity and opportunities related to energy transition.	
Baseline	Year	2026	DGE uses model for development of national plans.

Target	Year	2028	Joint study on key topics related to energy transition (e.g role of flexibility, role of energy storage and EVs etc.) is published and knowledge is shared with decision makers.
Target	Year	2030	Publication of model-driven policy insights on key topics and scenarios, and energy models used in policy recommendation for development of energy plans (RUKN) related to flexibility, energy storage etc.

Outcome 2		**Increased integration of variable renewable energy in the Indonesian energy system.**	
Key partners and other important stakeholders		Primary partner: PLN Secondary partners: See below under each output	
Outcome indicator		Ability to increase the amount of electricity generated from VRE in line with RUPTL VRE targets, is strengthened.	
Baseline	Year	2026	PLN has limited capacity and experience with securing stability and control of grids with higher VRE share, and with planning and implementing renewable energy projects. VRE production in 2024 was for Wind 465.5 GWh and for Solar PV 407.1 GWh. This constitutes a total of 0.27% of Indonesian total electricity production in 2024[10].
Target	Year	2030	PLN has sufficient capacity to handle planning and prioritization of new VRE projects in order to integrate the planned 24.3 GW solar and wind by 2034. For system operation, PLN has gained sufficient capacity to handle a higher share of VRE without compromising day-to-day operations, grid stability and security of supply ensuring more affordable and reliable access to electricity, including for poor and disadvantaged groups.
Output 2.1		**Strengthened PLN capability to plan, regulate, tender and implement new wind projects.** Primary partners: PLN MEB Secondary partners: PLN RSL, PLN-E, PLN LHC, PLN wind colony, Indonesia Power (PLN subsidiary), and Nusantara Power (PLN subsidiary), MEMR	
Indicative activity / topic areas		Strengthening PLN's ability to develop and implement the RUPTL pipeline for wind projects. The DEA activities will focus on a specific project and or bundled tender of several projects from start to finish – from thought to kwh. A strict focus on one concrete project will allow actual impact through hands on capacity building and support. The below activities should thus be applied to one specific site or a set of specific sites for one bundled tender. In case PLN is hesitant to work closely on one specific site or set of specific sites, a more general approach will be taken. ● Support and review Pre-feasibility and Feasibility studies of potential wind farm sites. To make sure the basic parameters for optimal site selection are present. ● Support multi-site selection for bundled tenders. Optimal selection of initial sites is paramount to achieve PLN goals and meet PLN KPI's. This should be based on and supported by point 1. This activity can as an example include studies of potential grid connections and grid stability for the selected area. ● To secure successful implementation through technical and cost-efficient solution supporting activities must also include tender mechanism and procedure. Furthermore, support regarding a clear pipeline and market dialog should be included as part of the potential activities.	

[10] Data for the baseline year (2026) is pending.

		● If relevant under PLN terms and conditions activities can also include support and second opinions regarding business models and support/incentive schemes	
Output indicator		PLN capability for planning, regulation, tendering and implementation of wind projects has advanced	
Baseline	Year	2026	Few and small onshore wind projects totalling 154 MW installed capacity. PLN has limited knowledge on planning and implementing onshore wind.
Target	Year	2028	PLN applies new capabilities gained through the INDODEPP for at least one specific project - either single site or bundled tender clustering several relevant sites.
Target	Year	2030	Planning, tender and implementation of wind projects is progressing in accordance with RUPTL timeline and targets.
Output 2.2		**Strengthened electricity grid stability and grid management to support increasing shares of variable renewable energy in Indonesia.** <u>Primary partner:</u> PLN OSL <u>Secondary partners:</u> PLN RSL, PLN control centres, PLN-E, PLN LHC	
Indicative activity /topic areas		Supporting grid management and control to support higher shares of VRE in the power system. This activity can span several relevant topics, including but not limited to: 1) Tools in control centre 2) Tools in back office to control centre 3) Voltage and frequency control 4) Balancing 5) Grid stability and control Activities will be carried out as extended and coherent long-term peer-to-peer capacity building. This will include extended stays from Danish experts in PLN control centres and/or relevant divisions in Indonesia and expert twinning on selected topics. A long-term plan will be made in collaboration with PLN. This plan will include prioritized topics and prioritized control centres and/or divisions across Indonesia. Selection and prioritization will be based on RUPTL VRE roll out and PLN plan for upgrading existing control centres.	
Output indicator		PLN's capability to identify, develop and utilise concepts and tools for integration of VRE has enhanced, and PLN has implemented one or more tools in PLN control centres.[11]	
Baseline	Year	2026	INDODEPP has conducted training on balancing and grid stability and control in JAMALI control centre. However, PLN has limited experience on using tools and concepts in integration of VRE.
Target	Year	2028	The concept has been optimized and adapted to PLN needs and has been shared with several other control centres in Indonesia (a minimum of 2).
Target	Year	2030	PLN capability to handle VRE as part of daily operations has increased significantly, and concepts and tools have been shared with relevant PLN control centres in Indonesia and implemented as found relevant by PLN.

Outcome 3	**A transparent and effective regulatory and institutional framework is in place leading to cost-effective implementation of energy efficiency policies, strategies and plans for buildings and industry and contributing to decarbonisation of the sectors toward 2050.**
Key partners and other important stakeholders	<u>Primary partner:</u> EBTKE (MEMR) <u>Secondary partners:</u>

[11] Examples of measurable output could be uptake of VRE forecasting tools or updated, implemented and enforced Grid Codes.

		MoI, PU, PPSDM	
Outcome indicators		Key energy efficiency regulation and measures for the buildings and industrial sectors are identified and implemented reducing the overall energy intensity in support for the national goal of annual improvement of energy efficiency by 1%	
Baseline	Year	2026	Energy efficiency regulatory and institutional framework for industrial and building sectors are fragmented and difficult to implement
Target	Year	2030	Energy efficiency regulatory and institutional framework for industrial and building sectors more transparent and effective and implementation has successfully begun.
Output 3.1		**Implementation of existing non-fiscal incentive schemes and promotion of energy efficiency in the food and beverage sector.**	
Indicative activity /topic areas		➢ Transfer knowledge on Energy Efficiency Best Practice and experiences in Energy Management through "Training the trainer" Workshops in Indonesia facilitated by the MEMR Center for Human Resources Development, PPSDM. ➢ Cooperation and knowledge exchange on regulatory frameworks for energy efficiency in the industrial sector, focusing on non-fiscal incentives. ➢ Voluntary agreement scheme approach based on existing non-fiscal incentives in the Food and Beverage sector – taking a point of departure in energy and climate audits and reinforcing the dialogue with industry clusters about solutions with low payback periods.	
Output indicator		- Advancement in implementation of main energy efficiency regulation (e.g. Regulation no. 33) including existing non-fiscal incentive schemes. - Uptake by the food and beverage industrial sector of better practices for implementing energy efficiency opportunities.	
Baseline	Year	2026	While fiscal incentives schemes for energy efficiency in industry are absent, other incentive schemes exist, but technical capacity to conduct energy audits, energy mapping and identify energy efficiency and decarbonisation measures is still lacking. 'Low hanging fruits' are harvested when identified[12], but largely they remain as untapped potentials.
Target	Year 3	2028	Industry clusters in the Food and Beverage sector have been sensitized to pursue energy efficiency through technical support including tailor made training materials on how to conduct energy audits and identify energy efficiency projects.
Target	Year 5	2030	Ability to implement energy efficiency regulation has been strengthened through: - Enhanced understanding for ways to strengthen national energy efficiency regulation (e.g. Regulation no. 33) incl. non-fiscal incentive schemes. - Curriculum for tailored Energy Efficiency Best Practices, and experiences in Energy Management adopted by industry clusters in the food and beverage industry, including trained Energy Managers and Energy Auditors.
Output 3.2		**Enhanced implementation of existing and new national energy efficiency regulation in the public building sector.** <u>Primary partner:</u> EBTKE (MEMR) <u>Secondary partners:</u> PPSDM, PU	
Indicative activity /topic areas		➢ Cooperation and knowledge exchange on regulatory frameworks supporting energy efficiency and green building policy, focusing on implementation strategies and compliance. ➢ Transfer of technical knowledge on energy management, efficient technologies and data availability across building sectors through provincial pilot project.	

[12] In its previous phase, INDODEPP has identified 14 concrete projects through audit, mainly in the food and beverage sector, which are now being implemented.

		➢ Support and strengthening of a consistent national approach to energy conservation and sustainable building practices, based on technical guidelines and capacity development training activities in Indonesia and Denmark.	
Output indicator		Advancement in national implementation of energy efficiency regulation and compliance frameworks in the public building sector.	
Baseline	Year	2026	Despite a national building regulation in place for public buildings to comply with energy efficiency requirements, implementation remains very limited and inconsistent, and data monitoring and compliance structure is insufficiently defined.
Target	Year 3	2028	Technical assistance and targeted recommendations on policy compliance and enforcement mechanisms developed supporting national initiatives to promote efficient public building operations.
Target	Year 5	2030	National public building regulation strengthened and enforcement mechanisms implemented, focusing on efficient building practices, supporting national coherence.

Outcome 4		**Energy transition in provinces supported through socially inclusive energy planning and increased deployment of renewable energy.**	
Key partners and other important stakeholders		Primary partners: NEC, EBTKE (MEMR) Secondary partners: Dinas ESDM, Bappeda, PLN, local governors	
Outcome indicator		Local energy planning is strengthened across Indonesia, and implementation of planning of renewable energy projects has successfully begun in selected provinces.	
Baseline	Year	2026	Most provinces lack capacity to conduct local energy planning, and there is only limited support from national authorities and no commonly applied approaches or tools to rely on for local energy planners. Provinces with ambitious energy plans with high targets for renewable energy lack the tools to support project realization in the upcoming implementation phase.
Target	Year	2030	NEC supports provinces in using a coordinated approach, guidelines and tools to develop streamlined holistic local energy planning of improved quality. Selected provinces have demonstrated strengthened capabilities to plan and develop RE projects in their province with a holistic approach and an enhanced focus on integrated social and environmental assessments and consultations related to planned RE infrastructure

Output 4.1	**Enhanced local energy planning in Indonesian provinces.** Primary partner NEC Secondary partners: Dinas ESDM, Bappeda, BPSDM, local governors, local universities or local consultancies
Indicative activity / topic areas	➢ Development of generic guideline for local energy planning, including concrete tools and training material to support local energy planning (e.g. training in using GIS-software, LEAP-software, planning dialogue tools, frameworks for understanding the links between renewable energy and local development targets and socio-economic benefits, frameworks for comparing potential projects, support for developing the local energy plan RUED etc). The guideline and tools may include products developed under INDODEPP I. ➢ 'Train the trainers' – strengthen NEC's ability to support local energy planners by using INDODEPP-developed tools and training materials for local energy planning. ➢ Testing tools, training and guidelines on partner provinces during the developing phase (utilizing our strong relationship and the provinces' higher capacity level to ensure productive feedback), and on pilot provinces (potentially in eastern Indonesia

		due to their limited existing local energy planning) when tools etc. have been developed. ➢ Support the development of coordinated approach to local energy planning to be rolled out across all Indonesian provinces by NEC (in cooperation with local university or consultancy), along with guideline and tools.	
Output indicator		NEC promotes a coordinated approach to local energy planning across provinces supported by local energy planning guidelines and tools.	
Baseline	Year	2026	Most local governments lack the necessary capacity to develop the local energy plans, and there are no common tools or coordinated approach to the planning process across different provinces.
Target	Year	2028	Guidelines and tools for local holistic energy planning are developed. Staff from NEC and from universities or consultancies have been trained in understanding and conducting training in the guidelines and tools. A coordinated approach to local holistic energy planning has been formulated.
Target	Year	2030	NEC has introduced a coordinated approach to local energy planning across all provinces in Indonesia. Supported provinces have increased RE capacity targets in local energy plans.
Output 4.2		**Improved ability to support implementation of renewable energy projects in selected provinces.** <u>Primary partner</u> EBTKE (MEMR) <u>Secondary partners:</u> Dinas ESDM, Bappeda, BPSDM, PLN, local governors	
Indicative activity /topic areas		➢ Knowledge-sharing on approaches to good governance and involvement of local communities in the rollout of renewable energy projects ➢ Knowledge-sharing on potential project-based solutions that may improve local project support ➢ Support for increased coherence between national project location selection and local data and area knowledge ➢ Support for improved local long-term project planning processes, which may lower project risk through enabling smoother permitting processes, better coordination regrading land-use, etc. ➢ Enhanced understanding of investor demands and requirements to local authorities ➢ Support for enhanced ability of local governments to support project development in coordination with PLN	
Output indicator		Selected provinces have demonstrated strengthened capabilities to plan and develop RE projects with a holistic approach and enhanced focus on a just transition	
Baseline	Year	2025	Few renewable energy projects are implemented in partner provinces. Provinces are expected to enter into implementation phase, but provincial authorities lack tools to support the implementation process.
Target	Year	2028	Tools have been developed that enable provinces to overcome some of the implementation obstacles rooted in local conditions, for example linked to local permitting processes, good governance or project de-risking.
Target	Year	2030	Provincial authorities in selected provinces have used tools to overcome implementation obstacles, and implementation of planned renewable energy projects is successfully progressing in their province.

Annex 4: Risk management

Contextual risks[13]:					
Risk Factor[14]	**Likelihood**[15]	**Impact**[16]	**Risk response**	**Residual risk**	**Background to assessment**
CR1 Global geopolitical tensions impacting energy planning and green energy investments.	Likely	Major	Demonstrate the benefits of the green and just energy transition through least-cost energy modelling and long-term scenarios, with emphasis on security and reliability of supply.	Major	The geopolitical situation is in many ways challenging the energy transition and effective climate action.
CR2 Risks that the ambitious Indonesian energy transition policy may not be possible to implement as intended. Vested interests in the political economy working for continued reliance on coal and natural gas, working against the green energy transition.	Likely	Major	INDODEPP II is a partnership with the government institutions who have the mandate and the power to regulate the electricity sector and who implement the Government's ambitious energy transition and climate action agenda while working to increase the percentage of renewable energy (RE) in the energy mix and increased flexibility in fossil-based power generation. Improved security of supply is a key concern in energy planning and modelling supported by INDODEPP. While emphasising these remedial factors in programme implementation, these risk factors will be closely monitored from the start and throughout programme implementation, see text below under the tables and in Chapter 7.	Significant	The political economy in the sector has its drivers but also opponents of transformational change. The Government of Indonesia (GOIs) ten-year 10-year Electricity Supply Business Plan (RUPTL) 2025-2034 still operates with significant levels of fossil fuels in power generation. Concerns remain in some quarters that VRE may jeopardise the security of supply.
CR3 Government subsidies on fossil fuels keeping electricity costs low and	Almost certain	Major	Support the development of a transparent and ambitious regulatory and institutional framework for cost-effective implementation of EE policies,	Major	Indonesia's electricity prices are kept low by government subsidies, which is also an element of social policy.

[13] This category covers the range of potential adverse outcomes that may arise in a particular context, including the risk of harm beyond the immediate context or the country's borders and may include governance failure (e.g. the failure of effective public financial management or law enforcement); competition for resources; natural hazards; and pre-existing socio-political tensions. (Danida Guideline to Risk Matrix 2018).

[14] To illustrate the linkages between assumptions and risks, contextual risks are numbered CR1, CR2, etc; programmatic risks are numbered PR1, PR2, etc.; institutional risks are numbered IR1, IR2, etc. These numbers are then used in the table under the risk matrix, which makes the connection between assumptions and risk analysis:

[15] Danida classification categories are: very unlikely, unlikely, likely, almost certain (see link)

[16] Danida classification categories are: insignificant, minor, major, significant (see link)

resulting in disincentives for energy efficiency (EE) measures.			strategies and plans for buildings and industry. Share experience and develop incentives schemes, showcase "low hanging fruits" with low payback time. Work for synergy with Danish multilateral cooperation in EE and subsidy reform.		Denmark also supports subsidy reform and EE through multilateral cooperation including with IEA, IISD, and OECD.
CR4 Ineffective inter-ministerial and inter-agency coordination also between national and provincial levels and insufficient transparency in decision making.	Likely	Major	As an external catalyst, support increases transparency through modelling and planning information used in decision making. Through strong anchoring with key national level authorities and engagement at provincial level, INDODEPP II contributes to improved clarity and coordination between national and sub-national levels.	Major	Unclear decision-making responsibilities, ineffective coordination and information sharing between ministries and other stakeholders including PLN.
Programmatic Risks[17]:					
Risk Factor	**Likelihood**	**Impact**	**Risk response**	**Residual risk**	**Background to assessment**
PR1 Limited staff resources and managerial capacity in national partner institutions and staff turnover, including of staff trained through INDODEPP support.	Likely	Major	In line with DEA's approach to capacity development, emphasise development of institutional capacity, Where training of individuals is done, ensure sharing within the institution, training of trainers, and wider institutional uptake and use of knowledge and experience. Align capacity development to the partner institutions' internal competence and capacity development strategies and programmes (that for example is strong in PLN). Where relevant, engage with academic institutions that can capture knowledge for development of their curricula. Strengthen alumni-network across institutions as possible.	Major	There are limited human resources in national partner institutions (for example, the modelling team in MEMR is only 4-6 staff), and this is compounded by staff turnover, including of staff trained through the programme.
PR2 Insufficient willingness or ability to share available data can affect the quality of the	Likely	Major	Demonstrate the importance of data availability and quality for efficient and effective partnership and sustainable results. Use provisions in MOU(s) and	Minor	Willingness or ability to share available data across institutions and with external partners is often an issue in Indonesia.

[17] This category includes two kinds of risk: (1) the potential for a programme to fail to achieve its objectives; and (2) the potential for the programme to cause harm in the external environment. With regard to (1), the risk factors for programme failure include many of the contextual risks outlined above, as well as institutional and political factors. But there are many other reasons for potential programme failure, including inadequate understanding of the context or flawed assessment of what needs to be done; management and operational failures; and failures of planning and co-ordination. Risk is also associated with new or innovative programme approaches (although there may also be risk in failing to innovate). (Danida Guideline to Risk Matrix 2018). The categorisation of likelihood, impacts, and residual risk is also consistent with Danida guidelines.

technical assistance provided.			implementing agreements to ensure partner obligations on data availability.		
Institutional risks[18]:					
Risk Factor	**Likelihood**	**Impact**	**Risk response**	**Residual risk**	**Background to assessment**
IR1 The programme could risk duplicating and/or failing to build synergies with other relevant initiatives in the highly dynamic Indonesian context.	Likely	Minor	Continued careful identification of other relevant bilateral donor and multilateral development partner support. Through the Embassy and supported at operational level through LTAs and DEA, Denmark participates actively in relevant development partner coordination for a within energy and climate action, including with other EU member countries. Ensure synergy with Denmark's multilateral cooperation, including with IEA, IRENA, IISD, OECD. Continue focus on JETP albeit at scaled-down level.	Minor	There is limited effectiveness of national coordination of development partner support for energy transition and climate action. The Danish experience of a role in the JETP secretariat has been mixed and is downplayed.
IR2 Any unintended use of resources or misconduct could reflect negatively on the partnership.	Very unlikely	Significant	There will be no direct fund transfers to partner institutions. The Programme will follow DEA financial and contracting procedures, and the risk of direct corruption is considered unlikely.	Insignificant	Any fraud or misconduct associated with the Programme would have major consequences for partner institutions.

As mentioned in Section 3.2, Assumptions relate to factors that are not (fully) within the control of DEA in implementing INDODEPP II, but which underpin the theory of change. As also mentioned in Chapter 7, assumptions and risks factors are connected. Risks can be seen as the factors that might have given rise to failure of assumptions. The table below makes the specific connection between assumptions and risk analysis:

[18] This category includes "internal" risk from the perspective of the donor or its implementing partners. It includes the range of ways in which an organisation and its staff or stakeholders may be adversely affected by interventions, e.g. damage to a donor's reputation if it fails to achieve its objectives, or from financial/fiduciary failure (Danida Guideline to Risk Matrix, 2018).

Assumptions	Where covered in the risk analysis
➢ Government of Indonesia's sustained political support for NDC targets and related policy initiatives related to transparent governance of renewable energy and energy efficiency.	CR1
➢ Climate-diplomacy relations that support partner institutions in addressing both climate action and a just energy transition, including community consultations and last-mile distribution.	CR4
➢ Indonesian authorities share the necessary data for providing technical assistance in energy modelling and planning, and on broader topics such as socio-economic and environmental impacts of renewable energy and open tender processes.	PR2
➢ Indonesian partners secure staff resources, procedures and processes to institutionalise nationally driven modelling, update technology catalogues to make informed decisions for least-cost energy investment, and long-term energy planning to increase uptake of more renewable energy sources.	PR1
➢ Additionality and synergy ensured in a dynamic field with many actors and initiatives and insufficient national coordination of development partner support.	IR1
➢ The partnership develops in a way that strategically supports transformational change aligned to partner countries' NDC and SDG targets and related policies and strategies for a just transition.	CR1, CR2, CR4
➢ Indonesian partners engage effectively throughout the programme and value peer-to-peer exchanges of good practice and paths to avoid.	PR1, PR2
➢ The Steering Committee meets regularly as foreseen and is effective in monitoring progress and results and in providing strategic guidance to implementation including ensuring continued alignment to Indonesian priority needs and with emphasis on assumptions and risk factors as well as capacity development results for sustainable outcomes.	CR4
➢ Renewable energy coupled with energy efficiency measures are an enabler to meet future energy demand, including the electrification and digitalisation of society, while improving access to affordable, reliable and clean energy to populations including low-income groups.	CR3
➢ The cooperation contributes effectively to enabling investment to be mobilised, where required, to complement institutional strengthening.	CR1, CR3
➢ Indonesian partners' commitment to an inclusive approach engaging and consulting communities including disadvantages population groups, as well and business communities.	CR4

Annex 5: Budget details

Table A5.1: Summary budget allocations at output level

All numbers in DKK.

Outcomes	Outputs		2026	2027	2028	2029	2030	Sub-total
1: Strengthened least cost and robust energy planning	**1.1:** High quality energy data and technology catalogues	DEA staff	653,318	979,977	979,977	979,977	979,977	4,573,226
		Consultants	205,000	471,500	512,500	471,500	389,500	2,050,000
		Other Costs	24,000	57,000	120,000	147,000	102,000	450,000
		Subtotal	882,318	1,508,477	1,612,477	1,598,477	1,471,477	**7,073,226**
	1.2: Enhanced toolkit for energy system planning	DEA staff	667,723	1,001,584	1,001,584	1,001,584	1,001,584	4,674,060
		Consultants	270,000	621,000	675,000	621,000	513,000	2,700,000
		Other Costs	21,333	50,667	106,667	130,667	90,667	400,000
		Subtotal	959,056	1,673,251	1,783,251	1,753,251	1,605,251	**7,774,060**
	1.3: Energy policy recommendations	DEA staff	469,215	703,823	703,823	703,823	703,823	3,284,508
		Consultants	185,000	425,500	462,500	425,500	351,500	1,850,000
		Other Costs	13,333	31,667	66,667	81,667	56,667	250,000
		Subtotal	667,549	1,160,990	1,232,990	1,210,990	1,111,990	**5,384,508**
							Outcome 1 Subtotal:	**20,231,793**
2: Integration of Variable Renewable Energy	**2.1:** Strengthen partner capability regarding new wind projects.	DEA staff	900,463	1,350,694	1,350,694	1,350,694	1,350,694	6,303,239
		Consultants	255,000	586,500	637,500	586,500	484,500	2,550,000
		Other Costs	34,667	82,333	173,333	212,333	147,333	650,000
		Subtotal	1,190,129	2,019,527	2,161,527	2,149,527	1,982,527	**9,503,239**
	2.2: Strengthened electricity grid stability and grid management	DEA staff	685,587	1,028,381	1,028,381	1,028,381	1,028,381	4,799,109
		Consultants	415,000	954,500	1,037,500	954,500	788,500	4,150,000
		Other Costs	24,000	57,000	120,000	147,000	102,000	450,000
		Subtotal	1,124,587	2,039,881	2,185,881	2,129,881	1,918,881	**9,399,109**
							Outcome 2 Subtotal:	**18,902,348**
3: Cost-effective implementation of Energy Efficiency in buildings and industry sectors	**3.1:** Implementation of incentives and promotion of EE in food and beverage industry	DEA staff	503,137	754,706	754,706	754,706	754,706	3,521,961
		Consultants	185,000	425,500	462,500	425,500	351,500	1,850,000
		Other Costs	26,667	63,333	133,333	163,333	113,333	500,000
		Subtotal	714,804	1,243,539	1,350,539	1,343,539	1,219,539	**5,871,961**
	3.2: Implementation of EE regulation in the public building sector	DEA staff	437,105	655,657	655,657	655,657	655,657	3,059,733
		Consultants	152,500	350,750	381,250	350,750	289,750	1,525,000
		Other Costs	21,357	50,723	106,785	130,812	90,767	400,444

		Subtotal	610,962	1,057,130	1,143,692	1,137,219	1,036,174	**4,985,177**
							Outcome 3 Subtotal:	**10,857,138**
4: Energy transition in provinces	**4.1:** Enhanced local energy planning	DEA staff	513,718	770,578	770,578	770,578	770,578	3,596,029
		Consultants	190,000	437,000	475,000	437,000	361,000	1,900,000
		Other Costs	32,000	76,000	160,000	196,000	136,000	600,000
		Subtotal	735,718	1,283,578	1,405,578	1,403,578	1,267,578	**6,096,029**
	4.2: Improved ability to support implementation of RE projects	DEA staff	530,385	795,577	795,577	795,577	795,577	3,712,692
		Consultants	260,000	598,000	650,000	598,000	494,000	2,600,000
		Other Costs	32,000	76,000	160,000	196,000	136,000	600,000
		Subtotal	822,385	1,469,577	1,605,577	1,589,577	1,425,577	**6,912,692**
							Outcome 4 Subtotal:	**13,008,721**
LTA: Outcome 1			1,000,000	1,500,000	1,500,000	1,500,000	500,000	6,000,000
LTA: Outcome 2			1,000,000	1,500,000	1,500,000	1,500,000	500,000	6,000,000
							LTA Subtotal:	**12,000,000**

Sub-totals per year:	9,707,508	16,455,949	17,481,511	17,316,038	14,038,994		
						Grand total	**75,000,000**

Annex 6: List of supplementary materials

#	Document/information	Internet link if available
1.	Presentation of Indonesia's 10-year Electricity Supply Business Plan (RUPTL) MEMR Press Conference material in English, 26 May 2025	
2.	Indonesia's RUPTL 2025-2034 (in Bahasa Indonesia)	(link)
3.	DEA consultation notes for Indonesian national partners on INDODEPP II	
4.	Memorandum of Understanding between the Governments of Indonesia and Denmark concerning cooperation on renewable and clean energy and energy conservation (renewed in April 2025)	
5.	DEA Global Cooperation on Indonesia - website	(link)
6.	DEA Memorandum on the Multidimensional Concept of Poverty and the Human Rights-Based Approach in the Danish Energy Agency's Government to Government Cooperation	
7.	DEA guidance note on Political Economy Analysis in a Global Cooperation context	
8.	DEA guidance note on Integrated Approach to Exit Strategies	
9.	Denmark's strategy for development cooperation "A Changing World - Partnerships in Development"	(link)
10.	Danida Guidelines – Bilateral Cooperation	(link)
11.	Indonesia enhanced NDC 2022	(link)
12.	The Energy Progress Report 2025 (by World Bank ESMAP; IEA; IRENA, WHO and United Nations Statistics Division)	(link)
13.	World Bank ESMAP RISE indicators for Indonesia	(link)
14.	Indonesia energy data, International Energy Agency (IEA)	(link)
15.	Updated INDODEPP results framework November 2024	
16.	Enhanced Engagement under INDODEPP 2022-2025 to UPR 27 January 2022	(link)
17.	Project Document for INDODEPP 2020-2025 to UPR, 29 October 2020	(link)
18.	ESDM Press Release on INDODEPP 24 November 2020	(link)

Annex 7: Plan for communication of results

Communicating key events, results and / or positive effects of the programme will happen on an ongoing basis and in close coordination between DEA, MCEU, MFA and the Embassy in Jakarta.

The execution of this external communication plan is contingent upon the availability and appropriate use of DEA and MCEU communication channels. Implementation will be aligned with the priorities and requirements of the wider organization, ensuring that communication activities are coordinated, consistent, and supportive of overall organizational objectives. Adjustments to the plan may be made as necessary to reflect evolving needs, resources, or strategic direction

What? (the message)	**When?** (the timing)	**How?** (the mechanism)	**Audience(s)**	**Responsible**
INDODEPP II programme information, selected results targets and results updates against targets.	When DEPP 2026 approved - and updated regularly/ annually	Danida Open Aid	The Danish resource base and taxpayers.	MFA(MYNSEK)
Fact sheet/small brochure ("Kernefortælling") on INDODEPP II. Key messages from INDODEPP II, results, achievements, and effects communicated through relevant channels and / or communication products.	Fact sheet when INDODEPP II is approved and updates as relevant. Other key messages as relevant during implementation.	DEA Global Cooperation website. MCEU website. Social media. Reports and other material produced under INDODEPP (DEA website for Indonesia: link)	Danish resource base and Danish taxpayers. International development partners.	DEA MCEU
For consideration: Fact sheet/small brochure on INDODEPP II in Bahasa (Indonesian national language). Key messages from INDODEPP II and information on INDODEPP II-related key events in Bahasa.	Fact sheet immediately when INDODEPP II approved and updates as relevant.	Fact sheet/small brochure on INDODEPP II in Bahasa and English on Embassy website.	Indonesian national partners and professional community.	Embassy of Denmark in Jakarta
Key messages on INDODEPP II results and achievements, including "impact stories".	During INDODEPP II implementation.	MFA/Danida website and newsletters. World's Best News campaign. State of Green. Social media.	The Danish resource base, international partners.	MFA (MYNSEK)
Key messages on INDODEPP II results and achievements.	As relevant during implementation.	Websites, social media etc. of key national partner institutions (MEMR, PLN, Provincial authorities).	National partners and stakeholders.	National partners

Annex 8: Process action plan

Action/deliverable	Target date	Responsible
Danida Programme Committee Meeting on early draft Framework Programme Document (FPD)/concept note for DEPP 2026	8 April 2025	MFA(KLIMA)
Country formulation mission and consultations with national partners on virtual platforms and in connection with other DEA technical missions, including via brief consultation notes	2nd-3rd quarters 2025 and again, as relevant, after appraisal	DEA
Full DEPP 2026 document package (FPD with 5 country programme documents (CPDs[19])) to appraisal team	24 October 2025	DEA with MFA (KLIMA), MCEU, and formulation consultants
Appraisal of proposed DEPP 2026	24 October 2025-2 February 2026	MFA (LEARNING) with appraisal consultants
Meeting in the MFA External Technical Panel on DEPP 2026	19 February 2026	MFA (LEARNING)
Submission of DEPP 2026 FPD and CPDs for final verification by MFA /LEARNING)	9 March 2026	MFA (KLIMA)
Final verification of DEPP 2026 FPD and CPDs	11 March 2026	MFA (LEARNING)
Approval of DEPP 2026 by the Danish Minister for Foreign Affairs	tbd	Minister for Foreign Affairs
Approval of the DEPP 2026 grant by Finance Committee of the Danish Parliament	tbd	Danish Parliament
DEPP 2026 implementation	1 May 2026 – December 2030[20]	DEA
Meetings of country programme technical working groups	At least twice a year	DEA
Meetings of country programme Steering Committees	Annually	Embassy/national lead partner /DEA
DEA Global Cooperation internal meetings on assessment of assumptions and risks	Quarterly	DEA
Meetings of the DEPP Programme Advisory Group (PAG) to consider progress and issues as inputs to the Strategic Advisory Group (SAG) for any decisions required	Annually	DEA, MFA (MYNSEK & KLIMA), MCEU
Mid-term Review of DEPP 2026 including INDODEPP II	2028	MFA (LEARNING)
Final reporting on DEPP 2026	Early 2031	DEA
Financial closure	Mid-2031	MFA

[19] For CNDEPP (China), INDODEPPII (Indonesia), MXDEPP (Mexico), SADEPP (South Africa), and VNDEPP (Vietnam).
[20] December 2029 for CNDEPP

Annex 9: Draft job profiles for long term advisors

1. Long-term advisor in DGE, MEMR

Title: Long–term energy expert in modelling, planning and regulation
Place of service: The expert will be based in Directorate General of Electricity (DGE) under Ministry of Energy and Mineral Resources (MEMR). Jakarta, Indonesia.

Role Overview:
The role of the Long-Term Advisor is to support Indonesia's energy transition by providing technical assistance on energy system development. Situated within DGE, the role focuses on improving power system planning practices by integrating Danish experience with local efforts to build sustainable, institutionalized expertise. The advisor will work together with experts in MEMR in close cooperation with other stakeholders in the programme, most notably the DEA and local and international consultants.

Key Responsibilities:

- Provide technical assistance on topics related to power system development, including data collection, modelling tools development and policy evaluation to support effective implementation of Renewable Energy sources.
- Engage with experts in DGE on a daily basis to ensure effective transfer of knowledge, throughout different relevant activities in their own technical capacity as well as together with international and local experts. Engaging and coordinate with other relevant partners as needed, including EBKTE, PPSDM EBTKE, NEC and others.
- Support continued improvement of available data products to be used by MEMR for analyses, including updates of the technology catalogues and expansion of datasets such as RE potentials and generation profiles, electricity demand profiles, and transmission system development.
- Support the further development of the existing system modelling platform in DG Electricity (currently based on Balmorel and Sisyfos tools) to ensure the tools are up-to-date and relevant features are integrated effectively. Prioritised features could include better representation of system flexibility and the cost-benefits of different measures in terms of costs and system adequacy impacts.
- Support power system planning through various technical and economic analyses using modelling tools. This includes contributing to work on electricity sector plans (RUKN, RUPTL) as well as other analyses to support the fulfilment of national energy and climate policy targets.
- Help translate technical modelling and analysis results into clear policy recommendations and planning advice, ensuring an effective use of knowledge and resources.
- Facilitate institutionalized capacity building targeted at empowering MEMR experts to independently sustain planning and modelling activities. This includes leading workshops, providing training materials, coaching local instructors, and provide continuous peer-to-peer training to ensure sustainable implementation and maintenance of knowledge.
- Act as liaison among diverse stakeholders including MEMR departments, Danish Energy Agency (DEA) experts, local consultants, and the Danish Embassy's energy sector counsellor to ensure effective implementation of the INDODEPP and that relevant local aspects are considered.
- Be an active part of the INDODEPP, working closely with DEA experts and consultants to ensure proper quality and timing of deliverables, as well as guiding the strategy and facilitate smooth communication between partners. Participate in weekly team meetings.
- Engage with multilateral and donor programs to leverage synergies and coordinate activities effectively.
- Develop and maintain a strong network within the Indonesian energy sector and stay up to date on energy and climate policy development in order to provide sound advice on the design and implementation of activities under INDODEPP.

Success Criteria:

- High-quality data and system modelling tools are well understood and actively used to develop new planning documents, policies and regulation, resulting in overall improved planning practices within MEMR.

- Evidence of sustained and self-sufficient capacity for modelling and power system planning within MEMR.
- Enhanced alignment of Indonesia's electricity sector plans and policies with international best practices and Danish energy transition experience.

Key Qualifications:
In order to fulfil the expected responsibilities and support the success criteria of the programme, the following qualifications are ideally required for the role:

- Advanced degree relevant to energy system development, policy, or planning (e.g. engineering, economics, environmental planning or similar).
- Strong technical and economic understanding of power systems, including aspects such as renewable energy technologies, transmission, storage and system integration.
- Proven experience with power system planning including technical analyses and model-based assessments, such as development of technology catalogues, scenario analyses and policy briefs to support implementation of renewable energy
- Demonstrated expertise in the use of modern system modelling software such as Balmorel, PLEXOS, LEAP or similar, including good data management practices and dissemination of results
- Ability to convert detailed technical analysis into pragmatic policy recommendations.
- Experience with facilitating capacity building and institutional knowledge transfer in government settings.
- Strong understanding of the Danish energy transition process is expected, and familiarity with Indonesian and international energy and climate policies is a distinct advantage.
- Experience working in different cultural environments, with strong inter-personal skills and willingness to adapt to local customs and work styles as necessary
- Proactive and flexible attitude with the capacity to manage and facilitate processes involving parties at different levels in a dynamic work environment.
- Fluency in English is mandatory; knowledge of Danish and Bahasa Indonesia is a plus.

2. Long-term advisor in PLN

Title: Senior expert in renewable energy integration and system operations
Place of service: The expert will be stationed in the state-owned electricity company PLN, Jakarta, Indonesia. The expert must expect to frequently visit - and if needed occasionally work from - other key partner institutions located nearby, e.g. Directorate General of New and Renewable Energy and Energy Conservation (EBTKE, MEMR).

Areas of responsibility/tasks:
The main responsibility will be to serve as a liaison between to Danish and Indonesian partners of the programme. Furthermore, the LTA is expected to serve as an in-house resource and facilitate and assist the cooperation between PLN and DEA. Responsibilities can include one or more of the listed topics/areas:

- Day-to-day consultation and support to relevant PLN experts and managerial staff.
- Coordination of activities together with PLN expert staff, DEA, international consultants and the Embassy of Denmark in Indonesia.
- Leading relevant programme activities including capacity development.
- Coordinate relevant activities with other INDODEPP work tracks.
- Participate in the working groups under INDODEPP and follow up on progress in project activities. The LTA also participate in weekly team meetings within the DEA.
- Support the INDODEPP program implementation as successful completion of listed activities and areas of focus in the approved work programme.
- Advise on the implementation of INDODEPP in a cohesive and coordinated manner that aligns with Indonesian plans and priorities.

- Assist in strengthening the pipeline and implementation of renewable energy, mainly onshore wind.
  - Day-to-day consultation to PLN departments engaged in wind project assessment, planning, procurement and implementation.
  - Provide and/or secure specialist advice: i.e., procurement, spatial planning, or onshore wind physics. This will be done in cooperation with DEA and relevant consultants like DTU wind.
- Contribute to strengthening the PLN analytical and practical day-to-day operation expertise in variable energy integration in electrical power systems and support system development with a focus on securing grid stability and reliability.
  - Assist management and specialists at regional and headquarter level in analyzing electrical system stability and the impact when introducing a large proportion of variable energy generation.
  - Continue the capacity-building program on applying power system analytical tools at the specialist level.
  - Provide a link between the research and development in Denmark, PLN and other relevant Indonesian resource centres.
  - Support grid code support.
- Provide and/or secure capacity building activities across PLN control centers on; balancing and grid stability and control including relevant tools and processes.
  - Automatic Generation Control (AGC)
  - Integration with SCADA and EMS
  - Emergency Power Control (EPC) / System Integrated
  - Protection Schemes (SIPS)
  - Frequency Sensitivity Mode (FSM)
  - Limited Frequency Sensitivity Mode (LFSM)
  - Under-Frequency Load Shedding (UFLS)
  - Dynamic Line Rating (DLR)
  - Safe and calculated implementation: Ensure new VRE and consumption are integrated with current grid limitations in mind, handling potential issues proactively.
  - Prevent cascading failures and system collapse.
  - Optimize power transmission and grid infrastructure use, stretching operational limits for future demands.
  - Monitor and adjust voltage levels using tools to balance supply and demand in real-time, stabilizing frequency and voltage.
  - Set requirements for third parties: Ensure third-party contributors can assist with frequency and voltage support in peripheral areas if the need arises.
  - EMS System Overview
  - Balancing and Load Management
  - Forecasting and Planning
  - EMS Enhancements
  - Implementation of New Technologies fx. Consumption and storage.
  - Control center Operator Training Programs
  - Integration with Other Systems, fx. LFC, AGC and SCADA
  - Dispatch Operations
  - Automatic Balancing
  - Review of current operations to improve balancing
  - Procurement of balancing services
  - Definition of connection requirements
  - Check data and validate that requirements are satisfied
  - Setup for evaluation of systems to improve balancing

- Where needed and relevant provide and/or secure further support on relevant control center and back-office tools and voltage control.
- Provide and/or secure support for implementation of prioritized RUPTL wind projects covering the entire value chain of one or more projects/bundled projects from feasibility study to COD.
  - Contributing to bankable feasibility studies
  - Contributing to PLN capability of evaluating and prioritizing own, subsidiary and IPP projects
  - Contributing to improved tender and procurement processes
  - Contributing to successful implementation and operation
- Assist and share best practices in setting up tender strategies and commercial contracts related to onshore wind projects owned by PLN, PLN subsidiaries and independent power producers (IPPs)
  - Give inspiration for applying the principles of Supplier Relationship Management and other market dialogue practices used in Denmark and Europe.
  - Support senior management discussions on possibilities to promote rapid implementation of RE projects.
- Boost the renewable energy investments under the ten-year rolling investment plan – RUPTL
  - Secure dialog with the Trade Council and investment counsellor representatives at the Royal Danish Embassy where this is possible and relevant. INDODEPP integrity must be kept as a first priority at all times.
- Provide management and policy advice to PLN and INDODEPP
  - As part of the secondment to PLN, engage in PLN management dialogue on strategies and practices to boost renewable energy, particularly wind.
  - Discuss policy implications of planned and ongoing PLN initiatives with Danish Energy Agency and the Danish Embassy.
  - Engage in initiatives by the international donor community, based on PLN and INDODEPP priorities.
  - Share relevant information and report back to the DEA (team and team leader) and the sector counsellor in the event of structural changes in PLN, so that the work program and activities can be adjusted on an ongoing basis.

Some of the above-mentioned tasks will be implemented in cooperation with Danish TSO experts. The senior advisor will have close cooperation with the sector counsellor at the Danish Embassy and DEA. For all the above tasks the LTA is expected to utilize already existing knowledge on PLN, DEA and INDODEPP to secure the highest level of impact and success of the program in its entirety.

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Ministry of Foreign Affairs of Denmark (MFA)
Ministry of Climate, Energy and Utilities of Denmark (MCEU)
Danish Energy Agency (DEA)

Mexico-Denmark Energy Partnership Programme (MXDEPP, 2026-2030)

Country Programme Document

Final

6 March 2026

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Key abbreviations and acronyms

AERNL	Agencia Estatal de Energías Renovables (Renewable energy agency of Nuevo León)
AFD	Agence Française de Développement (French Development Agency)
AI	Artificial Intelligence
AMG	Aid Management Guidelines
AMLO	(former) president Andrés Manuel López Obrador
BOGA	Beyond Oil and Gas (BOGA)
BTR	Biennial Transparency Reports
CAPEX	Capital expenditure
CCMEP	Mexico-Demark Climate Change Mitigation and Energy Programme
CENACE	Centro Nacional de Control de Energía (National Energy Control Centre)
CFE	Comisión Federal de Electricidad (state-owned national electricity utility)
CNDEPP	China-Denmark Energy Partnership Programme
CENACE	Centro Nacional de Control de Energía (National Energy Control Centre)
CFE	Comisión Federal de Electricidad (state-owned national electricity utility)
CICC	Comisión Intersecretarial de Cambio Climático (inter-ministerial body, represented by 15 ministries, established under the climate act)
CNE	Comisión Nacional de Energía (National Energy Commission)
CNH	(Former) Oil/gas regulator
CONUEE	Comisión Nacional para el Uso Eficiente de la Energía (National Commission for the Efficient Use of Energy)
CO_2	Carbon dioxide
COP	Conference of the Parties (to the UNFCCC)
CPD	Country programme document in DEPP 2026
CRE	(Former) Electricity Regulator
DAC	OECD Development Assistance Committee
Danida	Danish International Development Cooperation
DEA	Danish Energy Agency
DEA-GC	DEA Global Cooperation
DEPP	Danish energy partnership programmes
DKK	Danish kroner
DTU	Danish Technical University
EE	Energy efficiency
EIFO	Export and Investment Fund of Denmark
ENCC	Estrategia Nacional de Cambio Climático (national climate strategy)
Energinet	Danish Transmission System Operator
EOR	Energy Outlook Report
ESIA	Environmental and Social Impact Assessments
EU	European Union
FDI	Foreign Direct Investment
FPD	Framework programme document
GDP	Gross domestic product
GEUS	Geological Survey of Denmark and Greenland
GiZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (German Society for International Cooperation)
GHG	Greenhouse gases

GOWA	The Global Offshore Wind Alliance (GOWA).
GtG	Government to Government
GW(h)	Gigawatt (hours)
HRBA	Human Rights Based Approach
HVDC	High-Voltage Direct Current
IEA	International Energy Agency
IFDK	Impact Fund Denmark
IFI	International Financial Institution
IEA	The International Energy Agency
IDB	Inter-American Development Bank
IFC	International Finance Corporation
INAI	Instituto Nacional de Transparencia, Acceso a la Información y Protección de Datos Personales (Federal Institute for Access to Public Information and Data Protection)
INDODEPP	Indonesia-Denmark Energy Partnership Programme
INECC	Instituto Nacional de Ecología y Cambio Climático (National Institute of Ecology and Climate Change)
INEEL	Instituto Nacional de Electricidad y Energía Limpia (National Institute of Electricity and Clean Energy)
IRENA	International Renewable Energy Agency
IPCC	Intergovernmental Panel on Climate Change
KfW	Kreditanstalt für Wiederaufbau (German state-owned investment and development bank)
KLIMA	Department for Climate in MFA
LAVA	Land availability analysis
LCoE	Levelized cost of electricity
LGCC	Ley General de Cambio Climático (General Climate Change Law)
LNOB	Leaving no one behind
LTA	Long-term advisor
MCEU	Danish Ministry of Climate, Energy and Utilities
MFA	Ministry of Foreign Affairs of Denmark
MFA (KLIMA)	MFA Department for Green Diplomacy and Climate
MFA (MYNSEK)	MFA Secretariat for Strategic Sector Cooperation
MoU	Memorandum of understanding
MTR	Danida Mid-term Review
MXDEPP	Mexico-Denmark Energy Partnership Programme
Nafin	Nacional Financiera, S.N.C., Banca de Desarrollo
NDC	Nationally Determined Contribution under the UNFCCC
NREL	U.S. National Renewable Energy Laboratory
ODA	OECD Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
OSW	Offshore wind
PAG	Programme Advisory Group (for DEPP, consisting of the MFA, MCEU, and DEA-GC as the secretary)
PANT	Human rights principles of participation, accountability, non-discrimination, and transparency
PD	Programme Document
PECC	Programma Especial de Cambio Climático (The national climate program of Mexico)
PEMEX	Petróleos Mexicanos (state-owned oil company)
PLADESE	Plan de Desarrollo del Sector Eléctrico (power sector development plan)

PLADESHi	Plan de Desarrollo del Sector de Hidrocarburos (hydrocarbons Plan)
PLATEASE	Plan para la Transición Energética y el Aprovechamiento Sustentable de la Energía (energy demand and energy efficiency outlook)
PND	Programa Nacional de Desarrollo (National Development Program)
PROSENER	Programa Sectorial de Energía (Energy Sector Plan)
RE	Renewable energy
SADEPP	South Africa-Denmark Energy Partnership Programme
SAG	Strategic Advisory Group (consisting of the MFA, MCEU, and DEA-GC as the secretary)
SC	Steering Committee
SDG	Sustainable Development Goals
SEA	Strategic Environmental Assessments
SEMARNAT	Secretaría de Medio Ambiente y Recursos Naturales (Ministry of Environment and Natural Resources)
SENER	Secretaría de Energía (Mexican Ministry of Energy)
SMART	Specific, measurable, achievable, relevant, and time-bound
SME	Small and medium-sized enterprises
SSC	Strategic sector cooperation
ToR	Terms of Reference
TSO	Transmission system operator
TWG	Technical Working Group
UNAM	Universidad Nacional Autónoma de México (National Autonomous University of Mexico)
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UPAC	(refers to) large industries
USMCA	United States-Mexico-Canada Agreement
VA	Voluntary Agreement
VNDEPP	Vietnam-Denmark Energy Partnership Programme
VRE	Variable renewable energy

1. Introduction, context, strategic considerations rationale and justification

1.1 Introduction and background

This Country Programme Document (CPD) outlines the background, justification, objectives, theory of change, results framework, and management arrangements for Danish support for the Mexico-Denmark Energy Partnership Programme (MXDEPP). This CPD is one of a total of five CPDs under the Danish Energy Partnership Programme with China, Indonesia, Mexico, South Africa, and Vietnam 2026-2030 (called DEPP 2026 for its acronym, as 2026 is the year the programme starts). A DEPP 2026 Framework Programme Document (FPD) provides the overarching description of DEPP 2026 and contains information relevant to all five country programmes. Cross-references to the FPD are therefore made where relevant.

There has been a strategic partnership between Mexico and Denmark since 2014, where the two countries agreed to technical government to government cooperation in areas covering renewable energy, energy efficiency and climate change. The table below outlines the trajectory of cooperation within climate and energy.

Table 1.1: History of Mexico-Denmark energy cooperation

CCMEP 2014-2017	DEPP II 2017-2020	DEPP III 2020-2026
Partners: SEMARNAT/INECC, SENER/CENACE and CONUEE Highlights/outcomes: • Climate policy evaluation guidelines officially adopted; substantial analytical support for Mexico's first NDC. • Peer-to-peer co-operation between CENACE and Energinet; scenario analyses/modelling; on-shore wind atlas. • Guidelines and tools for EE building requirements; Energy audits in large industries and development of Voluntary Agreements.	Partners: SEMARNAT/INECC, SENER/CENACE and CONUEE Highlights/outcomes: • Supported NDC update and modelling capacity in INECC. • Since 2018 the energy reform was backtracked, RE tenders stopped, and cooperation with SENER halted. • Voluntary agreement scheme. Energy savings that will result in annual energy savings of 200 GWh after 3-years. EE in new buildings prove challenging.	Partners: SEMARNAT/INECC, Jalisco & Nuevo León, CFE, CENACE and SENER Highlights/outcome: • Contribution to update of the national climate strategy and contribution to new NDC-target introducing for the first time an absolute emissions cap and strengthening of modelling capacity. • Cooperation with SENER paused due to AMLO government but rapid re-engagement in November 2024 and with focus on capacity strengthening to deliver on ambitious RE targets. • Advancements in energy efficiency and energy management systems knowledge at local authorities, large industries and SMEs in the states of Jalisco and Nuevo León.

MXDEPP builds on the earlier cooperation and in particular DEPP III which ends in April 2026. DEPP III responded to changes in government and new Mexican priorities at the time which meant less direct engagement with the Mexican Ministry of Energy (SENER) than was the case for the earlier part of DEPP II (2017-2020) and particularly the Mexico-Denmark Climate Change Mitigation and Energy Programme (CCMEP, 2014-2017).

The Mexican society is faced by several profound challenges in the energy sector that impede both energy security, long-term affordability, reliability and sustainable development. There is a persistent lack of consistent, long-term energy planning based on a data-driven least-cost approach hindering transparent regulation, creating an uncertain environment for investments and a slowed infrastructure modernization. Mexico is also highly dependent on natural gas imports from the U.S., with around 70% of natural gas

demand pct. covered by pipeline imports from the U.S.[1] with little or no possibility of domestic storage. The dependency on U.S. natural gas exposes Mexico to external supply risks and price volatility, weakening Mexican energy sovereignty. Furthermore, the electricity transmission and distribution networks are under pressure: while electricity demand is expected to continue growing (projections from the National Electrical System Development Program, PRODESEN, estimate an increase in net electricity consumption of 38% from 2024 to 2038)[2], existing infrastructure often lacks capacity, flexibility, or technology necessary to integrate the needed large-scale variable renewables.

With the change in government in the second half of 2024 new ambitious and accelerated energy and climate goals have been set. The government of President Sheinbaum has an ambition of boosting the deployment of more renewable energy with a goal of clean energy[3] covering up to at least 38% of electricity production by 2034 and to align Mexico's energy policy with its NDC and net-zero targets. To meet these targets and mitigate the challenges faced, Mexico will need to undertake a massive rollout of renewable energy and greatly increase energy efficiency in the years to come. Mexico possesses the potential to transform its energy matrix and according to the U.S. National Renewable Energy Laboratory (NREL), Mexico has a technical potential of roughly 24,918 GW of solar photovoltaic capacity, 3,669 GW of wind, 2.5 GW of conventional geothermal, plus existing hydropower[5].

However major systematic and institutional challenges exist and unlocking this massive potential will require: 1) long-term energy planning based on transparent and statistic sound assumptions 2) a more efficient use of energy in the industry 3) a development of a reliable, affordable and flexible power system and 4) a transparent and enabling regulatory framework for developing large scale renewable energy projects. This is where the Danish expertise and experiences have been and will continue to be extremely important for the sustainable development of the Mexican society, as Denmark can provide 50 years of experience in field of energy transition and can help create choice awareness among decision makers in the Mexican energy sector.

In order to handle the challenges faced, the Mexican government are in the process of implementing several policy measures aimed at kick-starting the green transition. The new energy reform (2024) and its associated secondary laws is expected to drive the transition and centralize more power at SENER. According to the energy transition law SENER will be mandated to obtain data and energy statistics from all actors including the state-owned electricity company (CFE) and petroleum company (PEMEX) for use in sector-wide planning, as described in further detail in the political economy analysis in Annex A1.2. The secondary laws under the reform underscore that the security of supply and affordable energy for end-users are key focus areas of the new government, as the sector is a necessary enabler of economic growth for all parts of society for the Sheinbaum administration. The new ambitious energy policy will require improved planning and modelling capacity, an extended and more flexible grid and exploring Mexico's on- and offshore wind potential. There is a momentum that fosters an extended basis for a green energy transition and cooperation on this with Denmark and other international partners. SENER, SEMARNAT and their affiliated institutions are under pressure to deliver quickly on the green ambitions and Danish expertise in the field of climate and energy is demanded by the Mexican authorities to support a rapid implementation of the goals set. DEA is well positioned here based on the previous cooperation.

While the new administration and its proposed energy reform presents a set of opportunities, Mexico still faces significant institutional challenges for a massive rollout of renewable energy, especially due to the institutional legacy of policy actions made under the former president Andrés Manuel López Obrador (AMLO). AMLO shut down most renewable energy investment and planning and AMLO effectively transferred power sector planning to CFE away from SENER as well as putting significant investment in

[1] The New York Times (2025)
[2] S&P Global (2025)
[3] Official target is yet to be formally published in PROSENER, but the expectation is that the target will be 38%
[4] Clean energy is by Mexican standards defined as wind, solar, hydro, biofuels, geothermal energy, efficient co-generation, CCS-technologies and nuclear energy. Currently the share of clean energy is 23 pct. of total electricity production.
[5] NREL (2022)

oil and gas production, like the new oil refinery project Dos Bocas. With the energy reform of March 2025, the Sheinbaum government has confirmed the rollback of significant elements of the liberalization effort of the 2013 reform. This is with the purpose of taking even more control of PEMEX and CFE and making them guarantors for national energy security and as key instruments in restoring Mexico's energy sovereignty. As such, for the electricity sector, the prioritization of CFE on the dispatch risks undermining incentives for the organization's green transition or need to remain competitive as well as incentives for private investors, given it is guaranteed the dispatch of 54% of electricity generation. Furthermore, institutional stickiness and resistance within the energy sector of Mexico, combined with scarce resources and lack of the right technical capabilities also prove to be a challenge for the green transition of Mexico.

Although this part of the Sheinbaum energy reform is a serious backtrack from the 2013 energy reform, there is some similarity to the situation in Denmark before the liberalization of the Danish electricity market in the early 2000s. What is important for the inclusion of additional renewable energy are clear rules and framework conditions, and DEA can assist in this process and work with the Mexican partners to make the new conditions as flexible, fair and transparent as possible. In addition, CFE's opportunity to get international financing will be enhanced which will help CFE to start investing more into renewable energy projects.

1.2 Country context

Mexico has a federal representative democratic republican government established by the Constitution, which is divided in three levels (federal, state and municipal). Mexico has 32 federative entities[6] that are autonomous and independent of each other. At the federal level decision-making is centralized in the presidency, leaving policy proposals and coordination effectively controlled by the presidency and the ministries.

With a population of nearly 130 million people, a rich cultural history, great diversity, and a favourable geography with abundant natural resources, including significant oil and gas reserves and good conditions for renewable energy production, Mexico ranks as the 12th largest economy in the World and is the second largest in Latin America, after Brazil. Mexico stands out for its strong macroeconomic framework and institutions, a relative stable currency, an open trade policy, and a diversified manufacturing base, highly integrated into global value chains. It is among the most open economies globally thanks to factors such as its proximity to major consumer markets and a wide array of trade agreements, particularly the United States-Mexico-Canada Agreement (USMCA). Its high integration with the U.S. economy also makes it highly reliant on the U.S. business and policy cycle. The so-called nearshoring trend with the regionalisation of value chains, closer to end markets, driven by the former Biden government of the U.S. provided new opportunities, particularly in manufacturing and related services such as logistics, utilities, and finance. It has yet to be determined whether the recent halt in foreign direct investment (FDI) will a longer-term trend, which again will depend on the outcome of ongoing high-profile negotiations between the U.S. and Mexican governments. More than one year into the new US administration, the Mexican government is generally considered by financial markets to handle the trade policy situation well, evident by the Mexican peso performing better than most other currencies, vis a vis the US dollar. Initial responses from the Sheinbaum government have been to maintain a low profile and largely align its tariff policy towards countries like China, to that of the USA with the view to maintain the favourable USMCA as close to its current form as possible.

Oil products are by far the largest source of energy in final consumption making up 61% and renewable energy[7] only making up around 13%. Most of the primary energy produced in Mexico is crude oil and natural gas. In 2022, these accounted for 51% and 23% of total primary energy production, respectively, but it has declined significantly in recent years. Overall, domestic primary energy production in 2022 was 16% lower

[6] 31 states and Mexico City which counts for a fully autonomous entity

[7] Excluding traditional uses of biomass such as burning collected wood, agricultural byproducts or dung for cooking or heating

than in 2014. On the other hand, national energy consumption has been increasing since 2015. The deficit between crude oil and gas production and consumption means that Mexico's energy economy and politics are tightly linked to a high dependency on USA. The vast majority of natural gas, used in the power sector and heavy industries, is imported from Texas by pipeline. Currently, Mexico's natural gas storage is insufficient, putting Mexico's energy security at a high risk, especially with the larger uncertainty in the relationship with U.S. administration in terms of trade and tariffs. Increasing domestic production of solar, wind and geothermal energy, will help Mexico reduce this dependency on fuel imports.

Energy poverty is a predominant issue, with 13.5 million people living in energy poverty conditions lacking access to affordable and reliable energy. The government invests heavily in electricity subsidies; however, subsidies disproportionately benefit higher-income users. Vulnerable groups, such as women and youth, and particularly rural and indigenous communities, are more susceptible to poverty and inequality. These vulnerable groups are also disproportionately affected by the adverse effects of climate change, threatening to potentially worsening the social and economic disparities of the country. Furthermore, indigenous communities are particularly vulnerable to the adverse effects of natural resource extraction and large infrastructure projects, including the renewable energy sector. Inadequate consultation processes are a recurring issue with large infrastructure and energy projects, often proceeding without obtaining free, prior, and informed consent, leading to conflicts and legal disputes.

1.3 Results and lessons learned from previous programmes

Denmark has over the years provided analytical and modelling support to the development of climate goals for Mexico's NDC as well as to some of the central national policy and strategy documents on climate change mitigation, such as the National Strategy on Climate Change (ENCC), and the national climate programme (PECC), both of which are mandatory according to Mexico's law on climate change (LGCC). In September 2024, the Mexican government updated the national climate strategy based inter alia on a close collaboration within scenario modelling between DEA and INECC and SEMARNAT. This led to DEA being invited to support the modelling for the Mexican NDC for 2035 and Mexico's net-zero target which were presented at the COP30 in Belém.

The results across the three outcomes of DEPP III are summarised in the table below.

Table 1.2: Key results achieved under DEPP III in Mexico

Outcome	Results
The communication by SEMARNAT and INECC on climate change mitigation pathways and public policy choices, including for potentially raising 2030-ambition level and beyond, is duly informed by integrated scenarios and state-of-the-art tools for modelling, and by enhancing sub-national efforts.	Capacity development of SEMARNAT and INECC largely achieved, having more structured tools at their hands and being able to independently update them. INECC in particular, have increased their capacity in regard to understanding the models, defining scenarios and using the results in their support of policy development. However, they lack resources, both in manpower and funds, which makes it difficult for them to operate the models on their own. A significant achievement was the contribution to Mexico's new climate strategy especially though the focus on scenario modelling which was not part of the earlier climate strategy from 2013. The current modelling setup in INECC is continuously informing decision making on new climate targets and policies, particularly in defining Mexico's NDC 3.0, net-zero target and new climate program. It was decided not to go ahead with developing the knowledge and training platform for sub-national climate change mitigation policy development and implementation measures within INECC, as this task ended up being covered by another international cooperation.

Mexico is fulfilling the enhanced energy efficiency goal presented in the Transition Strategy to Promote the Use of Cleaner Technologies and Fuels	Largely achieved on a subnational level in two federal states: Jalisco and Nuevo León. Modelling tools have been finalised and enterprises in Jalisco and Nuevo León have been exposed to energy management through energy audits at 13 different enterprises and in some cases the enterprises have already started to implement relevant measures. Progress in energy efficiency at the Energy Agency of Jalisco (AEEJ) and within municipalities also on track. Looking at the specific audits made in the chemistry sector it is estimated that the implementation of Danish recommendations has led to annual savings of 815 tons CO_2. Furthermore, work has also led to increased industry engagement on energy savings and increased dialogue with the local authorities.
CENACE has sufficient capacity to plan and operate the power transmission system during the challenges stemming from the green transition; and its contributions to climate mitigation are identified	As a result of a lack of commitment from SENER and CENACE, the outcome did not progress – although during the last 18 months there has been some progress with some workshops and training taking place via the cooperation with UNAM.

A main lesson has been the importance of understanding the local and international context of the energy sector, and shaping the aims of the cooperation using a flexible and agile approach, focused on partners' structural needs, as operators in a domestic and international political economy. In Mexico, this meant withdrawing from some areas, strengthening others, and re-engaging when political interest returned. Working at the state level and with industries on energy efficiency built local ownership, and created experiences that can be scaled nationally. Partnerships with academic and non-governmental institutions, such as National Autonomous University of Mexico (UNAM), have also been valuable, helping sustain a broader knowledge base and inspiring similar efforts in other DEPP countries. Knowledge sharing and capacity development take time, moving at different speeds. During preparation of MXDEPP, the government raised ambitions and accelerated its implementation plans.

Another key lesson is the value of early partner assessments and a stronger, systematic approach to capacity development. DEA's new guide and the presence of a Long-term Advisor (LTA) in SEMARNAT and INECC have been crucial in supporting climate work and opening cooperation with SENER, where the LTA have now been given a desk and helps build the new analytical and modelling teams. SERMANAT and INECC have during DEPP III enhanced their capacity to work with modelling results, defining scenarios and using the results in their support of policy development. An example of this has been that INECC has been begun using scenario modelling to formulate the new Mexican climate strategy. The previous Mexican Climate Strategy from 2013 was not informed by scenario modelling.

These experiences have deepened DEA's understanding of partner strengths and constraints. Building on political capital, capacity, and mutual understanding of Denmark's energy transition, the next MXDEPP phase will be more focused on implementation - using modelling not just for policy, but also to guide concrete investment planning and support Mexico's ambitions to decarbonize while meeting growing energy demand. For example, under DEPP III, training SENER in using land availability analysis (LAVA-tool), enables SENER to locate the best sites for building out renewable energy infrastructure. This can also potentially inform the investments decision made by CFE. The capacity development within the LAVA-tool will continue under MXDEPP.

1.4 Justification and alignment with Denmark's development policy priorities

MXDEPP's contribution to Mexico's just and inclusive energy transition and climate goals are in line with Danish priorities as set out in Denmark's new Strategy for Development Cooperation (A Changing World - Partnerships in Development, 2025) which emphasises honest, interest-based partnerships rooted in mutual benefits.

MXDEPP will underpin progress on SDG 7[8] (Affordable and Clean Energy) by assisting the Mexican lead ministry and its agencies in long-term planning, integration and regulation of renewable energy and energy efficiency measures with the aim to supply affordable, reliable and sustainable energy for all based on least cost development. MXDEPP also targets advancement in SDG 13 (Climate Action) as it will support the Government's actions to mitigate climate change and its impacts, including through integrating climate change perspectives into long-term planning and reducing emissions through energy efficiency and greater use of renewable energy. The programme will also contribute to several other SDGs since energy is an enabler of wider socio-economic development.

In relation to using economic diplomacy as a strategic lever, Mexico was Denmark's 26th largest export market in 2023 with a total export of goods and services worth of 14.4 billion DKK corresponding to 0.8% of total exports. Imports for the same year was 10 billion DKK, resulting in a positive trade balance of 4.4 billion DKK. Denmark's direct investments in Mexico were DKK 13.3 billion by the end of 2023 and 99 Danish owned subsidiaries in Mexico employed a total of 34,804 people. Danish companies in renewable energy and energy efficiency have been present in Mexico for decades and have large production lines spread-out across the country, focused both on the U.S. and Canadian market but also to some degree on the Mexican domestic market. Danish project developers and technology owners in the energy area sector are working on large scale PtX, petrochemical and renewable energy projects at different stages. Danish companies closely follow policy and legislative developments, along with geopolitical trends, and have long-term strategic interests in Mexico.

MXDEPP will support Danish economic diplomacy by help spurring creation of better regulatory framework in Mexico based on Danish experiences including transparent tender processes and also provide opportunities for enhanced Danish investments in the Mexican energy sector, for instance through Mexico's new public private financing scheme, which is part of the recent energy reform. This is only possible because the DEA is a "no-strings-attached" government partner to the relevant energy authorities in Mexico, and that the DEA is a trusted partner in the development of a green and affordable energy system. The MXDEPP will support Danish economic diplomacy in the specific following ways:

- Long term energy planning. Having agreed data and assumptions behind energy planning, will help create a level playing field, with the aim to achieve the lowest cost of energy in Mexico, while also sustaining a security of supply for industry actors.
- Better and evidence-based regulatory frameworks in Mexico could contribute to enhance the electricity and system services markets, with better defined roles and rules. Creating transparent tender processes for new developments, involving a broad range of stakeholders, including the private sector, can contribute to de-risking projects and pave the way for increased investments in green solutions.
- The aforementioned fundamentally helps reduce barriers and secure stable framework conditions, improving market conditions and attractiveness of the Mexican market for Danish companies with green solutions.
- As global leaders in their field, many Danish companies can achieve a comparative advantage due to the MXDEPP, as this energy partnership focus on promoting policies and regulation that favours high-quality solutions based on a long-term economic and sustainability perspective rather than short term capital expenditure (CAPEX). An example is within energy efficiency in industry which provides good opportunities for Danish providers of energy efficient equipment and components. Danish developer of solar and wind are also potential investors and are already present, and see opportunities provided there are improvements. Danish industry actors in Mexico have in a dialogue with DEA and the Embassy highlighted that the lack of transparency in regulatory frameworks and challenges in the existing grid infrastructure is a significant challenge.

[8] The SDG 7 Energy Progress Report 2025 (by World Bank ESMAP; IEA; IRENA, WHO and United Nations Statistics Division) (link). The SDG7 data for Mexico can be seen here

During consultations, Mexico has expressed interest in Danish investment and technology to accelerate and scale implementation of renewable energy investments, along with government plans for 3 GW onshore wind projects, planned to be raised by CFE by 2030, utilising the new mixed financing scheme. The Danish embassy is supporting CFE through an SDG Engagement Facility project of 3.5 million DKK to assist CFE in fast-tracking these plans. Danish investors and developers as well as technology owners, are potentially interested in this opportunity. In connection with this the Embassy has facilitated several senior level dialogues between EIFO and CFE. EIFO is also in regular dialogue with large commercial Mexican banks, since early 2024, following the signing of the MoU between the Embassy and the DEA and CFE, following the land wind plans closely[9]. With the change of name and geographic focus, Impact Fund Denmark (IFDK, formerly IFU) has also shown early interest in the area of energy and water efficiency. An increased focus from the Mexican government on EE in industry could lead to good opportunities for Danish providers of energy efficient and water saving equipment and components.

1.5 Target groups, coordination and cross-cutting concerns

Around 13.5 million people in Mexico live in energy poverty, lacking reliable and affordable services. Many households rely on coal, firewood, or manure for cooking and heating, exposing over 12 million people to severe health risks from indoor air pollution. Rural and indigenous communities are the most affected, with 70% of indigenous people living in multidimensional poverty and facing unequal access to subsidies. Frequent blackouts also increase risks of violence, particularly for women, and worsen living conditions.

MXDEPP will integrate the HRBA principles of transparency, participation, accountability, and non-discrimination (PANT) into its institutional and technical collaboration. DEA will jointly with partners see to that programme activities are executed in alignment with the partners own ambitious strategies in relation to gender, equality and human rights relevant for the energy sector cooperation. Furthermore, DEA will through dialogue with partners be attentive to the importance of do-no-harm, acknowledging the risk of unintended adverse socio-economic impact of transitions to renewables. In dialogue with partners, and when agreeing on annual work plans, DEA will do the following:

- Advise partners to conduct consultations with stakeholders, including in affected communities and the private sector.
- Include considerations of equal access to reliable electricity services for all societal groups, especially vulnerable populations, including actual lifetime and externality costs, such as air pollution in energy models and scenarios.
- Ensuring that energy models and specific analyses do not exclude parts of society, e.g., vulnerable groups and that the employment effects of different green energy transition scenarios are examined.
- Advise partner authorities conduct open consultations, allowing relevant stakeholders, including the private sector, to contribute data and knowledge.
- Seek to make the learnings from the energy modelling available to inform further macro-economic analysis including engaging in relevant coordination, exchanges and knowledge-sharing with other development partners and multilateral institutions who develops complementary socio-economic analytical work, that supports a deeper understanding of costs, benefits and implication of a just energy transition.
- Discuss with partners how new regulations and policies take vulnerable groups into account.
- Consider/propose new assumptions and criteria in model development to ensure the inclusion of more regions or population groups (if they were previously excluded).

[9] Currently they are awaiting publishing of secondary regulations to the 2025 Energy Reform which will likely determine the financing and developer engagement models. Expected to be clear before the final approval of MXDEPP.

While clean cooking is a government priority, but not a core MXDEPP activity, MXDEPP will indirectly support vulnerable groups by promoting renewable energy that reduces biofuel dependence, while ensuring projects respect indigenous rights, gender equality, and community safety

International standards for social and environmental safeguards will be applied, including stronger consultation, Strategic Environmental Assessments (SEA), and Environmental and Social Impact Assessments (ESIA). These processes will help capture local benefits such as jobs, supply chains, and regional development. Given high levels of violence and weak judicial accountability in Mexico, MXDEPP will also integrate a Human Rights-Based Approach (HRBA), strengthening transparency, accountability, and protection of community and land rights in renewable energy development.

Gender equality is considered as a cross-cutting issue in the DEPP 2026 programme across all five countries. Although gender equality can be difficult to reflect in energy modelling or in more technical discussion about integrating variable renewable energy, opportunities exist to reflect gender in many other areas. In fact, a green energy transition is an opportunity to achieve strong gender balance in employment in the sector and differentiated impacts between women and men when it comes to potential benefits and risks of adverse impacts. Training and capacity development activities should strive to strengthen the gender balance, and community consultations and co-benefits should consider the gender differences. Ensuring a gender lens in MXDEPP activities will be important, including striving for gender equality in programme knowledge exchange and capacity development, in alignment with the partner organizations' gender policies.

Throughout the MXDEPP, the DEA will share experiences from Denmark with balancing different societal concerns in planning and energy policy development and maintaining a dialogue with the Mexican authorities on the potential risks of adverse socio-economic impacts of the green transition.

1.6 Choice of partner institutions

The roles and responsibilities of the primary partner institutions for MXDEPP are outlined below:

SENER (Main partner) - Responsible for formulating and implementing policies and regulations related to Mexico's energy sector and is therefore key to the cooperation. SENER has strategic oversight of CONUEE, CENACE and indirect oversight over PEMEX and CFE and has a close cooperation and oversight of the new energy regulator, CNE. During the previous government of Mexico, SENER lost a number of in-house capacities with regards to long-term energy planning, energy outlooks, rollout of renewable energy and oversight of state-owned energy companies. MXDEPP will support the ministry in rebuilding this capacity. During DEPP III SENER has included other relevant organization such as CFE and PEMEX in the dialogue and cooperation. This is expected to continue in MXDEPP.

CENACE - responsible for the control centres dispatching power generation plants; managing the transmission system and operating the wholesale power market and for integrating renewable energy into the power system. CENACE employees are technically highly qualified although subject to political oversight by SENER which limits their autonomy. CENACE is seen as key to the integration of increased shares of VRE. Technical support on system readiness for integration of high shares of VRE has been in high demand from the Mexican side.

CONUEE - responsible for preparing laws, regulations and norms on energy efficiency; promoting energy efficiency at national and sub-national level and management of energy data. CONUEE has a high level of technical knowledge in energy efficiency and long history of efficient international co-operation but compared to their mandate they have limited staff resources for the tasks that they need to perform and difficulties enforcing the regulations, and they have limited influence over SENER's long term strategic directions. The General Director of CONUEE is highly acquainted with the DEPP modality from the two previous phases of the collaboration.

SEMARNAT - responsible for preserving and promoting environmental priorities and raise climate change ambitions. Responsible for defining Mexico's NDC-targets, representing Mexico and international climate change fora and for developing climate mitigation policies. SEMARNAT are well qualified but compared to their mandate they have limited staff resources for the tasks that they need to perform. SEMARNAT has been a key partner with DEA and this has led to a close and highly valued cooperation in the modelling of Mexico's new NDC and net-zero targets. This has helped sustain the energy modelling capacities and been instrumental to intergovernmental collaboration in Mexico where SEMARNAT and INECC with the help of DEA have shown the benefits of optimisation modelling. As SEMARNAT is responsible for the Mexican climate agenda, it will continue to be a key partner for Denmark, also from a climate diplomacy point of view.

INECC - under SEMARNAT, responsible for providing the data and calculations behind all climate change related policies, targets and strategies. INECC curates and has access to the data and technical calculations behind GHG-emission reduction targets, with relevance for other partners as well. In addition, INECC is well connected across all sectors related to NDC-targets, for instance having a close cooperation with SENER. Capacity within climate modelling has been developed with INECC since 2014, and they will continue to be a central partner for DEA. As is the case for SEMARNAT, INECC faces limited staff resources.

AERNL - as the renewable energy agency of Nuevo León, AERNL is responsible for driving the green transition in the state of Nuevo Leon and securing (green) energy supply to the state and the industrial sector. AERNL is based under the Ministry of Economy in Nuevo León. MXDEPP is foreseen to support the full implementation of the climate partnership model with industry clusters in the region for which reason AERNL is an essential partner. DEA has had a close cooperation with AERNL during DEPP III. AERNL is familiar with the DEPP modality, with the cooperation anchored at the management level.

SMA - as the Environmental Ministry in Nuevo León SMA is responsible for protecting the environment and reducing GHG emissions in Nuevo León. SMA although affected by limited human resources has benefitted from DEA capacity development and particular in enforcement of energy efficiency in buildings. SMA is together with AERNL an essential partner for the climate partnerships.

During the AMLO government, DEA established broader institutional partnerships with universities and other relevant stakeholders. As part of the securing broader stakeholder engagement in the modelling, these stakeholders will continue to play a role in the next phase of the programme.

1.7 Coordination with other donor activities and multilateral engagements

Key international donors in Mexico's energy and climate sector include Germany (GIZ and KfW), the United Kingdom (UK PACT), France (AFD), the World Bank, International Finance Corporation (IFC), Inter-American Development Bank (IDB), European Investment Bank (EIB), and the International Energy Agency (IEA). The U.S. was once a major partner, but cooperation has stalled since the Trump administration took office.

GIZ runs a broad portfolio on energy efficiency, renewables, climate, and hydrogen, with a focus on SMEs. KfW provides credit lines for SME efficiency and sustainable housing, and is interested in joint concessional finance for green infrastructure with Denmark and other European partners. The UK supports climate action, solar energy, offshore wind, and clean cooking.

IEA has had limited activities in Mexico in recent years, but maintains a contact point, based in Paris, in charge of developing cooperation with SENER, focused on energy efficiency. Almost all the mentioned donors and international financial institutions (IFIs) are engaged in supporting different energy efficiency activities, but DEA has a niche in the support for EE in large industries which is also why it is a focus area for Danish support in MXDEPP.

The World Bank is re-starting its cooperation with Mexico focussing on EE co-operation with SENER but also looking into other pillars of work such as geothermal energy, offshore wind, clean cooking, green mobility and green hydrogen.

Denmark stands out as a key actor working directly with SENER on energy modelling and planning, as well as the only donor working with INECC and SEMARNAT on the numbers behind the Mexico's new NDC and net-zero targets. Through DEPP, DEA has built a strong position by sustaining cooperation with UNAM and INECC, and by specializing in energy efficiency for large industries - a niche compared to other donors' SME focus.

Iniciativa Climática de México (ICM) is the most influential NGO in Mexico within the climate change agenda. Their importance has increased with the creation of the affiliated think tank Instituto de Desarrollo, Energía y Ambiente (IDEA), with a potent energy system modelling branch. ICM and IDEA are funded by several international donors, including GIZ, UK Pact, international foundations as well as significant philanthropic support via Children's Investment Fund. ICM and IDEA have proven to be well connected in both SENER and SEMARNAT, particularly in the areas of interest for the DEPP cooperation, including energy system modelling, capacity-building activities, offshore wind and flexibility of the power system. Under DEPP III there has been a constructive cooperation with ICM and IDEA.

The Embassy has a close and frequent dialogue with the other donors in the Mexican energy sector, including the EU-delegation. SENER has also (by the initiative of the World Bank) set up a coordination arrangement between relevant donors discussing different relevant topics. The DEA LTA and Embassy sector counsellor have a close dialogue with SENER on activities made by other donors, making sure that the programme is not replicating efforts made by other donors and making sure that the programme contributes with the right Danish strongholds.

Mexico is a likeminded and potentially even more strategic partner of Denmark in many areas than of today. In addition to a large demand for activities under DEPP, Mexico has expressed initial interest in joining Danish initiatives such as Beyond Oil and Gas (BOGA) and the Global Offshore Wind Alliance (GOWA). In the multilateral climate sphere Mexico, under Sheinbaum has pledged to be a regional leader for Latin America, planning to set a new goal to reach net-zero in the 2050s and presented a more ambitious NDC ahead of COP30 in Brazil.

2. The Country Programme

2.1 Country Programme Objective

Mexico has developed sustainable, clean energy pathways in accordance with the NDC 2035-target and Mexico's long-term net-zero target and has improved policies and plans to accelerate and implement a just and inclusive transition contributing to affordable and reliable clean energy to power a sustainable socioeconomic development.

This objective is achieved through a combination of national actions and the supportive capacity strengthening provided by DEA under the MXDEPP.

2.2 Summary description of the Country Programme

The MXDEPP will support Mexican priorities for a green energy transition and to meet future energy demand in areas where DEA has strengths and comparative advantages. The sharing of experiences and technical support will contribute to a shared aim of advancing a just and inclusive energy transition that does not harm and where relevant actively supports poverty reduction and enhances sustainable development. It builds on lessons learnt from earlier cooperation and informed by DEA's experience and guidelines on

capacity development, use of a multidimensional concept of poverty and human rights[10]. The focus is on three outcome areas:

1. Long term energy planning and modelling - Mexico develops and implements its long-term planning and modelling, in order to formulate new climate goals and carry out the necessary planning for the ongoing de-carbonization of the Mexican energy system in a manner that is just and inclusive.
2. Energy efficiency - Mexico is developing and implementing policies and measures increasing energy efficiency.
3. Integration and deployment of renewable energy - Mexico is developing a flexible power system and increasing its share of renewables in the electricity production, as well as affordability and reliability, which also contributes to national energy security and meeting increased energy demand.

Outcome 1 on long-term energy planning and modelling strengthens Mexico's capacity to plan its energy future using least-cost, data-driven approaches. Building on DEPP III, it focuses on partnerships with SENER – to improve modelling of the Mexican energy system, build transparent long-term planning tools, and support renewable integration. Furthermore, partnering with SEMARNAT & INECC to enhance modelling for Mexico's climate goals, including its NDC and net-zero targets.

Key actions include: Expanding SENER's modelling capacity and energy data (e.g., technology catalogues); Supporting SEMARNAT/INECC with tools for climate targets and; Integrating socio-economic aspects (jobs, household energy costs, rural development and health) into planning. It also opens opportunities for poverty reduction and citizen participation through workshops with civil society, rural communities, and academia.

Outcome 2 on energy efficiency facilitates a national push for energy savings in large energy consuming sectors, hereunder the industry and building sector. These two sectors combined are using a significant part of the total energy consumption in the country. The outcome focuses on partnerships with SENER – embedding energy efficiency into long term energy planning and national strategies. As well as supporting SENER in their efforts to increase energy efficiency in industry and buildings. Also partnering with CONUEE – implementing SENER's energy efficiency strategies including the Voluntary Agreement scheme with industry and other incentives. Lastly a state partnership (e.g., Nuevo León) – fostering climate partnerships at state level.

Key actions include: Demonstrating the effect of energy efficiency in the building and industry sector through SENER's modelling; Reducing energy use, costs, and CO_2 emissions; Expanding voluntary agreements and Climate Partnerships to more companies in relation to energy savings. Social benefits include lower costs for small businesses, competitiveness gains and green jobs

Outcome 3 on renewable energy integration and deployment supports Mexico in building a flexible power system to integrate more renewables. The outcome focuses on technical capacity development of experts in SENER and CENACE but also involving CFE and CNE.

Key actions include: Establishing a joint taskforce to increase power system flexibility; Strengthening CENACE's capacity to manage variable renewables, with support from Danish system operation experts and; supporting SENER in creating a framework for offshore wind development. Social benefits can include green job creation, reskilling in marginalized regions, and ensuring coastal communities benefit from offshore wind through jobs, investments, or community schemes.

Approach to capacity strengthening

A systematic approach will be used to enhance knowledge sharing and the uptake and application of knowledge and experience. The programme will be guided by the DEA "Integrated Approach to Capacity Development in Global Cooperation", applicable across all DEA's GC programmes. During the first months of implementation the output working groups will work on a structured approach to knowledge

[10] DEA, Memorandum on the Multidimensional Concept of Poverty and the Human Rights-Based Approach in the Danish Energy Agency's Government to Government Cooperation, January 2025

exchange and capacity development and monitoring as an integral part of work plans, applying the DEA tools as relevant. Where it is found justified the working groups will validate and expand the assessments of partner needs and priorities. From the start of implementation, there will be focus on sustainable knowledge transfer and uptake as an integral part of all activities. This is also seen as part of a structured approach for eventual exit and will feed into the development of a consolidated exit strategy. Further, and in line with Mexican government norms, attention will be given to the gender balance in capacity development activities. The expanded modelling capacity of SEMARNAT/INECC related to the climate net-zero modelling during DEPP III serves as example how DEA can support enhancing modelling capacities. Engagement of broader set of stakeholders will also be considered, e.g. universities and thinktanks.

3. Theory of change and key assumptions

3.1 Theory of change

The narrative Theory of Change can be summarised as:

If Denmark contributes grant funds to MXDEPP.
And if MXDEPP engages in partnerships within the strategically chosen areas of: long term energy planning and modelling; energy efficiency and integration and deployment of renewable energy with the national partners (SENER, SEMARNAT, INECC, CONUEE, CENACE, and others) who have the relevant mandates and a strong continued commitment to the partnership.
And if DEA serves as an effective and efficient implementing partner for this cooperation drawing on extensive experience from 30 years of Danish energy transition and reform as well as numerous Strategic Sector Cooperation and Danish Energy Partnership Programmes (in currently 21 countries).
And if DEA collaborates closely with the key national partners leveraging its core competences, best practice knowledge and experience, and applies a structured and effective approach to knowledge exchange and capacity development approaches including peer-to-peer exchanges, embedded long-term advisors, delegation visits including in Denmark, workshops, seminars, learning events and training courses, triangular/South-South exchanges.
And if these activities are strategically designed to address the specific needs of partners, focusing on planning, strategies, regulatory, institutional, and technical measures aligned to partner institutions' own strategies and plan.
And if this is done through sharing experience on medium and long-term just, inclusive, and green transition in the energy sector and climate action.
And if a multi-dimensional poverty approach and human rights principles underpin the cooperation as a whole.
And if the national partners sustain their commitment to effective uptake, application and use of knowledge and experience in these areas.
And if the national partners strive for synergy between MXDEPP and other initiatives in their country in support of its just and inclusive energy transition and climate action.
And if Denmark strives for synergy and coordination between MXDEPP, other relevant donor activities in Mexico and Denmark's multilateral energy and climate cooperation such as with the IEA, EIB, the World Bank, donors from other countries, and others.

Then, Mexico will have an active modelling community and be capable of carrying out long term planning and modelling by being able to use/update optimisation and energy system models, publish energy statistics and ensure a strong modelling community.
And then, Mexico will have a strengthened federal EE planning and strategy based on robust data and a strong climate and for energy efficiency in close partnership with main industry sectors.
And then, Mexico will be able to increase its renewable share based on a flexible system with power dispatch optimisation, VRE readiness and an enabling framework for off-shore wind energy.
And then Mexico will have developed and implemented climate and energy policies and planning that lowers emissions while increasing affordability, reliability, and security of energy supply.

And then Mexico will be able to attract domestic and international investment to implement the policies and plans while improving national energy security and secure access to affordable and reliable energy to both households and industry.
And then, Mexico will have designed a just energy transition engaging and benefitting its citizens, including poor and marginalized households and communities.

An outline of the intervention logic for reaching the programme objective and the progression from DEPP III is shown below:

Table 3.1: MXDEPP Intervention logic

Impact	Outcome	Output	Comment	Rationale	Examples on Progression from DEPP III
Mexico has developed sustainable, clean energy pathways in accordance with the NDC 2035-target and Mexico's long-term net-zero target, and has improved policies and plans to accelerate and implement a just and inclusive transition contributing to affordable and reliable clean energy to power a sustainable socioeconomic development.	1. Mexico develops and implements its long-term planning and modelling, in order to formulate and operationalize new climate goals and carry out the necessary planning for the ongoing de-carbonization of the Mexican energy system in a manner that is just and inclusive.	1.1 SENER independently uses energy system models for their long-term planning activities to support an implementation of the new Energy Planning and Transition Law.	Energy system models (may include both optimization models and other energy system models).	Mexico will be capable of carrying out long term planning and modelling that supports informed decision-making when it is able to use /update optimization and energy system models, publish analytical assumptions (such as technology catalogues), analyse impacts and ensure a strong modelling community. This can help secure a least cost transition and lower the impacts on Mexican society.	Builds on modelling work with SEMARNAT and INECC (DEPP III) using Balmorel and TIMES. In SENER capacity for using optimization modelling was lost during the previous administration and has to be re-developed. Previous attempts of developing technology catalogues will now be thoroughly anchored, updated and published by SENER. Inter-ministerial co-ordination and use of same data will be ensured, a substantial progression and pre-requisite for exit at the end of MXDEPP.
		1.2 SENER has developed and frequently publishes analytical assumptions, such as technology catalogues for the energy sector in order to support decision making and energy system modelling activities.	Publishing of analytical assumptions, such as technology catalogues.		
		1.3 SEMARNAT and INECC have improved capacity to independently develop climate targets and policies based on inputs from modelling activities.	Optimization model and impact analyses supporting a just, green transition.		
	2. Mexico is developing and implementing policies and measures increasing energy efficiency in the industry and building sector	2.1 SENER's energy efficiency policies, strategies and plans are included in the long-term energy planning and SENER is able to formulate and implement energy efficiency policies and measures.	Integrating EE measures into long-term federal planning, improving data collection and management, and implementation of EE strategies, programs and measures	Energy efficiency will rise when Mexico has strong federal EE planning, good data and a strong partnership with the industry sector on EE and de-carbonization. This will decrease pressure on the grid and help towards increasing reliability for Mexican energy consumers.	Including EE in the federal planning and modelling of future energy needs is new but can build on earlier work, e.g. the long-term political framework for EE supported during CCMEP. The VA scheme is further implemented by CONUEE without support from DEA but building on CCMEP and DEPP II, and will be supported under MXDEPP. The CP concept is relatively new and will be incorporated into federal strategies and plans for the industrial sector based on experience during DEPP III in Nuevo Leon. Developed materials and concepts on EE in buildings from the work with states in DEPP III will be broadened into a federal context.
		2.2 SENER is together with CONUEE systematically engaging and supporting the industrial sector in Mexico in achieving energy savings and CO2 reductions in broad industrial segments.	Implementation of VA on EE for large industries. Technical support for existing and new public-private sector partnerships on climate and energy savings.		

Impact	Outcome	Output	Comment	Rationale	Examples on Progression from DEPP III
Mexico has developed sustainable, clean energy pathways in accordance with the NDC 2035-target and Mexico's long-term net-zero target and has improved policies and plans to accelerate and implement a just and inclusive transition contributing to affordable and reliable clean energy to power a sustainable socioeconomic development.	3. Mexico is developing a flexible power system, has created an enabling regulatory environment for investment in renewable energy and is increasing its share of renewables, with respect to affordability, reliability and social impact.	3.1 A more reliable, affordable and flexible power system is established through improved system planning and a strengthened regulatory framework.	Improve power dispatch optimization and system flexibility, by increasing cooperation and knowledge-sharing between relevant authorities.	Mexico will be able to increase its renewable share when it has a flexible system with power dispatch optimization, VRE readiness and an effective enabling framework for offshore wind energy. This can help lower costs and reduce pressure on the grid, and can in turn increase reliability and affordability for consumers. Furthermore, a better enabling framework for VRE can help decrease the social impact of VRE projects.	New approach to improving flexibility in the power system will be taken during MXDEPP setting up a task force headed by SENER and including relevant stakeholders (CFE, CENACE and CNE). The co-operation with this division of SENER is new and essential for political approval of a more flexible power system. The aim of MXDEPP is to revisit system readiness for integration of VRE under the new energy reform, and to upgrade e.g. forecasting models. Finally, the OSW area is new, although started during DEPP III and the SEC cooperation with CFE (a first analysis of the OSW potential in the Mexican gulf). Focus will be on assisting SENER in developing an effective regulatory framework for OSW.
		3.2 Improved system readiness for integration of high shares of variable renewable electricity through technical support on transmission system planning and operation.	Joint development of tools and procedures to improve system readiness for integration of high shares of VRE and support of long-term grid planning.		
		3.3 SENER has developed an attractive enabling framework for renewable energy development with a particular focus on offshore wind which also considers standards for social and environmental regulation.	Support designing an enabling regulatory framework based on international best practices and triangular co-operation. Support the development of approval frameworks, such as tender processes, and one-stop-shop models on de-risking measures and a transparent market dialogue with relevant stakeholders.		

3.2 Key assumptions and drivers

As implementing partner, DEA will be responsible for inputs and use of budgets for programme activities. National partner inputs will be provided in-kind, based on agreed workplans and related budgets. It is also important to note that as implementing partner DEA will be accountable for actively contributing to the achievement of results at output level while outcomes and impact are within DEA influence and interest, respectively, but highly dependent on partner action – however, DEA is required to monitor results at outcome and impact levels and if relevant adjust its approach if the contribution to outcomes and impact are not as strong as expected. Assumptions[11] relate to factors that are not (fully) within the control of DEA in implementing MXDEPP, but which underpin the theory of change and include:

- The Mexican government's sustained political support for NDC and clean energy targets and related policy initiatives related to transparent governance of the green transition in Mexico.
- Climate-diplomacy relations that support partner countries in addressing both climate action and a just energy transition, including community consultations and last-mile distribution.
- Mexican partners continue to up-date and share the necessary data for providing technical assistance in energy modelling and planning.
- Additionality and synergy ensured in a dynamic field with many actors and other donors.
- The partnership develops in a way that strategically supports transformational change aligned to Mexico's NDC and SDG targets and related policies and strategies.
- Relevant data and knowledge shared as needed also on broader topics such as socio-economic and environmental impacts of renewable energy which can enable community support for at green energy transition.
- Mexican partners engage effectively throughout the programme, make use of the models for policy and planning and value peer-to-peer exchanges of good practice and paths to avoid.
- Sufficient number and qualifications of staff at key partner institutions are able to sustain the results of the cooperation.
- Country level programme governance and management mechanisms (Steering Committee and working groups) meet regularly as foreseen and are effective in monitoring progress and results and in providing strategic guidance to implementation including ensure continued alignment to country priority needs and with emphasis on assumptions and risk factors as well as capacity development results for sustainable outcomes.
- Renewable energy is an enabler to meet future energy demand in the countries, including the electrification and digitalisation of society, while providing access to affordable and reliable energy to populations including low-income groups.
- The cooperation contributes effectively to an enabling environment for renewable energy investment to be mobilized, complementing institutional strengthening.
- Mexico's continued interest in engaging and consulting communities.

Key drivers of sustainable impact

- There are political incentives and drivers for ensuring a continued partner high-level political commitment and strategic engagement with Denmark to meeting energy transition and climate targets.
- A structured approach to knowledge sharing, including delegation visits "seeing is believing".
- Continued attention to the socio-economic aspects of the energy transition in the partnerships ensuring broad community and citizen support of the new policies and actions.
- Effective communication of results and lessons targeted at decision makers.
- Triangular cooperation and sustained peer-to-peer exchanges also with other countries.

[11] Assumptions and risks factors are connected. Risks (see Annex 4) can be seen as the factors that might have given rise to failure of assumptions – at least for the programmatic and institutional level.

4. Results framework at outcome level

The results framework at outcome level is summarised in Table 4.1 below, where the key partners are also indicated under each outcome. The more detailed results framework at output level is found in Annex 3 where typical types of activities and topic area clusters are also indicated as this facilitates understanding of what is expected to lead to the outputs. Where possible, indicators that are already used by partners have been used to avoid double monitoring and to highlight the contribution of MXDEPP to achievement of the national goals. It is noted that outcomes and outputs are achieved through capacity development under MXDEPP, consistent with DEA's "Integrated Approach to Capacity Development in Global Cooperation (GC)". To make the results framework more succinct, the term capacity development or capacity strengthen is generally, however, not reflected in the wording of outcomes and outputs, but it is a general pre-cursor to this results framework. The capacity development approach is reflected in the narrative theory of change in Section 3.1 and described further in the DEPP 2026 FPD.

Table 4.1 MXDEPP results framework at outcome level

Programme		**Mexico-Denmark Energy Partnership Programme (MXDEPP)**	
Programme Objective		Mexico has developed sustainable, clean energy pathways in accordance with the NDC 2035-target and Mexico's long-term net-zero target, and has improved policies and plans to accelerate and implement a just and inclusive transition contributing to affordable and reliable clean energy to power a sustainable socioeconomic development.	
Impact Indicator		• Clean energy production has increased from 23%. to between 38-45% of annual electricity production as stipulated in the national energy strategy from 2024. • Mexico has set forth an ambitious decarbonisation plan for the energy system aligned with Mexico´s 2035 NDC and net-zero target which also include measures for just energy transition	
Outcome 1		**Mexico develops and implements its long-term planning and modelling, in order to formulate and operationalise new climate goals and carry out the necessary planning for the ongoing de-carbonization of the Mexican energy system in a manner that is just and inclusive.**	
Key partners and other important partners		Key partners: ➢ Secretaría de Energía (SENER) – overall coordinating partner ➢ Secretaría de Medio Ambiente (SEMARNAT) ➢ Instituto Nacional de Ecología y Cambio Climático (INECC) Other important partners: ➢ Instituto Nacional de Electricidad y Energía Limpia (INEEL) ➢ Universidad Nacional Autónoma de Mexico (UNAM), Instituto Politécnico Nacional (IPN) and other relevant organizations, such as Tec de Monterrey, Initiatíva Climático de Mexico (ICM), Fundación IDEA, etc.	
Outcome indicator		➢ State-of-the-art scenario modelling is being used actively to inform policy development and investment decisions by SENER and SEMARNAT.	
Baseline	Year	2026	- Energy system modelling has been used in Mexico's long-term energy and climate planning, with significant assistance from Denmark.
Target	Year	2030	- SENER and SEMARNAT have expanded capability to independently use state-of-the-art modelling to support climate and energy planning, as well as policies and measures incentivising investments that improve conditions for the poor and underserved.
Outcome 2		**Mexico is developing and implementing policies and measures increasing energy efficiency[12].**	
Key partners and other important partners		Key partners: ➢ Secretaría de Energía (SENER) ➢ Comisión Nacional para el Uso Eficiente de la Energía (CONUEE) ➢ Government agencies of Nuevo León (AERNL and SMA)	

[12] Verified through consulting PROSENER

		Other important partners: ➢ Secretaría de Medio Ambiente (SEMARNAT)	
Outcome indicator		➢ Enhanced energy intensity for Mexico as a whole benchmarked against annual target of 2.9% per year	
Baseline	Year	2026	- Energy intensity goal set at a reduction of 2.9 % per year up to 2030 in the PROSENER to be published before the end of 2025 (goal up from current goal of 2.2%)
Target	Year	2030	- Energy intensity has been reduced by more than 2.9 % per year. - Energy efficiency is an integrated part of SENERs energy modelling and measures are being implemented to ensure that the energy intensity goal is being met.
Outcome 3		**Mexico is developing a flexible power system, has created an enabling regulatory environment for investment in renewable energy and is increasing its share of renewables, with respect to affordability, reliability and social impact.**	
Key partners and other important partners		Key partner: ➢ Secretaría de Energía (SENER) ➢ Centro Nacional de Control de Energía (CENACE) Other partners: ➢ Comisión Federal de Electricidad (CFE) ➢ Petroleos Mexicanos (PEMEX) ➢ Comisión Nacional de Energía (CNE)	
Outcome indicator		➢ SENER has developed the necessary regulatory framework for new investments in RE integration and production.	
Baseline	Year	2026	- 23 % clean energy in total electricity production[13] - There are around 7 GW wind and solar projects in the pipeline of CFE[14] - Insufficient regulatory framework for renewable energy development
Target	Year	2030	- Minimum 38 % clean energy in total electricity production. - At least 30 GW installed solar and wind capacity. - Enabling and transparent policy framework for renewable energy development.

5. Inputs, budget, financial management

5.1 Inputs and budget

Inputs

DEA as the Implementing Partner will be responsible for the organization and timely delivery of technical cooperation inputs by DEA staff and external consultants to activities guided by demands and priorities as defined in the annual work plans. Inputs will be delivered based on Terms of Reference (ToR) that ensure the accountability for delivery in alignment with agreed work plans and partner availability and capacity to engage. Inputs will be staff time inputs from DEA-GC and other DEA units, as well as consultant inputs from DEA Consortium partners under framework contract. Where specific inputs by knowledge partners or other external national consultants or institutions in Mexico are required, such inputs will be procured through DEA under existing and/or new framework contracts.

Mexican national partner inputs will be delivered in-kind, aligned to the same annual work plans, which are approved by the Steering Committee. Participation of senior/decision making level staffing at the steering committee level, and middle level management/technical experts at working group level.

[13] Based on 2024 data. When new data are available this will be updated accordingly.
[14] Based on 2025 data. When new data are available this will be updated accordingly.

Building on the successful experience of long-term advisors (LTAs) in DEPP programmes, it is expected to engage an LTA, who is expected to be primarily anchored with SENER. Draft job profile with qualification requirements is included in Annex 9.

Budget
The total budget for the MXDEPP Programme is 53 million DKK of ODA-eligible grant funds sourced from the Danish Finance Act (FL-konto 06.31.01.70).

Table 5.1 below reflects the tentative budget allocation by outcome. This is an allocation budget not an activity-based budget. However, in Annex 5, a tentative allocation by output is provided to be further detailed and updated in annual workplans.

Table 5.1: Summary budget allocations by outcome

Outcomes	Budget allocations[15]
Outcome 1: Long term energy planning and modelling	**19.34**
Outcome 2: Energy efficiency in buildings and industry	**16.20**
Outcome 3: Integration and deployment of renewable energy	**17.46**
Total, DKK million	**53.00**

5.2 Financial management and reporting

Grant funds will be transferred from the MFA to the DEA upon written request, and DEA will be responsible for all financial management and reporting on MXDEPP funding. The financial management and reporting procedures are further defined in the DEPP 2026 FPD.

As no cash funds will be transferred or disbursed though national partners directly, there will be no requirements for accounting of funds and financial reporting by national partners. To monitor the delivery by DEA of technical cooperation in-country consistent with work plans agreed between DEA and the national partners, DEA time spent with partners is reported in the annual progress reporting to the MFA (MYNSEK[16]). Budgets and actual expenditures at outcome and output level broken-down on the cost-categories: DEA staff; Consultants; Other Costs will be presented in the annual financial reporting to the MFA(MYNSEK). The progress- and the financial reports will help PAG to assess value for money at its annual meeting.

6. Institutional arrangement and management set-up

The MXDEPP Programme will build on the governance structure of the earlier cooperation, consisting of a strategic level and an operational level. An oversight Steering Committee will function at the strategic level and cover the entire cooperation programme. At the operational level, there will be technical working groups for each output[17].

[15] 2025-2029 (DKK million, rounded).

16 The formulation of MXDEPP was made and finalised by the MFA Department for Green Diplomacy and Climate (KLIMA) but when formulation is completed, the management of DEPP 2026 will be moved to the MFA Secretariat for Strategic Sector Cooperation (MYNSEK).

[17] Unlike other countries it was decided not to have outcome coordination groups in part because the central role that is taken by SENER meaning that the relevant coordination can be done without an additional working group.

Table 6.1 Functions in the governance and management set-up

Structure	Functions	Composition/meeting schedule
Steering Committee	• Serves to deepen the collaboration in the energy sector between Mexico and Denmark, reflecting on the relevance, effectiveness and potential of the cooperation • Considers and approves adjustments in the programme at partner, outcome and output level where needed • Approves annual progress reports and work plans • Monitors progress across the programme • SC Meet on an annual basis	Mexican Partners: Chair: Vice Minister, SENER Vice Minister / Director General level from each partner organisation, SEMARNAT, INECC, CONUEE, CENACE Danish Partners: Chair: Ambassador Sector counsellor of the Embassy Director of the DEA Team leader and LTA of the DEA act a secretariat for the steering committee. DEA drafts agenda and minutes to be agreed by all parties.
Output working group	• Day-to-day coordination and alignment with strategical and institutional developments • Planning and coordination of activities (workshops, study tours, meetings etc.) • Monitors progress across the output using the relevant indicators, engaging with and facilitating collaboration across partners where relevant • Assess progress in capacity development and transfer of systems and technology know-how at output level • Provides output level information for annual progress and work plans	Mexican Partners: Representatives for the output from the focal partner organisations involved (in case of multiple representatives, a spokesperson from the respective focal partner will be needed) Other non-focal partners to be invited when relevant Danish Partners: Project leader and LTA of the DEA. Meets as required (physically or virtually). DEA drafts short working notes to be shared among participants.

While the government of Nuevo León (represented by AERNL and SMA) will be partners during MXDEPP, they will not be a part of the steering committee. For strategic decision making relevant to the activities in Nuevo León there will be a separate steering committee with the mandate of approving the work plan or adjustments hereof. The steering committee will be chaired by the two general directors of SMA and AERNL, and the team lead from the DEA. The government of Nuevo León can be invited to the steering committee as a participant presenting the experiences gained and results from the work on energy efficiency.

6.1 Work planning, results monitoring, and reporting

Work planning

Work planning is an ongoing process with each partner, where the annual work plans will be co-developed jointly with the partners to align to their annual work programmes and needs, and availability of DEA specialists and consultants, balanced with available resources from partner's side as well as from the program's side. The annual work plans will specify division of labor between parties and the contribution needed from all parties for the outputs to succeed. Staff and other resources allocated by partners to achieve the outputs and outcomes in the results framework should be discussed with partners and considered in the annual work planning submitted for final endorsement by the Steering Committee. It is very important to gain sufficient confidence in partners willingness and ability to deploy resources, albeit the Danish side can hardly influence partner's resource allocations and impose or require any specific resource allocation from partners. DEA will on ongoing basis assess, if sufficient partner resources are available to secure uptake, use and institutional strengthening of knowledge sharing and technical assistance.

The annual work plans will define annual activities, annual output targets (when relevant) and link these directly to the results framework in this document. Work plans should identify key activities/ milestones that reflect the intended outputs and increased institutional capabilities to produce them. In collaboration with partners and LTA, ToR will be formulated for each activity (of a certain minimum size) and the ToR will specify tasks and targets for the activity as well as required inputs from partners, DEA, LTA, Energy Sector Counsellor, consortium partners and consultants.

In addition to the formal progress monitoring, during MXDEPP there will be constant informal feedback loop between DEA and the partner institutions on the assessments on the need for capacity development activities and the appropriate modality of this. This stocktake is both taken on working group level on a regular basis, in the DEA internal quarterly meetings and strategic discussions will also take place at the yearly steering committee meeting.

Results monitoring
Monitoring towards targets will be reported through the progress reporting from output working groups once a year to the steering committee using a "traffic-light" system, where:

- "green" is on-track – implementation progresses as scheduled.
- "yellow" is partly on-track, which requires attention and potentially remedial action to get back on-track.
- "red" is off-track, which requires urgent attention by the steering committee with a decision on necessary adjustments or re-scoping to get back on-track and/or recommend reallocation of funding/ activities. If "red" in two consecutive reporting periods, the oversight could consider extraordinary remedial measures such as setting up a task force or consider abandoning the activity.

Results reporting
Following Danida Aid Management Guidelines (AMG), monitoring and reporting will be based on the results framework at output and outcome level, and each key partner institution will, jointly with DEA, monitor progress towards achieving these outputs and outcomes via annual progress reporting to the Steering Committee. An annual progress report will be prepared by DEA and circulated to all partners for comments, before being submitted for approval by the Steering Committee. An annual progress report for the MFA will be prepared by DEA for approval by PAG as part of the consolidated DEA annual progress reports across all five DEPP 2026 countries as further described in the FPD. The annual progress reporting for the MFA will assess the development of partner capacity in relation to achievement of outputs and outcomes. Further, it will consider risk mitigation measures informed by systematic assessment of assumptions and risks as part of DEA internal quarterly meetings with participation at DEA-GC Director level.

Communication of results
DEA together with the Embassy of Denmark in Mexico and the Mexican partners will actively engage in targeted communication of results informing stakeholders both in Denmark, Mexico and other relevant countries. The focus will be on raising awareness on the opportunities and choices in the clean energy transition and how the MXDEPP programme contributes to this, including concrete examples of strategic decisions to which the activities and outputs have contributed. With due respect to confidentiality provisions, the DEA will communicate the positive value and effects of the collaboration to decision makers, opinion leaders, and the general public, through a variety of means, including websites, social media, press releases and reports published on the DEA website. Furthermore, conducting communication activities through different events, including possible side events at COP and similar conferences, triangular cooperation with other DEPP- and SSC countries and more. A communication strategy is found in Annex 7.

7. Risk management

A brief summary of key risk factors and mitigating measures is provided below. A detailed risk management matrix consistent with Danida guidelines is found in Annex 4. The risk analysis also responds to risk factors emerging from the context analysis in Annex 1.

Contextual risks

- Due to the threat of increased taxes and trade barriers from the Trump administration, there is a risk of recession in Mexico that could lead to political instability and lack of consensus on the green energy transition which in turn could affect the programme.
- Unclear market conditions for development of VRE.
- Social resistance to VRE deployment if consultation processes are inadequate.
- Political and/or institutional resistance to market-based reforms and resistance to reducing gas dependency due to existing long-term agreements and lack of gas storage options.
- The unlikely risk of Mexico not having ODA eligibility status throughout the whole programme period due to economic development in the country.

Mitigating measures: the main measures are to monitor the political, social and market context and be ready to support the programme objectives with relevant arguments and evidence. Renewable energy and energy efficiency are expected to be the least cost option to meet future energy demand and reduce dependency on imported fossil fuels. High presidential buy-in for decarbonisation reduces risks.
Residual risk: Minor to major (see Annex 4)

Programmatic risks

- Limited resources and shortage of staff especially in SENER and INECC could affect their ability to continue the implementation and use of state-of-the-art modelling.
- Political priorities overrule least cost solutions.
- The cooperation with SENER has once before been put on hold by SENER. Even though this happened under fundamentally different political circumstances, the risk cannot be ruled out.
- Lack of ability of SENER to maintain a constructive dialogue with other programme partners and key stakeholders to ensure the availability and transparency of the necessary data and buy-in on common standards for technology attributes and costs. Including SENER's ability to regulate and effectively influence the large state-owned companies of CFE and PEMEX, who will be responsible for effectuating the green transition.
- The large industries and industry clusters in Mexico are not interested in the concepts of Voluntary Agreements and Climate Partnerships.
- Infrastructure, institutional and financial limitations for expansion of the transmission grid, lowering rapid VRE roll-out.
- Slow regulatory adoption, institutional competition or lack of political commitment to offshore wind.
- Community resistance towards renewable energy planning and infrastructure if proper engagement, benefit sharing and consultations are not integrated.
- Change in key personnel in Nuevo León government due to state election in 2027 Nuevo León

Mitigating measures: the main measures are to provide capacity development including support on choice awareness and building the evidence base, incentives and tools for pursuing the original aims of the programme. Where parts of the programme are affected by outside factors then the support could be channelled to areas where advances are more likely.
Residual risk: Minor for most risks (in one case major, see Annex 4).

Institutional risks

- The programme could risk duplicating existing activities and/or fail to build synergies with other initiatives in the highly dynamic country context
- Any unintended use of resources or misconduct could reflect negatively on the partnership
- CENACE does not engage in partnership due to TSO-partnership with Energinet no longer being possible.

Mitigating measures: the main measures to coordinate effective with what other donors are doing and ensure that funds are managed and accounted for by DEA.
Residual risk: Insignificant/minor

Assumptions and risks factors are connected. Risks can be seen as the factors that might have given rise to failure of assumptions. A table illustrating the linkages between assumptions and risks is found at the end of Annex 4. Risks and related assumptions will be systematically monitored throughout implementation as part of the ongoing political economy analysis including at quarterly DEA internal meetings with participation at DEA-GC Director level. In addition to the risks identified in the risk matrix in Annex 4, selected critical assumptions underpinning key outputs and outcomes will also be monitored as part of regular programme dialogue, progress reporting, and review processes.

Where residual risk is assessed as major, the programme will define clear warning signs that indicate when an output or outcome might no longer be relevant or feasible to achieve significant progress with the Danish support. These are not rigid cut-off points or red lines, but triggers for dialogue and reassessment. Such conditions could include:

- Major shifts in geopolitical developments.
- Structural changes in institutional mandates affecting how core partner institutions and effective inter-ministerial/inter-agency coordination.
- Critical deficiencies in managerial capacity in national partner institutions and major staff turnover, including of staff that benefits from programme capacity development support.
- Persistent energy subsidies that dis-incentivise energy efficiency action.
- Limited or no interest in being inspired by the Danish approach for a green energy transition.

If monitoring indicates that a residual risk is increasing towards a significant level, or that critical conditions are emerging, this will trigger a structured reassessment of the affected outputs and outcomes. Remedial actions may include adjustment of scope, redesign of support modalities, temporary suspension of activities, or reallocation of resources, as decided by SAG based on recommendations from DEA. The Steering Committee will consider the more detailed implications of such remedial action. This adaptive management approach ensures that support remains relevant and proportionate to the evolving risk environment, while maintaining alignment with programme objectives.

8. Sustainability, transition and exit

Considering the temporary nature of development cooperation, a well-structured exit strategy for MXDEPP is essential to guarantee that Danish-supported energy initiatives continue to drive sustainable development beyond 2030. Exits must be planned with efficiency and sustainability in mind, minimizing transaction costs while maintaining long-term benefits. Stakeholder input will be essential to ensure that the transition is effective and aligns with the broader objectives of a green energy transition. The purpose of the programme of cooperation is that knowledge transferred and new capabilities have resulted in institutional uptake which has contributed to improved national energy modelling and long-term energy planning, improving energy efficiency and integration and deployment of renewable energy.

Exit strategy is not merely seen as an administrative closure, but as a dynamic transformation process intended to support national partners in a sustainable development journey. Criteria for successful exit from specific areas of cooperation include evidence of uptake and use of knowledge and experience that has been exchanged through the partnership. Exit from cooperation or a specific component could also be triggered by shift in policy priorities or limited progress against joint targets. Exit or potential continuation with each partner institution will also depend upon the completion of outputs in agreed work plans and any further needs in these work streams and/or the emergence of potential new priority work streams and availability of resources. It is the expectation that Mexican partners will have advanced significantly to have policies, regulations and plans in place to meet the targets set out on relevant political goals and the NDC.

The MXDEPP strategy centres on developing a strong Mexican skill base for independent energy planning, efficiency, and renewable energy integration. Key actions include fostering a modelling community, training of trainers, and strengthening bilateral industry-government cooperation. Cooperation with the Mexican TSO and transitioning offshore wind projects to the Danish embassy will further ensure sustainability.

Already MXDEPP builds on more than 10 years of cooperation between Denmark and Mexico in the field of energy and climate change. In some areas, such as the capacity in SENER for using state-of-the-art energy system modelling has been lost during the previous administration and needs to be re-developed. In other areas, the institutions have integrated former programme results, and there is a need and request for DEA assistance to re-new the cooperation with the aim of taking the results to a new level and/or accommodating them to the new Mexican energy reform. This is the case for example with the co-operation with CONUEE where the aim is to make the Voluntary Agreement scheme cover many more industries, and with CENACE where there is a task to adjust the technical partnership with relevant Danish system operations experts to accommodate the requirements of the new energy reform.

The results framework has a built-in exit strategy in the way the indicators have been formulated from baseline to target year. Furthermore, prior to the MFA Mid-term Review (MTR), DEA will – in liaison with national partners and the Embassy - prepare a consolidated exit strategy, which will be assessed by the MTR.

Furthermore, the DEA will continuously consult with the MFA on projections from OECD and the World Bank regarding Mexico graduating from Official Development Assistance (ODA) eligibility status and prepare for appropriate measures accordingly. This could include designing activities and implementation for transition towards other forms of collaboration to substitute the current programme. This could also include transition to a cooperation under the Energy Governance Programme, should the opportunity arise, which is more focused on commercial relationships and more direct engagement of Danish commercial interests. It could also be a closer EU collaboration with likeminded countries in Global Gateway projects in Mexico or through multilateral agencies and initiatives such as IEA, ESMAP and others.

Annex 1: Context analysis

This summary is based on a detailed analysis conducted as part of the programme preparation. The details including sources and links to wider information are available as a working reference document. The MFA has decided that a subsection A.1.3 on Fragility, Conflict and Resilience (that is normally part of the standard template for Context Analysis), is not required.

A1.1: Poverty and inequality analysis

Poverty and inequality - The Mexican government considers poverty alleviation and reducing inequality high priorities, and over the past decade, there has been a decrease in the number of people living in multidimensional poverty. Both recent administrations have focused on these issues. Using the national poverty line, extreme poverty fell from 14.9% in 2016 to 12.1% in 2022, lifting around 2.7 million people out of extreme poverty. The official multidimensional poverty rate also decreased from 43.2% to 36.3% during the same period. Despite these reductions, about 46 million people in Mexico are still characterized as multidimensional poor, and there remains a high level of inequality. Mexico's inequality level, with a Gini index of 0.435 in 2022, is comparable to other Latin American countries, but significantly higher than other emerging economies and OECD countries. This is starkly shown by the fact that the richest 20% of households have an income ten times higher than the poorest 20%.

Energy poverty - While there is nearly universal access to electricity, energy poverty is a prevalent problem affecting a substantial portion of the population. An estimated 13.5 million people live in energy poverty conditions, lacking access to reliable and affordable energy. This typically stems from accessibility or affordability issues. As a result, many resort to using coal, firewood, and manure for heating and cooking, often without proper ventilation. Inhaling gases from these biofuels can be extremely toxic, putting over 12 million Mexicans at risk of air pollution and respiratory intoxication and potentially leading to serious health consequences. Poor building standards and limited insulation is a problem, as cooling needs increase with climate change, affecting the poorest and most vulnerable groups the most.

Energy equality - The inequality seen in income is also reflected in access to clean and affordable energy. The government invests heavily in electricity subsidies, with the residential sector subsidy being the largest. However, this subsidy disproportionately benefits higher-income users, with households in the top 20% of income benefiting three times more than those in the bottom 10%. Vulnerable groups, such as women and youth, and particularly rural and indigenous communities, are more susceptible to poverty and inequality. Indigenous people, who make up about 15% of the population, are considered among the most vulnerable, with around 70% living in multidimensional poverty. Ethnicity is identified as a key social determinant of energy poverty. Rural communities are also highly dependent on biofuels, and the inequality in energy subsidies is more acute in these areas.

Energy and climate impact on vulnerable groups - Mexico is vulnerable to climate change, which risks undermining the positive development gains made. Renewable energy development offers the potential positive effects of lower electricity bills and improved access to clean energy for vulnerable populations. Redistributing tax revenues from removing energy subsidies and implementing carbon taxes could potentially improve the welfare of the poorest households.

A1.2: Political economy & stakeholder analysis

New opportunities - Under the Sheinbaum government, which took office in October 2024, Mexico has taken important steps in establishing ambitious renewable energy and climate goals, supported by new institutional and legal structures. Sheinbaum, from the same MORENA party as her predecessor AMLO, continues many of his policies, but shows a much more open approach to domestic action on climate change mitigation and international dialogue on climate and energy. With a strong electoral mandate, a two-thirds majority in Congress and a high approval rating, her administration is positioned well to implement significant changes, including controversial judicial reforms.

Centralized decision-making - Mexico is a federal democratic republic with power divided across federal, state, and municipal levels, and among government branches. Executive powers are centralized in the presidency and ministries. SENER and SEMARNAT are key partners to realize the green transition.

Market proximity to the USA - Mexico is the 12th largest economy in the World according to the World Bank, and highly integrated with the U.S.A and Canada through the USMCA. It has benefited from proximity and trade agreements like USMCA and the so-called nearshoring trend in recent years. However, Mexico faces challenges from

U.S. policy changes, including trade tariffs, energy policy change and organized crime, creating uncertainty for investors.

Energy sector security- The energy sector heavily relies on crude oil and natural gas, but national production is declining, increasing dependence on the U.S. imports, both for natural gas and refined oil products. Around 70% of the consumed natural gas is imported from the U.S. To enhance energy security and reduce this dependence, the government aims to accelerate decoupling from U.S. natural gas. Denmark is collaborating with Mexico, providing technical assistance for energy security and planning.

Energy reforms - Mexico's energy sector has undergone substantial shifts. A 2013 reform introduced market competition, but this was largely reversed under the previous administration. The Sheinbaum government has confirmed aspects of this rollback, notably designating state-owned companies PEMEX and CFE as public companies under direct government control, in a new large 2025 energy reform. The new energy reform prioritizes CFE, determining that it shall produce at least 54% of national electricity. In parallel CFE is allowed to work in so-called mixed schemes with private sector participation to realize this target. CFE's priority dispatch and the rollback of some liberal elements raise questions about incentives for CFE's green transition. Integrating variable renewables presents challenges, linked partly to historical issues with grid planning and permitting, although recent reforms aim to increase coordinated regulation under SENER.

Positive signs in the energy sector reforms - Despite challenges, there are positive indicators for green transition, including pressure on CFE to pursue least-cost options in partnerships with the private sector, (VRE is often cheaper) and political impetus to reduce U.S. gas dependence. CFE's plans includes investments in solar, wind, and transmission projects at scale. Both CFE and PEMEX, significant national symbols and employers face financial hurdles, particularly PEMEX, which is also tasked with exploring a transition towards green energy. PEMEX has established a new directorate for Energy Transition, at the same level as Exploration & Production and Refining. SENER's authority has been significantly strengthened by the recent reform, including through the Energy Planning and Transition Law, becoming central to planning and oversight of state-owned energy companies. Regulatory bodies for electricity and hydrocarbons have been merged into a new commission (CNE), now subsumed under SENER. SEMARNAT continues to lead climate policy and target setting and Sheinbaum have put in place working structures, requiring SENER and SEMARNAT to work closely together at both political and technical level. These changes aim to centralize control over the energy sector, moving towards a unified regulatory and organizational governance structure. Overall, the Sheinbaum government is leveraging reforms and with strategic appointments. She is driving ambitious climate and energy goals, aiming for a significant increase in the clean energy share while at the same time prioritizing energy independence and navigating complex international relations.

A1.4: Human Rights, Gender, Youth and applying a Human Rights Based Approach

Human rights challenges - Mexico faces significant human rights challenges and is less peaceful today than a decade ago. A major driver of this decline is organized crime and violence, which is a primary political concern. This includes political violence, hindering safe participation in local politics and elections. The June 2024 general election was the most violent in the country's history, with numerous incidents targeting political figures, involving attacks, kidnapping, and homicide during the campaign. This violence is predominantly at the local level, stemming from attempts to pressure authorities and competition among organized crime groups. Political violence is widespread outside of campaigning periods, making Mexico one of the most dangerous places for politicians globally due to a high number of politically motivated killings.

Rule of law -The country also grapples with a weakening of the rule of law, seen in concerns about corruption, transparency, and the judicial system's effectiveness. A constitutional amendment approved in September 2024 mandates the replacement of all state and federal judges, including Supreme Court justices, via popular elections in 2025 and 2027. International bodies have warned this could weaken judicial independence and undermine the right to a fair trial. In the nationwide election of thousands of judges in early June, nearly 90% of voters did not cast ballots. High homicide rates and many missing people cases persist. Spending on domestic security and its criminal justice system is the lowest among OECD countries, contributing to a large number of unsolved cases.

Social engagement - Challenges also exist concerning land use and the rights of indigenous peoples. Indigenous communities are particularly vulnerable to the adverse effects of natural resource extraction and large infrastructure projects, including in the renewable energy sector. A recurring issue is inadequate consultation processes regarding large infrastructure and energy projects, often proceeding without obtaining free, prior, and informed consent, leading to conflicts and legal disputes. The presence of organized crime can also interfere with consultations and agreements.

Environmentalist and land defenders face criminalization and violence. Mexico accounts for one-third of environmentalist and land defender murders in Latin America, frequently linked to conflicts during protests against large energy and infrastructure projects. Efforts are underway to strengthen social and environmental impact assessments for renewable energy projects and promote dialogue on legal compliance.

Gender - Gender equality remains a significant challenge despite legal frameworks and policies. Structural barriers persist, notably the significant disparity in unpaid care and domestic work. Women spend substantially more time than men on this, limiting their workforce participation and economic independence. Mexican women spend more hours per day on unpaid labor than in any other OECD country. Increasing women's labor force participation to the same rate as men could significantly boost Mexico's economic activity. Gender-based violence and femicide are prevalent issues and have been on the rise. Around 10 women are murdered daily, but many cases go unpunished due to ineffective judicial processes. Progress has been made in women's political representation, partly due to gender parity reforms. Mexico recently elected its first female president in 2024 and having more women in prominent executive positions, including in management positions is a government priority. There is near gender parity in the federal parliament. Goals aim for gender parity in cabinets and among municipal mayors, though representation at state and local levels lags.

Youth - The youth population is an economically and socially vulnerable group. Many are not in education, training, or employment, often working in informal sectors, increasing vulnerability risks. Lack of economic opportunity makes youth susceptible targets for recruitment by organized criminal groups. Many young people report feeling excluded from and distrustful of politics.

National human right initiatives - Initiatives like MXDEPP aim to integrate Human Rights Based Approach (HRBA) principles (participation, accountability, non-discrimination, transparency) in energy governance, with gender as a priority. Mexico launched a National Human Rights program including guidelines on human rights due diligence and a National Action Plan on Business and Human Rights, although the latter's future is unclear.

A1.5: Inclusive sustainable growth, climate change and environment

Economic challenges arising from climate change and environment - Mexico is already experiencing significant negative impacts from climate change, including devastating heatwaves, hurricanes, and droughts, leading to economic losses and human casualties. If mitigation measures are not adequately implemented, the country faces the risk of irreversible and severe consequences in the future. Acute climate risks include continuous sea-level rise, increased sea surface temperature, intensified hurricanes, and changes in the hydrological cycle. In 2025, Mexico is already affected by temperature rises than the global average at 1.7°C compared to pre-industrial levels. It is projected that under a high carbon scenario, temperatures in Mexico could rise by 2.1°C by 2050, potentially leading to significant economic losses. These impacts disproportionately affect the most marginalized and vulnerable groups, potentially worsening social and economic disparities. Addressing climate change is crucial to preserve the development gains Mexico has achieved. Even with global mitigation limiting the average global temperature rise to 1.3°C by 2050 in a clean energy pathway, significant impacts on the population and economy are still expected. Recent events like Hurricane Otis in 2023 and the extreme heatwaves in 2024 highlight the country's vulnerability, caused significant internal displacement and economic losses, stressing power grids and affecting energy security.

Mexico's response - In January 29, 2025, the government presented six new laws to implement Mexico's 2024 energy reform. The reform emphasizes energy independence and strengthens state-owned companies PEMEX and CFE. A major highlight is a new law on energy planning and transition, granting SENER broader authority and data access. CRE (electricity regulator) and CNH (oil/gas regulator) will be merged into a new national energy commission under SENER. The new structure reflects a shift toward a more centralized, energy governance model. CFE will regain its status as a public company, prioritize low-cost and secure electricity, and reabsorb its subsidiaries. CFE is guaranteed to produce at least 54% of national electricity, supported by the grid operator CENACE. In addition, CFE can now enter public-private partnerships (PPPs) to expand green power generation. Rules for distributed generation will be slightly relaxed, and self-consumption permissions simplified. PEMEX can also enter PPPs and streamline its structure to re-engage in petrochemicals and green industries. The new laws will enhance SENER's staffing and mandate, including absorption of talent from CRE and CNH.

Institutional set up - The Comisíon Intersecretarial de Cambio Climatíco (CICC), an inter-ministerial body, must approve key climate policy documents. Mexico has established significant climate legislation and strategies, including the General Climate Change Law (LGCC) adopted in 2012, which initially aimed for a 50% emission reduction from 2000 levels by 2050. This law was reformed to include NDC targets. Other key frameworks are the Estrategia Nacional

de Cambio Climático (ENCC), which sets long-term ambitions and was updated in 2024, and the Programma Especial de Cambio Climático (PECC), placing implementation responsibility with individual ministries. The National Development Program (PND) and sectorial plans, such as the Energy Sector Plan (PROSENER), and its sub-plans for hydrocarbons, electricity and energy efficiency, currently in the making, also guides climate and energy policy.

Challenges - Despite the political will, there are institutional and human capacity barriers to adopting mitigation measures. INECC and SEMARNAT are generally understaffed in climate change mitigation, though efforts are being made to improve capacity and human resources under the new administration. The newly elected president, Claudia Sheinbaum, with her background in energy and environmental science, has expressed ambition to place Mexico in a leading role in combating climate change, focusing on boosting renewable energy deployment with a goal of least 38% clean energy in 2030. This ambition must be balanced with the goal of energy independence, which has historically involved significant investment in oil and gas production, like the new oil refinery project Dos Bocas. Legal frameworks require environmental and social impact assessments for energy projects, including consultations with potentially impacted communities, particularly indigenous groups. However, challenges have been observed in practice, with instances of inadequate consultations and procedural issues, leading to community objections to large-scale projects that threaten local ecosystems or cultural heritage.

A1.6: Capacity of public sector, public financial management and corruption

Mexico's public sector - Mexico's presidency is strong, coordinating policy elaboration and execution, though limited by state mandates. The executive branch has a robust administration but faces challenges in policy implementation, monitoring, evaluation, and accountability due to shortages of competent staff and resources, exacerbated by austerity policies since 2018. State and municipal governments, despite autonomy, are often subordinate to the central power politically and economically. Recent and ongoing constitutional reforms under presidents AMLO and Sheinbaum aim to centralize power, change the political regime and budget management, alter power relationships between branches of government, and vindicate rights of marginalized groups. The federal budget is heavily influenced by the financial performance of state-owned companies – especially energy companies such as CFE and PEMEX, being affected by their revenues and high debt. Gender-sensitive budgeting has advanced significantly, with a formalized annex in the Federal Expenditure Budget Decree ensuring resources for gender equality initiatives since 2012.

Public financial management and corruption - Despite a relatively comprehensive framework, corruption remains a serious problem in Mexico, marked by lack of implementation and high levels of impunity. Factors include the influence of illegal money, public-contract fraud, and weak police/judicial capacity. Recent anti-corruption efforts are described as politicized and ineffective, with poor transparency noted. The planned extinction of autonomous bodies like INAI (the National Institute of Transparency for Access to Information and Personal Data Protection) and transfer of their functions raises concerns about the fragility of federal government transparency. A new Digital Transformation and Telecommunications Agency is being created to digitize processes and combat corruption.

Energy sector roles - In the energy sector, SENER, the Ministry of Finance, and SEMARNAT play leading roles. SENER primarily regulates activities, delegating responsibilities and its roles redefined in the 2025 constitutional Energy Reform, made up of eight laws. Semi-independent agencies like CENACE and CONUEE are formally under SENER. Previously formally independent regulators of the hydrocarbon and electricity sector, CNH and CRE respectively, have been merged into a new National Energy Commission (CNE) and subsumed under SENER. PEMEX and CFE, reclassified from productive enterprises in 2013 to public enterprises in 2025, have legal personality and autonomy, but are overseen by internal and external audits, and the Superior Audit of the Federation.

Energy policy planning - Planning is guided by instruments derived from the Constitution. The overall guiding document is the National Development Plan (PND), which sets sector priorities at a general level defined in more detail in the Energy Sector Plan (PROSENER). A new Energy Planning and Transition Law guides the long-term planning activities, which includes a long-term Energy Transition Strategy with a horizon towards 2055 (invented by the president). In addition, three different outlooks with a 15 years horizon are published (PLADESE, Electricity Sector Plan, PLATEASE, Energy Efficiency and Energy Sector Plan and PLADESHi, Hydrocarbons Plan). Recent initiatives propose new secondary laws to regulate the sector, operations, markets, clarify state prevalence, battery and storage requirements for VRE projects, guide CFE and PEMEX re-integration, and increase private sector dynamism including through new engagement opportunities in the form of joint ventures with the two state-owned energy companies and ensure acquired rights, through so-called "mixed schemes". The secondary legislation to the Energy Reform, being drafted by SENER with support from CNE, is expected in the third quarter of 2025.

Energy sector public financial management challenges - Public Financial Management faces challenges like a shift towards higher state participation, social program expansion, large infrastructure needs, and significant fiscal support to PEMEX and CFE. These require revenue-boosting reforms and alternative ways to promote investments, such as envisioned with the mixed schemes. PEMEX is essential to the fiscal landscape, generating revenue from sales and paying taxes/royalties, but its revenues are insufficient to cover costs and obligations. It is the most indebted oil company globally, with debt representing a significant portion of public debt. The energy transition poses a risk to its business model, which the new president seeks to confront by asking PEMEX to "go green". CFE relies on tariffs and commercial activities for revenue, but has faced challenges covering expenses since 2017, and has been receiving significant subsidies and transfers from the federal government to remain profitable. CFE also carries substantial debt, considered part of public sector debt.

A1.7: Matching with Danish Strengths and interests, engaging Danish actors and seeking synergies

Shared goals between Denmark and Mexico - Denmark views combating the climate crisis as a major global challenge and prioritizes the green transition, drawing on decades of national experience and strong capabilities in renewable energy, district heating, and energy efficiency. Mexico is identified as a natural and potentially strategic partner in this effort. As the 12th largest economy and 9th largest emitter, and with a new government under President Claudia Sheinbaum demonstrating a strong commitment to climate action and energy transition, Mexico is seeking increased bilateral cooperation on climate and energy. Mexico also shares key values with Denmark, including support for a rule-based multilateral system, human rights, and a market-based economy.

Denmark's added value - Denmark is strategically positioned to support Mexico's green transition ambitions through DEPP. This program provides technical assistance and capacity development, leveraging existing networks within the Mexican energy sector and a strong record of accomplishment. Mexico's energy sector institutions, particularly SENER, PEMEX, CFE, CENACE, and CONUEE have requested Danish technical assistance in several areas, including decoupling dependency on fossil fuels like U.S. natural gas, supporting the green transition of state-owned energy companies, integrating higher levels of variable renewable energy into the power grid, promoting energy efficiency in industry, and developing wind energy potential onshore and offshore. Denmark enjoys a unique and trusted position as a technical partner in Mexico, exemplified by the unique position as a core advisor for SEMARNAT and INECC in the development of Mexico's new NDC 3.0 and net-zero targets. This reputation stems from its long-term presence, extensive networks within key decision-making bodies, placement of long-term technical advisors and an energy sector counsellor at the embassy, collaboration with local academic institutions, and a distinct demand-driven, agile, flexible, and non-commercial approach. The approach is often perceived favourably compared to other donors. Concrete cooperation is materializing through agreements like the MoU between Denmark and CFE, which includes a financial track, through the embassy, supporting investments in transmission and wind projects (potentially involving IFIs like EIB and EIFO) and a technical track focused on capacity development for renewable energy integration. An MoU has been made with SENER and an MoU between the embassy and PEMEX, the latter exploring offshore wind opportunities and the use of geological data for energy development. Danish institutions like the DEA, Embassy and DTU are involved, alongside Mexican academic and energy sector partners. Further entities could possibly be involved, such as the Danish Maritime and or Danish Environmental Authorities.

Commercial partnerships - Denmark also has significant commercial interests in Mexico, with many Danish companies present, including in the renewable energy and energy efficiency sectors. Both EIFO and IFDK have shown growing interest in the Mexican energy sector and are actively working with the Embassy in exploring new projects that could contribute to the green transition, including with CFE and PEMEX. The cooperation aims to improve framework conditions that can benefit Danish exports in these areas. Through the energy sector advisor at the embassy's cooperation with the trade council, DEPP contributes with strategic insights to Danish economic diplomacy efforts on energy efficiency and renewable energy.

Denmark coordinates its efforts with other key international partners in Mexico, including France, Germany, the UK, USA, the EU, the World Bank Group and IEA, participating in various donor forums and through maintaining bilateral relations in Mexico, to ensure synergies and avoid duplication. In the high-level bilateral talks that took place in early 2025 Denmark introduced SENER and PEMEX to join Beyond Oil and Gas Initiative, based in a mutual desire to deepen this cooperation further.

Partner	Areas of cooperation

Germany (GIZ and KfW)	Germany is the leading partner of Mexico amongst European countries, when it comes to both trade, FDI in Mexico, and development cooperation in the energy and climate space. Both GIZ and KfW have significant activities in Mexico in the climate and energy sphere. GIZ has a large portfolio of projects covering energy efficiency, climate change, and renewable energies as well as hydrogen. In the energy efficiency sphere, they are particularly working with sub-national partners and NGOs. Amongst other things are the GIZ PyMES programme, targeted energy efficiency of SMEs, which has received Danida support in the past. The GIZ-AFD PEEB program, with Green Climate Fund financing, focuses on energy efficiency in buildings and the GIZ implemented NAMA PyMEs facility which funds energy efficiency measures for SMEs. DEPP III activities in Nuevo León are coordinated with GIZ. KfW has a credit line focused on Energy Efficiency measures in SME's with NAFIN and FIDE and a number of sustainable housing projects, which aims to improve building quality and energy efficiency. KfW has expressed interest in working with Denmark and other European partners (AFD & EIB) on providing concessional finance for green energy infrastructure to the Mexican government, through CFE or the Ministry of Finance (HACIENDA). The energy advisor has had a number of exchanges with KfW regarding a possible joint approach to CFE, with EIB.
EU / EIB	The Danish Embassy in Mexico is in close dialogue with EIB regarding possible financing support to the expansion of Mexico's transmission and distribution grids. The EU Delegation does not have dedicated programmes or projects on energy but aims to coordinate actions of the EU member states in the context of a prospective Global Gateway Initiative on green energy. The EU Delegation coordinates the yearly joint COP-demarche by EU and its member states, to present the Mexican delegation with key EU priorities for the upcoming climate COP.
UK	UK PACT has been particularly invested in the climate change agenda, both about adaptation and mitigation. UK PACT has supported projects by SEMARNAT and an attempted update of climate change laws at sub-national level. The Foreign and Commonwealth Office (FCDO) also funds a number of renewable energy projects on solar energy, but is not considered a key partner of SENER or the energy sector institutions. The UK is working with SENER on clean cooking stoves and offshore wind.
United States	The US government (US Department of Energy, US State Department, US AID, the US Commercial Service and the US Environmental Protection Agency) has traditionally funded a large number of projects across the energy and climate area and maintained high-level dialogues throughout the Biden and AMLO administrations with SENER, CFE, CENACE, PEMEX and SEMARNAT. USAID has a large portfolio of energy projects in Mexico, mainly in the energy efficiency area, including the large NetZero Cities Programme in Mexico's five largest cities. DEPP III's energy efficiency activities in Jalisco and Nuevo León ensures regular coordination with the USAID contractor RTI. In addition, US Department of Energy and the Commercial Service works on clean hydrogen promotion with various energy sector stakeholders while the Environmental Protection Agency has a longstanding cooperation with PEMEX focused on reducing flaring and methane emissions and improving efficiency of refining. Given the attempted closure of USAID by the new US administration, all USAID staff, consultancy contracts and projects have been frozen, in end-January 2025 and it is currently unsure what activities, if any, can continue.
France	The French Embassy, with significant coordination and technical support from the French Development Agency (AFD) is working on negotiation of a Performance-Based Loan with Mexico, with Ministry of Finance and SENER and SEMARNAT. AFD has an existing and long-term credit line with CFE, with a focus on hydropower projects, on over 1 billion EUR. Historically, AFD has also financed projects on the transmission network. More recently the French has started doing feasibility studies for hydropower combined with floating solar PV in Chiapas, but CFE allegedly turned the project down. AFD finances a technical cooperation between CFE's Strategic Planning area and French TSO RTE, which started in 2024 which has revealed few concrete results yet. It will be important that possible activities with CFE by DEA is coordinated with RTE / AFD in order to ensure synergies and avoid duplication of efforts. AFD also works on energy efficiency projects in buildings with the Mexican development bank NAFIN and GIZ (the PEEB program). AFD is part of European efforts (with the Embassy of Denmark, EIB and KfW) to consider ways to provide a joint European financing package to the new Mexican government on energy transition.

IEA	IEA has had limited activities in Mexico in recent years, but maintains a contact point, based in Paris, in charge of developing cooperation with SENER, focused on energy efficiency.
ICM/IDEA	ICM and IDEA are funded by several international donors, including GIZ, UK Pact, international foundations as well as significant philanthropic support via Children's Investment Fund. ICM and IDEA have proven to be well connected in both SENER and SEMARNAT, particularly in the areas of interest for the DEPP cooperation, including energy system modelling, capacity-building activities, offshore wind and flexibility of the power system.
World Bank	In 2022-2023 the World Bank, with support from USAID and US Department of Energy, tried to initiate a collaboration with CFE aimed at upgrading the transmission network, however without success. Following the change of government, the World Bank is interested in proposing a new modality to support upgrades on transmission. The World Bank maintains a few projects with CFE focused on refurbishing large hydro power plants and has worked with IFC and IDB on Energy Efficiency with the national development banks (NAFIN, FOTEASE and BANOBRAS). In recent years the World Bank has also financed consultancies to update building codes and industry norms for energy efficiency.
Joint donor initiatives	The Mitigation Action Facility, a joint initiative financed by the EU Commission, Denmark, (Climate envelope) UK and Germany offer project and technical assistance support on a range of mitigation actions, through calls for proposals. The most recent call for proposals was shared by the group in December 2024.
Multilateral donor initiatives on climate and environment	The Green Climate Fund (GCF), the Global Environmental Facility (GEF) are active in Mexico with different projects for SEMARNAT and its subsidiary bodies working on environmental protection, biodiversity, water and climate adaptation. UNEP leads a large consultancy project to support Net-zero planning, nature-based solutions and sustainable transport, for SEMARNAT, ensuring coordination with the DEPP LTA on aspects related to net-zero analysis. The WB is engaged in discussions with SENER on possible new areas of cooperation under the new Mexican Government. Mexico is currently applying for the World Bank Climate Investment Fund, a process which involves both HACIENDA and SENER.

Annex 2: Partner assessment

Note: This annex is a considerably shortened version of DEA's very detailed partner assessment from March 2025, which is a valuable DEA reference document that can be used in programme implementation, but which is too detailed for the present CPD.

Name of Partner	***Core business***	***Importance***	***Influence***	***Contribution***	***Capacity***	***Exit strategy***
AERNL	Main business: Drive the green transition in Nuevo León Interest: Secure energy supply to the growing industrial sector Goal: reduce the energy demand from the grid	Medium – There is a need for fostering the concept of EE first as the general perception of energy savings is through promoting renewable energy. They need knowledge on EE and Energy Management as well as knowledge on engaging with the industrial sector.	High – Within NL, limited influence on federal level. The work program with the partner has been based on mutual suggestions and the partner has had complete ownership of the projects during the entire project period.	In-kind contribution by providing staff, office space, transportation and meeting facilities	Strengths: - Highly motivated and driven - High technical capacity Weaknesses - Too many different ideas - Limited mandate - Limited resources	When the capacity building has been anchored in the agency through institutionalization, human capacity and project strategies. All that is accomplished during the partnership collaboration will live on and continue to add value to the state of Nuevo León and will be extended to other Mexican states through a close collaboration with the federal government.
CENACE	Responsible for the Control centres, dispatching power generation plants. Managing the transmission system, and operating the wholesale power market. Responsible for Integrating (renewable) energy into the power system.	High – Efficient integration of higher shares of variable renewable energy is an important challenge for CENACE and Mexico with possible consequences for security of supply.	High – CENACE plays a central role in operation and planning of the power system. Furthermore, CENACE actively in dialogue with SENER, though with limited penetration, and is lobbying for a strengthened cooperation between SENER and DEA to ensure sufficient frameworks for VRE integration.	In-kind Contribution by providing staff, office space and meeting facilities	Strengths: - Technically highly qualified - Awareness on what knowledge and input they need Weaknesses: - Increasingly political oversight from SENER. Opportunities: - Key to integration of larger shares of renewable energy	After many years of engagement CENACE would have new knowledge that can immediately be applied and institutionalized
CONUEE	Prepare laws, regulations and norms on energy efficiency	High-medium – SENER relies on CONUEE as knowledge base and	Medium – CONUEE has influence in the development of	In-kind contribution by providing staff, office	Strengths: "	Institutionalization of CONUEEs capacity to implement existing and new

	Promote energy efficiency at national and sub-national level Management of energy data	implementing partner in regards to energy efficiency. There is a substantial need in Mexico for transfer of knowledge on energy efficiency from Denmark and through the Danish assistance. This is especially true in relation to the sustainability and efficiency of national programmes and regulation, and it is crucial to provide international support for CONUEE.	regulations and initiatives, but is still dependent of fulfilling SENER's strategic direction and plans.	space, transportation and meeting facilities	- High level of technical knowledge in energy efficiency - Long history of efficient international co-operation Weaknesses: - Limited staff resources for the tasks that they need to perform - Difficulties in enforcing the regulations - Limited influence over SENER's long term strategic directions. Opportunities: - Opportunity for high intake of capacity development Threats: - Further budget cuts, reduction in staff	tools and frameworks will be key to a successful exit strategy. Their level of knowledge will continue to be utilized after conclusion of the engagement.
INECC	To provide the numbers and calculations behind all climate change related policies, targets and strategies.	High. All modelling related activities rely heavily on this cooperation. There is an imminent risk, that without this programme, all modelling activities – and hence the basis for sound political decisions on climate change – would be put on hold.	Medium. INECC would be part of the same discussion as mentioned below with SEMARNAT.	A unique access to the technical calculations behind GHG-emission reduction targets, with relevance for other partners as well. In addition, INECC is well connected across all sectors related to NDC-targets.	Strengths: - Has significantly increased its capacity to work with climate modelling in regard to setting goals, building and choosing scenarios, etc. Weaknesses: - Has very limited resources both in terms of funds and staff	To support that modelling capacities are anchored within INECC, in order for INECC to be able to eventually carry out all aspects of modelling activities independently from the program"

					- Therefore, also limited in their ability to carry out the modelling themselves.	
SEMARNAT	To raise climate change ambitions and develop climate change policies.	Medium. Key activities, such as the development of the National Climate Change Strategy and Climate Program would have been challenged without the presence of the program. But it cannot be ruled out, that other donors could have taken upon them similar tasks, though with much less technical know-how.	Medium. SEMARNAT is currently doing an exercise to enhance the coordination and structure of all international activities, and is expected to have specific inputs on what projects would be of interest to them.	A unique access to influence future GHG-emission targets for Mexico and maintain the possibility of coordinating effectively between emission targets and energy system modelling (in SENER or INECC). In addition, the insights into, and possibility to influence, the develop of climate mitigation policies.	Strengths: - High degree of ownership of the projects carried out - High readiness of change - High effectiveness and efficiency Weakness: - Without the technical cooperation with INECC, SEMARNAT would have no solid in-house calculation tools to support the definition of climate change targets and policies. - The total amount of funds is small compared to the full SEMARNAT-budget, but very significant to the DGPAC budget.	Ensure a close involvement of SEMARNAT staff in modelling activities and results, in order to facilitate the ability of SEMARNAT in the future to independently interpret and apply modelling results in their climate change target and policy development activities.
SENER	Responsible for formulating and implementing policies and regulations related to Mexico's energy sector. Strategic oversight of CONUEE, CENACE and indirect oversight over state-owned energy companies PEMEX and CFE. Close cooperation	Very high. Key personal in SENER have been appointed personally by the president, and referrers directly to her. SENER are the key player in all decision on energy in Mexico.	Very high Without SENER support, activities are difficult or impossible to implement, and have no significant energy policy influence as seen during the AMLO period where CONUEE and CENACE were not	As the policy formulating body with executive powers over the energy sector, anchoring the program's four outcomes solidly across relevant departments of SENER is key for achieving impact	Strengths: - Strengthening of the ministry has been championed by the president Sheinbaum, - Allocation of new resources and talent, including a commitment to rebuild the planning area, anchored in a new law	From the start, there will be focus on sustainable knowledge transfer and uptake as an integral part of all activities. This is also seen as part of a structured approach for an exit and will feed into the development of a consolidated exit strategy to be assessed by the MTR. Criteria for a successful exit include evidence of uptake and use of knowledge

	with energy regulator, CRE and hydro-carbon regulator, HRE		allowed to co-operate with DEA		for energy planning and transition - Is expected to have reinforced formal and informal decision-makers structures and an enhanced oversight over PEMEX and CFE. Weaknesses: - During the previous government of Mexico, SENER lost a number of in-house capacities with regards to long-term energy planning, energy outlooks and oversight of state-owned energy companies. As such needs to rebuild this capacity to execute its role fully - SENER has a large and growing number of tasks, but a relatively limited budget for staffing resources	and experience that has been exchanged through the partnership. Exit or potential continuation with each partner institution will also depend upon the completion of outputs in agreed work plans and any further needs in these work streams and/or the emergence of potential new priority work streams and availability of resources.
SMA	Main business: Protect the environment in Nuevo León Interest: reduce the environmental impact on NL Goal: Reduce GHG emissions in NL with 25 % by 2030 (compared to 2020)	Medium – the partner need knowledge on EE as well as knowledge on engaging with the industrial sector. SMA can benefit from the structural approach of DEA on their projects.	Medium – While SMA plays a central role in the work on EE in NL, they have very limited influence on federal policy.	In-kind contribution by providing staff, office space, transportation and meeting facilities	Strengths: -Environmental approach to energy efficiency -Mandate to take legal actions Weaknesses: - Limited resources - High turnover of staff	When the capacity building has been anchored in the agency through institutionalization, human capacity and project strategies. All that is accomplished during the partnership collaboration will live on and continue to add value to the state of Nuevo León and will hopefully be extended to both the federal level and other Mexican states.

Annex 3: Results framework

Notes:

- MXDEPP is essentially a capacity strengthening programme in which technical support and knowledge transfer contribute to achieving enhanced national capabilities that in turn lead to programme outcomes and impact when national partners apply these capabilities. As an important pre-cursor to the results framework below, it should be noted that Outputs and Outcomes are formulated as the concrete results arising from DEA capacity strengthening support. Therefore, and to make the results framework more succinct, "capacity development" is generally not reflected in the wording of Outputs and Outcomes, but it is a general pre-cursor to this results framework and the capacity development approach is described further in the DEPP 2026 FPD and reflected in the narrative theory of change in Section 3.1.
- While not required by the standard Danida template for results frameworks, indicative activity types/topic area clusters are listed under each output as this facilitates understanding of what is expected to lead to the outputs.
- Where possible indicators are informed by partner indicators and sources of data. A "SMART" indicator test has been made and will be periodically updated that points to the sources of data and link to national monitoring and evaluation systems.
- Activities will be defined in annual work plans to be approved by the Steering Committee. Capacity development reporting at activity level will be part of annual work plan reporting.
- Baselines are defined for 2026. Baselines are informed by the results and achievements in earlier cooperation programmes in Mexico, which need to be considered in the development of work plans for MXDEPP in2026. Mid-programme (2028) targets for outputs have also been reflected, and end year (2030) targets are indicated.
- The MXDEPP programme will be accountable for the achievement of the outputs, which are within its control. DEA will monitor and report on outputs in progress reporting. DEA will also monitor and report on the achievement of outcomes, which are within MXDEPP/DEA influence but not within DEA control and dependent upon the assumptions from outputs to outcomes in terms of partner action and use of outputs.
- The MXDEPP distinguishes between key partners and other partners. Key partners are the main responsible partner under the relevant outcome and output and are also responsible for providing the necessary input to the annual work plans and progress reports. Other important partners are actively engaged in a few or more activities, dependent on the work programme.
- During the programme, all outcomes are to some extent flexible to address/work with priority demands from primary partners to support their areas of interest which can change.
- The assumptions (summarised in Section 3.2) underpinning the theory of change are important for achieving the stated outcomes and impact and must be closely monitored.

Programme	**Mexico-Denmark Energy Partnership Programme (MXDEPP)**
Programme Objective	Mexico has developed sustainable, clean pathways in accordance with the NDC 2035-target and Mexico's long-term net-zero target and has improved policies and plans to accelerate and implement a just and inclusive transition contributing to affordable and reliable clean energy to power a sustainable socioeconomic development.
Impact Indicator	• Clean energy production has increased from 23% to between 38-45% of annual electricity production as stipulated in the national energy strategy from 2024. • Mexico has set forth an ambitious decarbonisation plan for the energy system aligned with Mexico´s 2035 NDC and net-zero target which also include measures for just energy transition
Outcome 1	**Mexico develops and implements its long-term planning and modelling, in order to formulate new and operationalise climate goals and carry out the necessary planning for the ongoing de-carbonization of the Mexican energy system in a manner that is just and inclusive.**

Key partners and other important partners		Key partners: ➢ Secretaría de Energía (SENER) – overall coordinating partner ➢ Secretaría de Medio Ambiente (SEMARNAT) ➢ Instituto Nacional de Ecología y Cambio Climático (INECC) Other important partners: ➢ Instituto Nacional de Electricidad y Energía Limpia (INEEL) ➢ Universidad Nacional Autónoma de Mexico (UNAM), Instituto Politécnico Nacional (IPN) and other relevant organizations, such as Tec de Monterrey, Initiatíva Climático de Mexico (ICM), Fundación IDEA, etc.	
Outcome indicators		➢ State-of-the-art scenario modelling is being used actively to inform policy development and investment decisions by SENER and SEMARNAT.	
Baseline	Year	2026	- Energy system modelling has been used in Mexico's long-term energy and climate planning, with significant assistance from Denmark.
Target	Year	2030	- SENER and SEMARNAT have expanded capability to independently use state-of-the-art modelling to support climate and energy planning, as well as policies and measures incentivising investments that improve conditions for the poor and underserved.
Output 1.1		**SENER independently uses energy system models for their long-term planning activities to support an implementation of the new Energy Planning and Transition Law.**	
Indicative activity /topic areas		➢ Support building modelling capabilities in SENER to develop and operate their own energy sector models and to use the results in the annual up-dates of the National Energy Balance, the PLADESE (power sector development plan), and the PLATEASE (energy demand and energy efficiency outlook). ➢ Provide capacity and input to the revision of the Energy Transition Strategy in 2028. ➢ Courses and workshops on modelling related issues, exchange of best practices, latest developments, alignment of data and assumptions as well as promotion of inter-Mexican collaborations through the creation of a modelling community covering both government institutions, relevant stakeholders and universities.	
Output indicator		➢ SENER has an energy system modelling setup and team that actively and regularly supports the long-term planning of the energy sector and energy system modelling has supported the development of the PLATEASE publication four times in 2027, 2028, 2029 and 2030 respectively. ➢ Energy system modelling have supported the development of the next strategy for energy transition[18] and have led to concrete plans for expanding renewable energy production and transmission networks in Mexico based on transparent energy data and assumptions. ➢ SENER continuously involves and coordinate with government actors, relevant stakeholders and civil society in long term planning and energy system modelling.	
Baseline	Year	2026	- SENER has been introduced to state-of-the-art energy system models (demand side modelling and long-term planning) for use in development of energy outlooks under the new administration. - SENER is not applying modelling systematically in decision-making.
Target	Year	2028	- SENER has a preliminary modelling setup, and results are used systematically in the updated national energy transition strategy to plan for a reliable, affordable, efficient and secure energy system that integrates increased shares of clean energy. PLADESE, PLATEASE and the energy transition strategy have been updated with support from DEA and are used to inform decisions on long term energy targets.
Target	Year	2030	- SENER is independently carrying out scenario-based long-term modelling of the Mexican energy system, with attention to data transparency and inclusivity in the process, illustrating their ability to develop future editions of PLADESE, PLATEASE without support from DEA.

[18] Expectedly in 2028.

Output 1.2		**SENER has developed and frequently publishes analytical assumptions, such as technology catalogues for the energy sector in order to support decision making and energy system modelling activities.**	
Indicative activity /topic areas		➢ Three technology catalogues supported by DEA aiming to develop capacity in SENER to independently develop and frequently update technology catalogues covering relevant technologies for the planning in SENER and other institutions, including but not limited to power sector technologies. ➢ Development and implementation of RE project screening tools.	
Output indicator		➢ SENER continuously publishes and updates high quality energy technology catalogues	
Baseline	Year	2026	- A first version of a technology catalogue with selected power generation technologies has been developed with the support from DEA during DEPP III and earlier DEPP programmes.
Target	Year	2028	- Technology catalogue includes both power production and end use technologies and the information are used in SENER's modelling work. Technology catalogues are being updated and improved with partners taking charge of the process, and with active involvement of relevant stakeholders. Energy statistics have improved significantly.
Target	Year	2030	- Three documented examples of how updated technology catalogues have been published and used by partners and wider stakeholders. Regular up-dating of the catalogues are done independently by SENER.
Output 1.3		**SEMARNAT and INECC have improved capacity to independently develop climate targets and policies based on inputs from modelling activities.**	
Indicative activity / topic areas		➢ Provide modelling support for the development of Mexican climate targets, such as the national NDC 2040. ➢ Develop cost-benefit analyses of mitigation policies to achieve the Mexican climate targets, such as the 2030- and 2035-NDC-target, the net-zero target and the national climate program 2026-2030. ➢ Additional analyses supporting a just transition, including effects on job creation and public health. ➢ Courses and workshops on modelling related issues, exchange of best practices, latest developments, alignment of data and assumptions as well as promotion of inter-Mexican collaborations.	
Output indicator		➢ SEMARNAT and INECC actively use state-of-the-art modelling in the development of climate targets and policies considering a people-centred green transition.	
Baseline	Year	2026	- INECC and SEMARNAT have begun using modelling for informing their net-zero and NDC target setting, as well as informing the updated National Climate Change Strategy (ENCC) with significant support from DEA.
Target	Year	2028	- Documented examples of how climate and energy modelling have been used to inform a just and inclusive transition to a low-carbon economy. INECC and SEMARNAT have actively used modelling in the elaboration of road maps to achieve the 2030 and 2035 NDC's and net-zero targets.
Target	Year	2030	- INECC and SEMARNAT are capable of independently preparing the new 2040-NDC target based on best practice modelling and policies. Roadmaps with measures for implementing both NDC and net-zero targets are being implemented.
Outcome 2		**Mexico is developing and implementing policies and measures increasing energy efficiency.**	
Key partners and other important partners		Key partners: ➢ Secretaría de Energía (SENER) ➢ Comisión Nacional para el Uso Eficiente de la Energía (CONUEE) ➢ Government agencies of Nuevo León (AERNL and SMA) Other important partners: ➢ Secretaría de Medio Ambiente (SEMARNAT)	

Outcome indicator		➢ Enhanced energy intensity for Mexico as a whole benchmarked against annual target of 2.9% per year[19]	
Baseline	Year	2026	- Energy intensity goal set at a reduction of 2.9% per year up to 2030 in the PROSENER to be published before the end of 2025 (goal up from current goal of 2.2%
Target	Year	2030	- Energy intensity has been reduced by more than 2.9% per year. - Energy efficiency is an integrated part of SENERs energy modelling and measures are being implemented to ensure that the energy intensity goal is being met.
Output 2.1		**Energy efficiency policies, strategies and plans for both the industry and building sector are included in SENER's long-term energy planning and SENER is able to formulate and implement energy efficiency policies and measures.**	
Indicative activity /topic areas		➢ Support SENER in assessing the effects of selected policies and measures including the co-benefits of EE and decarbonisation, the effects for the poor and underserved as well as assessing the potential of energy efficiency initiatives as input to demand side modelling and PLATEASE. ➢ Support SENER and CONUEE in improving data collection and management in order to make reliable benchmarks – covering energy data from industries and buildings. ➢ Support SENER and CONUEE in their development and implementation of EE strategies, programmes and measures for both buildings and industry through capacity development, technical support for implementation of EE policies, incentives schemes, financial models, dissemination etc.	
Output indicator		Energy efficiency policies and measures are incorporated in the long-term energy planning by SENER and are followed up by initiatives for implementation	
Baseline	Year	2026	- New Energy intensity goal is set in the first PROSENER and reflected in the energy transition strategy. - Strategic energy efficiency goals and measures are not included in the long-term energy planning (demand-side modelling). - Limited availability of data , especially for the building sector.
Target	Year	2028	- Strategic EE goals and plans have been incorporated in the annual update of the PLATEASE and in the energy transition strategy. - SENER has obtained a higher level of data availability on a national level and is able to make specific benchmark indicators for the different sectors.
Target	Year	2030	- SENER has the capacity to assess the effects of EE policies, strategies and measures according to the long-term energy planning as well as the capacity to update the EE part of the energy transition strategy and the annual update of the PLATEASE. - SENER and CONUEE is actively using the energy data in their energy planning. - CONUEE is implementing and monitoring EE measures on the basis of SENERS's energy planning.
Output 2.2		**SENER is together with CONUEE systematically engaging and supporting the industrial sector in Mexico in achieving energy savings and CO_2 reductions in broad industrial segments.**	
Indicative activity /topic areas		➢ Support CONUEE with the Voluntary Agreement (VA) Scheme towards large industries (UPACs). Develop a data register and benchmark tool for the VA-scheme and train CONUEE in following up on the signed agreements and results. ➢ Technical support for the further development and extension to new clusters of the Climate Partnership (CP) concept in Nuevo León. ➢ Assist SENER in incorporating the experiences from the CP concept into the federal strategies and plans for the industrial sector. ➢ Technical support and capacity strengthening in SENER and CONUEE in the facilitation, support and dissemination of EE measures for engaging the industry sector such as CP and other incentive and support schemes.	

[19] Verified through looking at PROSENER

		➢ Assist SENER in developing roadmaps on EE and CO_2 reductions for the industrial segments on a national level. ➢ Coordination with other important stakeholders such as SEMARNAT.	
Output indicator		➢ The implementation of the CP concept in the pilot project in Nuevo León ➢ Number of industries on a national level committed to energy efficiency and CO_2 reductions with documented energy savings.	
Baseline	Year	2026	- SENER and CONUEE lacks capacity to systematically engage industrial actors in energy efficiency schemes. - Approximately 30 Voluntary Agreements signed and CONUEE lacks a system with the capacity to sufficiently register, monitor and follow-up on the effects of the VA scheme. - The CP concept is being established in Nuevo León.
Target	Year	2028	- SENER and CONUEE has capacity to engage the industry through voluntary agreements and through other schemes. - 100 Voluntary Agreements have been signed and are reporting. CONUEE is capable of monitoring and evaluating existing agreements in a structured manner . - The CP roadmaps are developed and in the process of being implemented in the three pilot industrial clusters in Nuevo León and broadened to include at least three additional clusters without the help from DEA. - SENER and CONUEE are engaging the industry sector at federal level in a scheme similar to the CP concept in Nuevo León.
Target	Year	2030	- CONUEE is capable of supporting the industries in meeting their VA agreement goals without the support of the DEA. - Industries involved in the CP concept in Nuevo León have successfully achieved the 25% savings target. - SENER have successfully established a scheme for engaging the industry, in minimum four industry clusters and/or chambers at national level that have committed to at least 10% reduction in energy use and SENER can independently operate and expand the program. - Roadmaps on EE and CO_2 reductions for industrial segments have been developed by at least four industry cluster and/or chambers with support from the federal government.
Outcome 3		**Mexico is developing a flexible power system, has created an enabling regulatory environment for investment in renewable energy, and is increasing its share of renewables, with respect to affordability, reliability and social impact.**	
Key partners and other important partners		Key partner: ➢ Secretaría de Energía (SENER) ➢ Centro Nacional de Control de Energía (CENACE) Other partners: ➢ Comisión Federal de Electricidad (CFE) ➢ Petroleos Mexicanos (PEMEX) ➢ Comisión Nacional de Energía (CNE)	
Outcome indicator		➢ SENER has developed the necessary regulatory framework for new investments in RE integration and production.	
Baseline	Year	2026	- 23 % clean energy in total electricity production[20]. - There are around 7 GW wind and solar projects in the pipeline of CFE[21]. - Insufficient regulatory framework for renewable energy development
Target	Year	2030	- Minimum 38 %. clean energy in total electricity production. - At least 30 GW installed solar and wind capacity. - Enabling and transparent policy framework for renewable energy development

[20] Based on 2024 data. When new data are available this will be updated accordingly.
[21] Based on 2025 data. When new data are available this will be updated accordingly.

Output 3.1		**A more reliable, affordable and flexible power system is established through improved system planning and a strengthened regulatory framework.**	
Indicative activity /topic areas		➢ Establish a Task Force in co-operation with SENER, CENACE, CFE, CNE and relevant stakeholders with the aim of identifying main barriers for a more flexible power system in Mexico ➢ Support SENER in developing an optimal dispatch system with high levels of variable renewable energy (VRE) ➢ Discuss regulatory models and system planning methods for incorporating storage, demand response, and thermal plant flexibility, as well as tariff schemes ensuring justice for the end-user. ➢ Support the implementation of state-of-the art transmission and distribution system technologies including considering how to mitigate adverse social and environmental impacts.	
Output indicator		➢ Barriers for increasing flexibility in the power sector have been identified and SENER is implementing policy and regulation aimed at increasing integration of renewables, and optimizing power market operations and dispatch strategies.	
Baseline	Year	2026	- Minimum operational flexibility in the power system.
Target	Year	2028	- An analysis of the barriers for increased flexibility in the power system has been carried out, and SENER is actively working on developing a more flexible power system, with support from DEA. - Awareness at decision-making level in SENER, CENACE, CFE and CNE on how to develop a flexible power system.
Target	Year	2030	- A flexible power system has been established enabling the integration of more variable renewable energy (VRE), as well as ensuring lower costs and security of supply
Output 3.2		**Improved system readiness for integration of high shares of variable renewable electricity through technical support on transmission system planning and operation.**	
Indicative activity /topic areas		➢ Joint development of tools and procedures to improve system readiness for integration of high shares of VRE. ➢ Enhance the accuracy and granularity of VRE forecasts and integration of these into dispatch and balancing operations. ➢ Support long-term grid planning under VRE uncertainty by using screening tools and aligning with regulatory and market developments. ➢ Enhance the institutional capacity and governance within CENACE with the aim of streamlining procedures and optimizing the execution of strategic technical projects.	
Output indicator		➢ CENACE is able to use state-of-art methodologies for short-term operational planning and forecasting of VRE in order to avoid curtailment of RE.	
Baseline	Year	2026	- CENACE does not have the capacity within operational planning and forecasting needed in order to avoid curtailment of VRE
Target	Year	2028	- CENACE is using state-of-art methodologies for operational planning and forecasting of VRE, with significant support from DEA.
Target	Year	2030	- CENACE has expanded capacity to improve the system readiness and can independently foster actions to handle large shares of VRE in the system.
Output 3.3		**SENER has developed an attractive enabling framework for renewable energy development with a particular focus on offshore wind which also considers standards for social and environmental regulation.**	
Indicative activity /topic areas		➢ Support SENER in designing a regulatory framework based on international best practices and triangular co-operation. ➢ Support SENER in developing its capacity and role as a regulatory authority in regard to supporting an increased build-out of VRE. ➢ Support the development of approval frameworks, such as tender processes, and one-stop-shop models on de-risking measures and a transparent market dialogue with relevant stakeholders.	

Output indicator		➢ Transparent rules and procedures for offshore wind projects are established, and pilot projects are at the stage of development.	
Baseline	Year	2026	- Offshore wind mapping and resource assessment available with support from DEA during DEPP III. No existing regulatory framework for offshore wind.
Target	Year	2028	- Enabling framework for offshore wind is being developed by SENER.
Target	Year	2030	- SENER has established of an attractive, sustainable and transparent policy framework for offshore wind, e.g. through the establishment of a one-stop-shop.

Annex 4: Risk management

Contextual risks[22]:					
Risk Factor	**Likelihood**[23]	**Impact**[24]	**Risk response**	**Residual risk**	**Background to assessment**
CR1 The risk of increased taxes and trade barriers from the Trump administration towards various regions, risks having a spill-over to recession in Mexico which could lead to political instability and lack of consensus on the green energy transition which in turn could affect the Programme.	Unlikely to affect Mexico's ambitious green transition	Significant	The Embassy and DEA will monitor political developments and consensus around the green energy transition closely and where relevant provide arguments for continuing the approach.	Major	General analysis on economic outlook and discussions in Mexico. Political economy and public financial management analysis made in Annex 1
CR2 Unclear market conditions for development of VRE	Likely	Major. Private sector less interested in investing in VRE in Mexico	Help SENER provide clear and transparent framework conditions for VRE. Work with SENER to establish a one-stop shop.	Major	International experience and review of recent effects in Mexico of changing market signals
CR3 Social resistance to VRE deployment if consultation processes are inadequate.	Unlikely	Major. Lack of public support for RE	Capacity development on ESIA.	Minor	History of social resistance in Mexico
CR4 Political and/or institutional resistance to market-based reforms and resistance to reducing gas dependency due to existing long-term agreements and lack of gas storage options.	Likely	Major. Less optimal integration of VRE, curtailment	Analyse barriers thoroughly and include experiences from Denmark before the Danish energy reform as well as from other countries.	Major	Consultation with government and donors and others – Political economy analysis made in Annex 1
CR5 Mexico will not have ODA eligibility status throughout the whole programme period due to economic development in the country.	Very unlikely	Significant	DEA will continuously consult with the MFA on projections from OECD and the World Bank regarding Mexico graduating from ODA eligibility status and prepare for appropriate measures accordingly.	Minor	Data from World Bank on development in Mexico's gross national income (BNI).
Programmatic Risks[25]**:**					
Risk Factor	**Likelihood**	**Impact**	**Risk response**	**Residual risk**	**Background to assessment**

[22] This category covers the range of potential adverse outcomes that may arise in a particular context, including the risk of harm beyond the immediate context or the country's borders and may include governance failure (e.g. the failure of effective public financial management or law enforcement); competition for resources; natural hazards; and pre-existing socio-political tensions. (Danida Guideline to Risk Matrix 2018).
[23] Danida classification categories are: very unlikely, unlikely, likely, almost certain (see link)
[24] Danida classification categories are: insignificant, minor, major, significant (see link)
[25] This category covers include two kinds of risk: (1) the potential for a programme to fail to achieve its objectives; and (2) the potential for the programme to cause harm in the external environment. With regard to (1), the risk factors for programme failure include many of the contextual risks outlined above, as well as institutional and political factors. But there are many other reasons for potential programme failure, including inadequate understanding of the context or flawed assessment of what needs to be done; management and operational failures; and failures of planning and co-ordination. Risk is also associated with new or innovative programme approaches (although there may also be risk in failing to innovate). (Danida Guideline to Risk Matrix 2018). The categorisation of likelihood, impacts, and residual risk is also consistent with Danida guidelines.

PR1 Limited resources and shortage of staff especially in SENER and INECC to continue the implementation and use of state-of-the-art modelling	Likely	Major -Long term sustainability of the developed capacity is limited and a programme risk.	Seed assistance in the form of financial support for short term experts. Involvement and anchoring of modelling expertise at university and separate agency such as INEEL. Highlight and demonstrate the importance of in-house modelling capacity, to support the assignation of additional internal funds in future years.	Minor	Programming mission May 2025
PR2 Political priorities overrule least cost solutions.	Likely	Major - Less VRE is being planned for	Increasing choice awareness	Minor	Political economy analysis made Annex 1
PR3 The cooperation with SENER has once before been put on hold by SENER. Even though this happened under fundamentally different political circumstances, the risk cannot be ruled out.	Very unlikely	Major - Large as the new programme is now anchored primarily with SENER	Signing of MoU with SENER. Demonstrating the benefits of the GtG co-operation. Meeting concrete and urgent demands from SENER.	Major	Historical experience from the earlier programmes
PR4 Lack of ability of SENER to facilitate a constructive dialogue with other programme partners and key stakeholders to ensure the availability and transparency of the necessary data and buy-in on common standards for technology attributes and costs.	Unlikely	Major - Modelling assumptions do not represent the Mexican reality. Lack of co-ordination among key institutions such as INECC and SENER.	Demonstrate the benefits of co-operation among institutions	Minor	Historical experience from the earlier programmes – political economy analysis in Annex 1
PR5 The large industries and industry clusters in Mexico are not interested in the concepts of Voluntary Agreements (VA) and Climate Partnerships (CP).	Unlikely	Major -Energy efficiency in industry is not increased compared to business as usual.	Help CONUEE and SENER to provide enough incentive for the industries to sign VA or be part of the CP.	Minor	Experience from DEPP III and Political economy analysis in Annex 1
PR6 Infrastructure, institutional and financial limitations for expansion of the transmission grid, lowering rapid VRE roll-out.	Likely	Major Less investment in VRE and Mexico does not meet its clean energy goal by 2030.	Demonstrate the importance of expanding the transmission grid	Minor	Institutional and economic assessments in Annex 1
PR7 Slow regulatory adoption, institutional competition or lack of political commitment to offshore wind	Likely	Major Delayed OSW development	Included as an output and not an outcome and can be scaled down if political interest is limited	Minor	Political economy analysis in Annex 1
PR8 Change in key personnel in Nuevo León government due to state election in 2027 Nuevo León	Unlikely	Minor Key activities are expected to be finalized before consolidation of potential new government.	Climate partnerships in Nuevo Leon is an activity as part of a larger output of engaging the industry in energy efficiency. Working with engaging the industry on federal level should remain unaffected.	Minor	Historical experience from the earlier programmes
PR9 Community resistance towards renewable energy planning and infrastructure if proper engagement, benefit	Likely	Minor. Key activities will continue, but will have consequences for the	Promote regulatory frameworks that includes environmental and social impacts assessments	Minor	Historical experience from the earlier programmes and analyses made in annex 1

sharing and consultations are not integration		overall effect of the programme.	and frameworks that facilitates transparency and consultation processes.		
Institutional risks[26]:					
Risk Factor	**Likelihood**	**Impact**	**Risk response**	**Residual risk**	**Background to assessment**
IR1 The programme could risk duplicating activities of other donors.	Unlikely	Major Waste of both Mexican and Danish resources	Good donor co-ordination and communication	Minor	Donor analysis and mapping in Annex 1
IR2 Any unintended use of resources or misconduct could reflect negatively on the partnership.	Very unlikely	Significant	There will be no direct fund transfers to partner institutions. The programme will follow DEA financial and contracting procedures, and the risk of direct corruption is considered very unlikely.	Insignificant	Any fraud or misconduct associated with the programme would have major consequences for partner institutions.
IR3 CENACE does not engage in partnership due to TSO-partnership with Energinet not being possible.	Unlikely	Significant	The DEA will focus on the regulatory side on flexibility together with SENER instead using in-house experts and international and local consultants where needed.	Minor	Close cooperation and dialogue with CENACE for many years, as well as that DEA and consultants are able to deliver technical support in most areas that Energinet.

From MXDEPP CPD section 3.2: Assumptions[27] relate to factors that are not (fully) within the control of DEA in implementing MXDEPP, but which underpin the theory of change and include the ones listed in the table below, which makes the connection between assumptions and risk analysis:

Assumptions	**Where covered by the risk analysis**
➢ The Mexican government's sustained political support for NDC and clean energy targets and related policy initiatives related to transparent governance of the green transition in Mexico.	CR4/ PR2/PR6
➢ Climate-diplomacy relations that support partner countries in addressing both climate action and a just energy transition, including community consultations and last-mile distribution.	CR1/3/4
➢ Mexican partners continue to up-date and share the necessary data for providing technical assistance in energy modelling and planning.	PR1/PR4
➢ Additionality and synergy ensured in a dynamic field with many actors and other donors.	IR1

[26] This category includes "internal" risk from the perspective of the donor or it's implementing partners. It includes the range of ways in which an organisation and its staff or stakeholders may be adversely affected by interventions, e.g. damage to a donor's reputation if it fails to achieve its objectives, or from financial/fiduciary failure (Danida Guideline to Risk Matrix, 2018).

[27] Assumptions and risks factors are connected. Risks (see Annex 4) can be seen as the factors that might have given rise to failure of assumptions – at least for the programmatic and institutional level.

➢ The partnership develops in a way that strategically supports transformational change aligned to Mexico's NDC and SDG targets and related policies and strategies.	CR4/PR2/PR7
➢ Relevant data and knowledge shared as needed also on broader topics such as socio-economic and environmental impacts of renewable energy.	PR1/PR4
➢ Mexican partners engage effectively throughout the programme, make use of the models for policy and planning and value peer-to-peer exchanges of good practice and paths to avoid.	PR3/4/5
➢ Sufficient number and qualifications of staff at key partner institutions are able to sustain the results of the cooperation.	PR1/ PR8
➢ Country level programme governance and management mechanisms (Steering Committee and working groups) meet regularly as foreseen and are effective in monitoring progress and results and in providing strategic guidance to implementation including ensure continued alignment to country priority needs and with emphasis on assumptions and risk factors as well as capacity development results for sustainable outcomes.	PR3/PR4
➢ Renewable energy is an enabler to meet future energy demand in the countries, including the electrification and digitalisation of society, while providing access to affordable and reliable energy to populations including low-income groups.	CR1/CR2/CR4/PR2
➢ The cooperation contributes effectively to an enabling environment for renewable energy investment to be mobilized, complementing institutional strengthening.	CR2/IR2
➢ Mexico's continued interest in engaging and consulting communities	CR3/ PR4, PR9

Annex 5: Budget details

Table A5.1: Summary budget allocations at output level

All numbers in DKK.

Outcomes	Outputs		2026	2027	2028	2029	2030	Sub-total
1: Implementation of long-term planning and modelling.	**1.1:** SENER independently uses energy system models	DEA staff	518,099	777,148	777,148	777,148	777,148	3,626,690
		Consultants	280,000	616,000	700,000	784,000	420,000	2,800,000
		Other Costs	17,724	38,992	44,309	49,626	26,585	177,236
		Subtotal	815,822	1,432,140	1,521,457	1,610,774	1,223,733	**6,603,926**
	1.2: SENER has developed and publishes analytical assumptions	DEA staff	606,898	910,347	910,347	910,347	910,347	4,248,285
		Consultants	85,000	187,000	212,500	238,000	127,500	850,000
		Other Costs	40,000	88,000	100,000	112,000	60,000	400,000
		Subtotal	731,898	1,185,347	1,222,847	1,260,347	1,097,847	**5,498,285**
	1.3: SEMARNAT and INECC have improved capacity to develop climate targets and policies	DEA staff	583,403	875,104	875,104	875,104	875,104	4,083,820
		Consultants	275,000	605,000	687,500	770,000	412,500	2,750,000
		Other Costs	40,000	88,000	100,000	112,000	60,000	400,000
		Subtotal	898,403	1,568,104	1,662,604	1,757,104	1,347,604	**7,233,820**
							Outcome 1 Subtotal:	**19,336,031**
2: Development and implementation of policies and measures increasing energy efficiency.	**2.1:** EE policies, strategies and plans are included in SENER's long-term energy planning	DEA staff	874,279	1,311,418	1,311,418	1,311,418	1,311,418	6,119,953
		Consultants	200,000	440,000	500,000	560,000	300,000	2,000,000
		Other Costs	55,000	121,000	137,500	154,000	82,500	550,000
		Subtotal	1,129,279	1,872,418	1,948,918	2,025,418	1,693,918	**8,669,953**
	2.2: The industrial sector is supported in energy savings and CO_2 reductions	DEA staff	782,853	1,174,279	1,174,279	1,174,279	1,174,279	5,479,970
		Consultants	150,000	330,000	375,000	420,000	225,000	1,500,000
		Other Costs	55,000	121,000	137,500	154,000	82,500	550,000
		Subtotal	987,853	1,625,279	1,686,779	1,748,279	1,481,779	**7,529,970**
							Outcome 2 Subtotal:	**16,199,923**
3: Development of a flexible power system, increase in share of RE in	**3.1:** A more reliable, affordable and flexible power system is established	DEA staff	693,151	1,039,727	1,039,727	1,039,727	1,039,727	4,852,057
		Consultants	120,000	264,000	300,000	336,000	180,000	1,200,000
		Other Costs	40,000	88,000	100,000	112,000	60,000	400,000
		Subtotal	853,151	1,391,727	1,439,727	1,487,727	1,279,727	**6,452,057**
	3.2: Improved system readiness for integration of VRE through technical support	DEA staff	524,416	786,624	786,624	786,624	786,624	3,670,913
		Consultants	190,000	418,000	475,000	532,000	285,000	1,900,000
		Other Costs	40,000	88,000	100,000	112,000	60,000	400,000

the electricity production, affordability and reliability.		Subtotal	754,416	1,292,624	1,361,624	1,430,624	1,131,624	**5,970,913**
	3.3: SENER has developedan enabling framework for RE development, focused on offshore wind	DEA staff	534,439	801,659	801,659	801,659	801,659	3,741,076
		Consultants	80,000	176,000	200,000	224,000	120,000	800,000
		Other Costs	50,000	110,000	125,000	140,000	75,000	500,000
		Subtotal	664,439	1,087,659	1,126,659	1,165,659	996,659	**5,041,076**
							Outcome 3 Subtotal:	**17,464,046**

Sub-totals per year:	6,835,261	11,455,298	11,970,616	12,485,933	10,252,892		
						Grand total	**53,000,000**

Annex 6: List of supplementary materials

#	Document/information	Internet link if available
1.	Energy Planning and Transition Law (in Spanish)	(link)
2.	National Development Plan (the Mexican government's priorities 2025-2030) (in Spanish)	(link)
3.	Updated National Climate Change Strategy (in Spanish)	(link)
4.	CFE Electricity System Expansion Plan (in Spanish)	(link)
5.	Plan Mexico (in Spanish)	(link)
6.	DEA Global Cooperation on Mexico – website	(link)
7.	DEA Memorandum on the Multidimensional Concept of Poverty and the Human Rights-Based Approach in the Danish Energy Agency's Government to Government Cooperation	
8.	DEA Political Economy Analysis in a Global Cooperation context	
9.	DEA Integrated Approach to Exit Strategies	
10.	Denmark's strategy for development cooperation "A changing world – Partnerships in development"	(link)
11.	MFA's memo on Denmark's trade with Mexico	(link)
12.	Danida Guidelines – Bilateral Cooperation	(link)
13.	Review Report, MFA MTR of DEPP III, March 2024	
14.	Mexico NDC update	(link)
15.	The Energy Progress Report 2025 (by World Bank ESMAP; IEA; IRENA, WHO and United Nations Statistics Division)	(link)
16.	World Bank ESMAP RISE indicators Mexico	(link)
17.	Mexico energy data, International Energy Agency (IEA)	(link)

Annex 7: Plan for communication of results

Communicating key events, significant results and / or positive effects of the programme will happen on an ongoing basis and in close coordination between DEA, MCEU, and MFA. The execution of this external communication plan is contingent upon the availability and appropriate use of DEA and MCEU communication channels. Implementation will be aligned with the priorities and requirements of the wider organization, ensuring that communication activities are coordinated, consistent, and supportive of overall organizational objectives. Adjustments to the plan may be made as necessary to reflect evolving needs, resources, or strategic direction.

What? (the message)	When? (the timing)	How? (the mechanism)	Audience(s)	Responsible
MXDEPP programme information, selected results targets and results updates against targets.	When DEPP 2026 approved - and updated regularly/ annually	Danida Open Aid	The Danish resource base and taxpayers.	MFA(MYNSEK)
Fact sheet/small brochure ("Landebeskrivelse") on MXDEPP. Key messages from MXDEPP results, achievements and effects communicated through relevant channels and / or communication products	Fact sheet when MXDEPP is approved and updates as relevant. Other key messages as relevant during implementation.	Danish Energy Agency website. MCEU website. Social media.	Danish resource base and Danish taxpayers. International development partners.	DEA MCEU
Fact sheet/small brochure on MXDEPP (in Spanish as relevant). Key messages from MXDEPP and information on MXDEPP-related key events in the national language.	Fact sheet immediately when MXDEPP approved and updates as relevant.	Fact sheet/small brochure on MXDEPP in national language and English on Embassy website.	Country national partners and professional community.	Embassy of Denmark in Mexico
Key messages on MXDEPP results and achievements.	During MXDEPP implementation.	MFA/Danida website and newsletters. World's Best News campaign. State of Green. Social media.	The Danish resource base, international partners.	MFA (MYNSEK)
Key messages on MXDEPP results and achievements.	As relevant during implementation.	Websites, social media etc. of key national partner institutions.	National partners and stakeholders.	National partners

Annex 8: Process action plan

Action/deliverable	Target date	Responsible
Danida Programme Committee Meeting on early draft Framework Programme Document (FPD)/concept note for DEPP 2026	8 April 2025	MFA(KLIMA)
Country formulation mission to Mexico and consultations with national partners on virtual platforms and in connection with other DEA technical missions	2nd-3rd quarters 2025 and again, as relevant, after appraisal	DEA GC with MFA(KLIMA)
Full DEPP 2026 document package (FPD with 5 country programme documents (CPDs[28]) to appraisal team	24 October 2025	DEA with MFA (KLIMA), MCEU, and formulation consultants
Appraisal of proposed DEPP 2026	24 October 2025-2 February 2026	MFA (LEARNING) with appraisal consultants
Meeting in the MFA External Technical Panel on DEPP 2026	19 February 2026	MFA (LEARNING)
Submission of DEPP 2026 FPD and CPDs for final verification by MFA (LEARNING)	9 March 2026	MFA (KLIMA)
Final verification of DEPP 2026 FPD and CPDs	11 March 2026	MFA (LEARNING)
Approval of DEPP 2026 by the Danish Minister for Foreign Affairs	tbd	Minister for Foreign Affairs
Approval of the DEPP 2026 grant by Finance Committee of the Danish Parliament	tbd	Danish Parliament
MXDEPP implementation	1 May 2026 – December 2030	DEA
Meetings of the MXDEPP technical working groups	At least twice a year	DEA
Meetings of the MXDEPP Steering Committee	Annually and in written procedure between annual meetings as required.	Embassy/ Partners
DEA GC internal meetings on assessment of assumptions and risks	Quarterly	DEA
Meetings of the DEPP Programme Advisory Group to consider MXDEPP progress and issues as inputs to the Strategic Advisory Group	Annually	DEA
Mid-term Review of DEPP 2026 including MXDEPP	2028	MFA (LEARNING)

[28] For CNDEPP (China), INDODEPPII (Indonesia), MXDEPP (Mexico), SADEPP (South Africa), and VNDEPP (Vietnam).

Final reporting on MXDEPP	Early 2031	DEA
Financial closure	Mid-2031	MFA

Annex 9: Job profiles for long term advisor

Climate and energy modelling LTA

The LTA will be part of the Ministry of Foreign Affairs and the Danish Energy Agency's energy cooperation with Mexico. Specifically, as a part of the Danish Energy Agency's collaboration with Mexico. The LTA's task will be focused on supporting the collaboration on developing the efficient, green and secure transition of the Mexican electricity sector, in collaboration with the Mexican Ministry of Energy (SENER), The ministry of environment and natural resources (SEMARNAT) and the national institute for ecology and climate change (INECC).

The LTA's main responsibility will be to act as an internal energy policy expert and advisor to SENER, SEMARNAT, and INECC, as well as working as a project manager for the relevant work streams including working with scenario modelling of the Mexican power system, energy efficiency, and the Mexican climate goals. The goal is to strengthen the Mexican capacity in energy modelling and planning, technologies for green transition of the electricity sector, energy markets, etc. in close collaboration with the Danish Energy Agency.

The advisor is expected to contribute directly with knowledge and experiences from the Danish energy transition as the advisor is the main point of contact for the partner institutions, but the advisor will also be responsible for drawing on the relevant expertise from the Danish Energy Agency.

In collaboration with the Danish Energy Agency, the LTA will drive, further develop and adapt the cooperation with the responsible authorities in Mexico. The LTA will also contribute to the preparation and implementation of delegation visits, professional seminars and workshops and be responsible for relevant project follow-up. Furthermore, the LTA will contribute to project management, secretarial services, follow-up with local authorities and reporting to Danish authorities

It is expected that the LTA will work physically at SENER and/or SEMARNAT two or more weekdays per week, two working days per week at home/elsewhere and one working day per week at the embassy in Mexico City.

Requirements:
The LTA is expected to have a relevant academic education, e.g. a master's degree and a minimum of five years of relevant professional experience. Knowledge of Mexico or the surrounding region is an advantage, but not a requirement. Furthermore, the LTA, should have several of following qualifications:

Sector-specific experience:
- Solid and broad knowledge of the regulatory framework conditions for the energy sector in Denmark (both technical, economic and regulatory knowledge). It is not required, but if the advisor also has knowledge of the Mexican energy sector it is preferable.
- In-depth experience with energy planning and modelling, and the ability to communicate knowledge clearly.
- Experience with TIMES and Balmorel is an advantage but is not a requirement.
- Solid knowledge and experience with Danish and international climate and energy policy and the Danish energy sector is a requirement.

General experience:
- Good skills in analysing and disseminating results and contributing to policy development based on modelling results will be an advantage.
- Deep experience in project management and coordination between many institutions is required.
- Ability to work as part of a multidisciplinary team with relations to different ministries and stakeholders.
- Experience of delivering results in a politically led organization is required.

- Experience from working for Danida or similar with capacity building and/or policy advice will be an advantage.

Personal qualifications:

- Openness to and understanding of different cultures and ability to work in a different cultural and political setting
- Interpersonal skills with a high level of initiative, diplomacy and professional integrity
- Proactive and flexible attitude
- Capacity to manage and facilitate work processes involving parties at different levels in politically led organizations
- Fluency in Danish, English and Spanish at a negotiation level.

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Ministry of Foreign Affairs of Denmark (MFA)
Ministry of Climate, Energy and Utilities of Denmark (MCEU)
Danish Energy Agency (DEA)

South Africa-Denmark Energy Partnership Programme (SADEPP, 2026-2030)

Country Programme Document

Final

6 March 2026

MFA file: Public 360 No. 25/06726

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Key abbreviations and acronyms

ANC	African National Congress
CBA	Cost Benefit Analysis
CETP	Clean Energy Transition Programme (of the IEA)
CNDEPP	China-Denmark Energy Partnership Programme
CO_2	Carbon dioxide
COP	Conference of the Parties (to the UNFCCC)
CPD	Country programme document in DEPP 2026
CSIR	Council for Scientific and Industrial Research
DAC	OECD Development Assistance Committee
Danida	Danish International Development Cooperation
DEA	Danish Energy Agency
DEA-GC	DEA Global Cooperation
DEE	Department of Electricity and Energy (earlier DMRE)
DEPP	Danish energy partnership programmes
DMRE	Department for Mineral Resource and Energy
DOE	Department of Energy (now DEE)
DPE	Department of Public Enterprises
DKK	Danish kroner
DSIF	Danish Sustainable Infrastructure Finance
DSO	Distribution System Operator
DTU	Danish Technical University
EE	Energy efficiency
EIA	Environmental Impact Assessment
EIFO	Export and Investment Fund of Denmark
Energinet	Danish Transmission System Operator
EOR	Energy Outlook Report
Eskom	Electrical Supply Commission
ESMAP	Energy Sector Management Assistance Program
EU	European Union
EV	Electrical Vehicle
FPD	Framework programme document
GDP	Gross domestic product
GHG	Greenhouse gases
GtG	Government to Government
GW	Gigawatt
HRBA	Human Rights Based Approach
IBR	Inverter Based Resource
IEA	International Energy Agency
IEP	Integrated Energy Plan
IFU	Investment Fund for Development Countries
INDODEPP	Indonesia-Denmark Energy Partnership Programme
IPCC	Intergovernmental Panel on Climate Change
IPP	Independent Power Producer
IPPO	Independent Power Producer Office

IRENA	International Renewable Energy Agency
IRP	Integrated Resource Plan
JETP	Just Energy Transition Partnership
KPI	Key Performance Indicator
LNOB	Leaving no one behind
LTA	Long-term advisor
M&E	Monitoring and Evaluation
MCEU	Danish Ministry of Climate, Energy and Utilities
MFA	Ministry of Foreign Affairs of Denmark
MFA(KLIMA)	MFA Department for Green Diplomacy and Climate
MTR	Danida Mid-term Review
MW	Megawatt
MXDEPP	Mexico-Denmark Energy Partnership Programme
MYNSEK	MFA Secretariat for Strategic Sector Cooperation
ND-GAIN	Notre Dame Global Adaptation Initiative
NEMA	National Environmental Management Act
NERSA	National Energy Regulator of South Africa
NDC	Nationally Determined Contribution under the UNFCCC
NTSA	National Transmission Company of South Africa
ODA	OECD Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
PAG	Programme Advisory Group (for DEPP, consisting of the MFA, MCEU, and DEA-GC as the secretary)
PANT	Human rights principles of participation, accountability, non-discrimination, and transparency
PAP	Process Action Plan
PCC	Presidential Climate Commission
PD	Programme Document
RE	Renewable energy
REMIT	Regulation on Wholesale Energy Market Integrity and Transparency
RSA	Republic of South Africa
RT&D	Research, Testing and Development (Eskom Corporate division)
SADC	Southern African Development Community
SADEPP	South Africa-Denmark Energy Partnership Programme
SAG	Strategic Advisory Group (consisting of the MFA, MCEU, and DEA-GC as the secretary)
SANEDI	"South African National Energy Development Institute
S&P	Strategy and Planning (Eskom Corporate division
SOC	Steering and Oversight Committee
SDG	Sustainable Development Goals
SEC-funds	Funds related to Strategic Engagement Cooperation projects under DEPP III.
SMART	Specific, measurable, achievable, relevant, and time-bound
SSC	Strategic sector cooperation
TSO	Transmission system operator
TWG	Technical Working Group
UNFCC	United Nations Framework Convention on Climate Change
VNDEPP	Vietnam-Denmark Energy Partnership Programme
VRE	Variable Renewable Energy

WASA	Wind Atlas for South Africa
WHO	World Health Organisation

1. Introduction, context, strategic considerations rationale and justification

1.1 Introduction and background

This Country Programme Document (CPD) outlines the background, justification, objectives, theory of change results framework, and management arrangements for Danish support for the South Africa-Denmark Energy Partnership Programme (SADEPP). This CPD is one of a total of five CPDs[1] under the Danish Energy Partnership Programme (DEPP) with China, Indonesia, Mexico, South Africa, and Vietnam 2026-30 (called DEPP 2026 for its acronym, as 2026 is the year the programme starts). A DEPP 2026 Framework Programme Document (FPD) provides the overarching description of DEPP 2026 and contains information relevant to all five country programmes. Cross-references to the FPD are therefore made where relevant.

There has been a strategic partnership between Denmark and South Africa since 2014, where the two countries agreed to technical and scientific cooperation in, among other areas, energy, climate change and green growth. Table 1.1. below outlines the trajectory of cooperation within energy.

Table 1.1: History of South Africa-Denmark energy cooperation

DEPP I 2014-2017	DEPP II 2017-2020	DEPP III 2020-2026
Partners: DoE (Depart of Energy), SANEDI (South African National Energy Development Institute) and Eskom Highlights/outcomes • Advanced understanding of energy system adequacy to further integration of RE. • Enhanced capacity of RE generation data collection for better large-scale planning. • Strengthened capacity to remove barriers for grid connection in distribution.	Partners: DMRE and Eskom Highlights/outcomes • Start-up of inter-institutional cooperation in long-term energy modelling between DMRE and Eskom. • Enhanced distribution network planning and operation to further integration of RE. • Better measures for integrating battery energy storage in the system.	Partners: DMRE, IPPO, Eskom Highlights/outcomes • Enhanced partner capacity on energy sector planning and policy development, integrating renewable energy through a just transition with cost-effective measures of meeting policy objectives • Technical assistance contributed to new regulatory framework supporting transition to a liberalized energy market • Regulatory framework, operational procedures supporting cost-effective security in supply with greater variable renewable energy share

Denmark has also engaged in Strategic Sector Cooperation projects with South Africa on water and other areas. SADEPP builds on the earlier cooperation and in particular DEPP III which ends in 2026.

South Africa is standing at a crossroads where vital decisions need to be taken on how to power the energy grid. The newly formed coalition government provides an opportunity for much-needed reform of the

[1] The similar country programme acronyms are CNDEPP for China, INDODEPP for Indonesia, MXDEPP for Mexico, and VNDEPP for Vietnam.

energy sector and an improvement in overall governance and oversight. New political appointments in parliamentary committees and reforming the political management and oversight of the energy sector open new possibilities for more efficient decision-making and improved transparency. However, the possibility of rapid implemented reforms also imposes a risk of instability and opposition as changes can impact both large industries, households and particular affect coal-dependent regions such as Mpumalanga Province where between 150,000 and 200,000 jobs (18% of the workforce) are directly or indirectly depending on the coal industry. According to the World Bank, the poorest households spend 27% of their income on energy while large sums of energy subsidies are provided.

Like many other countries, South Africa stands in front of significant investment to modernise and green their grid connected energy supply to meet a growing energy demand and increased electrification of the society. This will require ability to mobilise both national and international financing but also private investors and leapfrogging to new technologies. South Africa faces a dual challenge as many coal power plants face retirement and decommissioning, while energy demand simultaneously is increasing. This underscores the urgency of transitioning towards cleaner energy technologies and avoiding long-term investments in new coal-based power plants.

South Africa has experienced a power crisis the past years and during 2022 alone, the country experienced load shedding of approximately 200 days. Furthermore, power blackouts also occur frequently due to a constrained transmission and distribution network (load reduction) and shutdowns of power during repair. While load shedding was largely avoided between April 2024 and January 2025, the start of 2025 has seen a return of load shedding. Lack of access to electricity disproportionately affects low-income households as they often live in areas with more frequent and longer outages, and with limited access to power back-up such as solar photovoltaic facilities, batteries or diesel generators. Additionally, load shedding has considerably hindered industrial growth and job creation. The South Africa-Denmark green strategic partnership from 2022 is based on a common desire to build a sustainable future where amongst other things, renewable energy and related job creation is at the centre. In the wider donor landscape, a similar agenda is supported by the JETP, supporting renewable energy and grid development and related areas.

1.2 Country context

Between 1994 and 2018, South Africa connected over 7.4 million households to the grid, raising the electrification rate from 36% to 86%. Out of the 3.5 million households not connected to the main grid, 60% are in rural areas. Since 2003, the Free Basic Electricity Policy has ensured a right to receive 50 kWh of free electricity for eligible poor household. The public financial expense is covered by the National Treasury and administered by the municipalities, who inform the national energy company. In general, affordability is a major consideration in the context of South Africa's energy system development and sector reform. Particular, black female headed households are identified as the most vulnerable. It will be essential to balance the need for grid investment and recovery of associated costs through tariffs with affordability for customers, address the use of cross-subsidisation through energy tariffs, and consider tariff design and the handling of subsidies in a future market-based power sector. The interlinkages underline the challenges of the up-coming energy reforms of considering the potential positive co-benefits and risk of trade-off between SDG1 on poverty, SDG5 on gender equality, SDG7 on energy, SDG8 on decent jobs and growth, and SDG10 on inequality.

Today South Africa's power production is dominated by coal (83%), which leads to high levels of carbon emissions and air pollution. Many of the thermal power plants are old and need to be retired and decommissioned. However, the South African energy crisis has recently also been a driver for introducing energy reforms and for increasing uptake of renewable energy in the public and private sector, because renewable energy is quickest and cheapest to build. Whereas the reasons to transition towards less coal and more renewable energy seem clear, the political context of the country makes this transition very complicated. In a country still suffering from the heritage of Apartheid, e.g. leading to high racial inequality, it has proven extremely politically sensitive to descale a coal industry, which is mainly employing black

communities. Combined with vested political interest in the industry, this area has been and will continue to be a political topic of highest priority, which will also be monitored during the course of SADEPP. Nevertheless, the current and former government accelerated the drivers to integrate more renewable energy, when the Department of Mineral Resources and Energy (then DMRE, now DEE) in January 2023 announced that Independent Power Producers would no longer be required to hold generation licences in order to produce electricity. This greatly increased the amount of investment by the private sector into private generation and the amount of privately generated electricity, including new large interest from Danish companies and investors such as Copenhagen Infrastructure Partners, Vestas, Maersk Capital and Danfoss. This has, however, been limited by a lack of suitable regulations on wheeling and grid access, demonstrating the need for further coordination between institutions. Recent impetus to enact reforms at speed, creates cautious optimism but also a risk of instability caused by rapid change in the coal dependent regions or if access to reliable and affordable energy coupled with insufficient institutional capacity within key institutions to deliver on significant changes in the management of the grid and electricity reform. Thus, the balance between creating better conditions for more integration of renewable energy providing a more stable electricity supply and ensuring affordable prices and maintenance of jobs in coal dependant regions is of highest political priority in the country, which will naturally be considered in and influence the capacity building conducted under SADEPP.

1.3 Results and lessons learned

The results, to date, across the three outcomes of DEPP III and additional activities[2] are summarised in the table below.

Table 1.2: Key results achieved under DEPP III in South Africa

Outcome	Results
Energy sector planning and policy development, integrating renewable energy through a just transition with cost-effective measures of meeting policy objectives	Comprehensive study and presentation for decision-makers on considerations for cost-effective procurement of RE taking grid constraints into account. Inputs are being implemented in the upcoming Bid Window 8 for procurement of solar PV and onshore wind, under the government's Renewable Energy Independent Power Producers Procurement Programme. This together with activities around a newly started Independent Transmission Procurement programme and other support areas has provided critical capacity strengthening of IPPO's to make successful procurement programmes in a time with severe grid constraint and major private interest to invest in both RE and grid.
Regulatory framework, institutional development, grid and energy system energy planning support effective transition to a liberalized market with a rising share of electricity from variable renewable energy sources	Long Term Advisor successfully seconded to Eskom Strategy and Planning, to support on the ongoing unbundling of TSO (Transmission System Operator) and DSO (Distribution System Operator). This unbundling of the vertically integrated utility is an essential prerequisite for liberalisation of the sector and establishment of a market (enabling private sector participation), and is therefore a core topic of support. Concrete deliverables have included, amongst others, a multi-country analysis (including experience from Denmark) on operating models for unbundled utilities. The analysis provided insights for Eskom and its subsidiaries on implications and considerations around operating models for the unbundled businesses, in a liberalising power sector. The strategic support around unbundling and liberalisation has provided impact and institutional capacity to oversee and guide Eskom's unbundling, exemplified in a study tour for Eskom leadership to Denmark as a part of Eskom Executive Development Programme to learn specifically about unbundling. initiated by Eskom themselves and bringing Denmark into a study programme only including Germany, China and India as other visited countries.

[2] Funds allocated from DEPP III unallocated funds reserve to Strategic Engagement Cooperation (SEC) projects

Regulatory framework, operational procedures and flexible options in the power system supports cost-effective security in supply with a rising share of electricity from variable renewable energy sources	Trained Eskom in EV and charging station modelling, impact assessment, and forecasting, and supported development of a national capacity map for EV infrastructure, hence capacitating the operator of 90 percent of the country's distribution system to pursue implementation of EV infrastructure —critical for South Africa's Just Transition. Beyond EVs, DEPP III provided training and knowledge sharing on integrating variable renewable energy (VRE), focusing on ancillary services (frequency control, spinning reserve, inertia) and adapting grid codes for inverter-based resources. Technical workshops strengthened Eskom's and operators' capacity to maintain system stability and reliability. Additionally, experience with synchronous condensers was shared, supporting grid stability as conventional plants phase out. These efforts enable a secure transition to a renewable-based, decarbonised power system.
Just energy transition dialogue (SEC-project)	Project assisted Presidential Climate Commission in conducting important alignment with stakeholders relevant to JET in South Africa. Views from different geographical and demographic groups were uncovered and can be used in the further implementation of JET. Also support to South Africa's G20 Just Energy Transition Working group.
RSA+ (SEC project)	Work with Market Reform across DMRE (now DEE) was initiated under RSA+ leading to the establishment of the partnership with regulator NERSA (National Energy Regulator of South Africa). This partnership is a crucial part of enhancing the regulatory framework for further RE integration, and DEA now has a unique entrance to NERSA already being a trusted partner for support on specific matters such as approving the application from the Market Operator as well as broad capacity building for a regulator in a more liberalised electricity sector. In this short period, NERSA staff have shown improved abilities and understanding of assessment and approval process for the Market Operator licence, drawing on international experience with market governance, functional unbundling, and regulatory separation of system operation, market operation and network activities, providing great conditions for further institutional capacity building during SADEPP, leading to a more enabling regulatory environment.

Key lessons learnt from earlier phases include:

- The importance of political economy in terms of shaping the aims of the cooperation and the need for a flexible and adaptive approach. This has also been true in the case of South Africa where it became necessary for the programme to change its course withdrawing from some areas and enhancing others while be flexible enough to come back again to some areas if political interest reappears. As an example, following a renewed and improved relationship with the Department of Electricity and Energy together with a growing political will for market reform, DEA initiated a partnership with the South African Energy Regulator (NERSA) in DEPP III, which will be enhanced in SADEPP. Together with the involvement of the Danish Utility Regulator in the partnership with South Africa, this serves as a result of ongoing partner assessment and reading of the political economy.
- Strengthening partner capacity through secondment of a long-term adviser (LTA) providing on –the-job training in a partnering organization has proven to be very efficient and constructive while contributing to specific analytical needs.
- Considering the complex stakeholder landscape in the energy sector of South Africa, it has proven important and valuable to also engage with stakeholders beyond the programme such as Presidential Climate Commission which opened the door for Danish engagement in JET-P. As well as most recently, engagement with Stellenbosch University on a technical grid study.
- The need to strengthen the approach to capacity development and the benefit of thorough and early partner assessments. DEA has recently developed a guide that builds on learning across many

programmes and SADEPP will be systematically guided by this strategy. Matching demands with the resources available, has been challenging and requires considerable flexibility and forward planning.

- How DEA whilst focussing on improving framework conditions can increase its contribution to strengthening an inclusive and just green transition through enabling affordable and reliable energy and supporting policies and practices that enhance community consultation, good governance and co-benefit sharing such as job creation and reskilling.

1.4 Justification and alignment with Denmark's development policy priorities

South Africa and Denmark have had a long history of cooperation within the energy sector which this new programme of cooperation will build on and consolidate. South Africa is at a crossroads in developing a high performance and liberalised energy market and eager to engage with Denmark and learn not only from Denmark but also learn from and contribute to the energy sector in the other countries where Denmark has government to government cooperation.

SADEPP is fully aligned with priorities in Denmark's new Strategy for Development Cooperation "A Changing World - Partnerships in Development" which has a just, sustainable, and green transition as one of its five prioritised focus areas, and which among other things states that "Denmark will expand renewable energy in partner countries through Danish solutions, international alliances, and strategic sector cooperation". SADEPP is also a direct implementation of an equal partnership approach which is contributing to strengthen the long-term cooperation between Denmark and South Africa. The Strategy also emphasises the importance of economic diplomacy and mentions that Danish companies have solutions and technologies that already contribute to sustainable social and economic development. SADEPP is also aligned to Denmark's Africa Strategy "Africa's Century", which prioritizes a green energy transition and sustainable development by focusing on renewable energy integration, energy efficiency, and building local capacity for green solutions.

The main focus is on SDG 7[3] Affordable and Clean Energy and SDG13 Climate action. SADEPP will support the South African energy sector both the lead ministry and its agencies in long-term planning, integration and regulation of renewable energy and energy efficiency measures with the aim to supply affordable, reliable and sustainable energy for all based on least cost development. SADEPP will also support the Government's actions to mitigate climate change, build resilient energy systems, including through integrating climate change perspectives into long-term planning, and reduce emissions through energy efficiency and greater use of renewable energy.

The Programme contributes to several other SDGs since energy is an enabler of wider socio-economic development. In South Africa, the contribution to SDG 1 No poverty, includes supporting reliable, affordable supply of clean energy, contributing to alleviation of energy poverty, which is widespread among disadvantaged communities. Affordability and reliability are key concerns driving the programme's focus on least-cost long term planning, cost-efficient integration of renewable energy, and cost-effective implementation of energy efficiency, and the increased emphasis on socio-economic aspects of the energy transition.

Economic diplomacy

In line with the priorities in Denmark's new Strategy for Development Cooperation, SADEPP will deploy a strengthened approach to contributing to economic diplomacy. This will be done through continued promotion of ambitious renewable energy targets and favourable framework conditions for renewable energy investments and the support to liberalisation of the energy market. The aforementioned fundamentally helps reduce barriers and secure stable framework conditions, improving market conditions and attractiveness of the South African market for Danish companies with green solutions. It may also be

[3] The SDG 7 Energy Progress Report 2025 (by World Bank ESMAP; IEA; IRENA, WHO and United Nations Statistics Division) (link). The SDG7 data for South Africa can be seen on these sites.

done through strengthened cooperation with the embassy's Trade Council, increased engagement with industry associations, and a focus on financing opportunities with Danish and multilateral financing institutions. Danish private sector companies and investors such as Vestas, Mærsk Capital and Copenhagen Infrastructure Partners (CIP), have shown interest in the South African market for renewable energy. Also, multiple Danish companies have been engaged in energy efficiency in South Africa directly and indirectly. The Impact Fund Denmark (formerly IFU) and Danida Sustainable Infrastructure Finance (DSIF) are also active in South Africa, and synergies with these efforts will be pursued. Danish investors like CIP are already attracting international financing to support South Africa's green transition and building partnerships with local companies and meeting national requirements on local job creation and training. As a concrete result of this it is projected that CIP 's investments will deliver 9-10% of the electricity in South Africa in 2027.

1.5 Target groups and cross-cutting concerns

South Africa faces severe energy poverty, with millions of households lacking reliable electricity (as many as 3.5 million are not yet connected to the grid), high costs, and frequent load-shedding that limit access to basic services. The country's reliance on fossil fuels contributes to pollution and climate vulnerability, exacerbating health and social inequalities. The green transition offers a pathway to address these challenges by creating jobs in renewable energy, providing income opportunities that directly reduce poverty. Liberalisation of the energy sector attracts private investment, lowers electricity costs, and expands access to affordable energy for households and businesses. Cleaner energy improves public health by reducing pollution, supporting fundamental human rights to life and well-being. Decentralised renewables empower rural communities, while skills development in green technologies boosts social mobility and economic inclusion. By strengthening energy security and mitigating climate change, these measures protect vulnerable populations and future generations. Together, they integrate economic growth, social equity, and environmental sustainability to tackle energy poverty while advancing human rights.

SADEPP will integrate the HRBA principles of transparency, participation, accountability, and non-discrimination (PANT) into its institutional and technical collaboration, and furthermore through dialogue with partners be attentive to the importance of do-no-harm, acknowledging the risk of unintended adverse socio-economic impact of transitions to renewables. In dialogue with partners, and when agreeing on annual work plans, DEA will do the following:

- Advise partners to conduct consultations with stakeholders, including in affected communities and the private sector.
- Include consideration of equal access to reliable electricity services for all societal groups, especially vulnerable populations, and assessment of actual lifetime and externality costs, such as air pollution, are included in energy models and scenarios.
- Include considerations on affordability issues, e.g. when working with cost-reflective tariffs.
- Ensure that energy models and specific analyses do not exclude parts of society, e.g., vulnerable groups and that the employment effects of different green energy transition scenarios are examined.
- Support for partner authorities' conduct of open consultations, allowing relevant stakeholders, including the private sector, to contribute data and knowledge.
- Encourage partners to publish analyses and data to inform stakeholders and the broader society
- Seek to make the learnings and results from energy modelling available and disseminated to inform further macro-economic analyses including engaging in relevant coordination, exchanges and knowledge sharing with other development partners.
- Discuss with partneers how new regulations and policies take vulnerable groups into account.
- Propose/consider new assumptions and criteria in model development to ensure the inclusion of more regions or population groups (if they were previously excluded).

Gender equality is considered as a cross-cutting issue in the DEPP 2026 Programme across all five countries. While gender equality can be difficult to reflect in long term energy planning, energy modelling and other

distinctly technical discussion about integrating variable renewable energy, clearer opportunities exist to reflect gender in the context of public consultations, for example, and the South African constitution and government policy and practice provides a positive departure point for enhancing gender equality in energy access. Moreover, green energy transition is an opportunity to prioritise gender balance in employment in the sector and address differentiated impacts between women and men when it comes to potential benefits and risks of adverse impacts. Training and capacity development activities should strive to strengthen gender balance, and any engagement around public consultations and co-benefits should consider gender differences. Ensuring a gender lens in SADEPP activities, where relevant, will be important, including striving for gender equality in programme knowledge exchange and capacity development activities and it will be important to monitor and report on gender balance in relevant activities.

1.6 Choice of partner institutions

The objectives and outcomes of the energy collaboration with South Africa require a close cooperation with a number of partners and institutions with mandates that are directly linked with outcomes of the programme - the key ones are outlined below. DEA has already established collaboration with the four core partners which this phase of the programme will build on. Furthermore, the governance structure of the SADEPP has proven to contribute to a positive coordination between the stakeholders who do not meet regularly otherwise. The partners have been selected as they are main stakeholders of achieving the targets of SADEPP and have proven to demonstrate a commitment to government-to-government collaboration.

DEE (Department of Energy and Electricity) - responsible for ensuring a reliable and sustainable electricity supply and promoting economic growth and sustainable development in the energy sector. The vision of the Department of Electricity and Energy is to be a leader in the transformation of South Africa through economic growth and sustainable development in the energy sector. Its mission is to regulate, transform and promote the energy sector, providing sustainable and affordable energy for growth and development. The department has regulatory oversight and ultimately through legislative instruments like the Energy Regulation Act direct policy. However, there is a significant capacity gap in the department, which SADEPP can contribute in solving.

DEE works through a number of entities that are key partners for the DEA-South Africa cooperation as outlined below:

NERSA (National Energy Regulator South Africa) - is an independent authority established in 2005 to regulate South Africa's energy market. Its key functions include licensing, tariff setting, compliance monitoring, dispute resolution, and promoting transparency. It is responsible for: ensuring a reliable and sustainable energy supply; promoting investment in energy infrastructure; enhancing competition and affordability and, establishing credibility as a trusted regulator. NERSA faces challenges due to a lack of competencies and capacity in several areas, which weakens its ability to function as an effective and independent regulator. This has led to suboptimal decisions, lengthy processing times, legal disputes, and a decline in the quality of regulatory work. Capacity building in NERSA is thus a crucial component in SADEPP's endeavours to support to the South African power market reform.

IPPO (Independent Power Producer Office) – is responsible for procuring generation capacity from Independent Power Producers and securing new generation capacity based on Ministerial Determinations with a goal to enhance private participation in order to meet the national commitment of transition to a clean energy economy and ensure security of energy supply. IPPO is working in a strained system with load shedding thus needing to support Eskom in providing generation faster, breaking red tape and bureaucracy for faster roll out. The programme lost key resources when it was on pause and therefore struggled dealing with the load with a smaller staff compliment. However, IPPO's role is growing again with upcoming renewable and battery storage bid windows as well as their envisioned role in procuring transmission grid. This makes them a natural partner in SADEPP in order to ensure and maintain a rise of renewable energy in the South African energy mix.

Eskom (the Electrical Supply Commission) is responsible for providing electricity in an efficient and sustainable manner and achieve sustainable power for the future. As a state-owned entity, Eskom implements government policy and strategy, both in the short-to-medium-term and long-term. Eskom has strong technical expertise with thermal power generation but lack experience with liberalised markets and the role of flexibility from the thermal fleet and the role of renewable energy. Eskom has been a vertically integrated organization with responsibility for generation, transmission and distribution, but has commenced an unbundling process with a recent separation of its transmission activities into a legally separated entity named NTCSA (National Transmission Company of South Africa). DEA already works closely with NTCSA, however Eskom has requested that the partnership with NTCSA continues to be coordinated through Eskom, as NTCSA is still owned by Eskom Holding (this may change during the SADEPP-period). As this unbundling process has just begun, and in time will include unbundling of Eskom Distribution, a continued focus on this in SADEPP is crucial. The evolution of ownership and further separation of (some) NTCSA functions from Eskom ownership will be closely monitored throughout the programme, including potential need to engage any new entity/ies as core partner in their own right. Thus, all activities proposed in the current set up relevant for NTCSA will be conducted with relevant NTCSA entities. However, the overall planning of all activities will remain under the Eskom umbrella until further development as this outside the influence of DEA.

In addition to the above and as a core principle of operation the programme will cooperate with a number of other entities and partners under the leadership of DEE to ensure sector coherence and ownership. Furthermore, the programme will assess opportunities to expand the national "expertise resource base" by engaging broader set of national institutions such as universities, thinktanks and local consultants in trainings and technical assistances in dialogue with the national partners institutions.

2. The Country Programme

2.1 Country Programme Objective

The SADEPP objective is: *South Africa has enhanced its capabilities to successfully implement a just and equitable clean energy infrastructure development which supports the ambitions outlined in its NDC goals and in accordance with its commitment under the Paris Agreement.*

This objective is achieved through a combination of national actions and the supportive capacity development provided by DEA under SADEPP.

2.2 Summary description of the Country Programme

SADEPP will focus on three outcome areas:

- Regulatory and policy framework
- Liberalisation of electricity supply and distribution
- Integration and deployment of renewable energy

The first outcome of SADEPP will emphasise the strengthening of the regulatory and policy framework for the energy sector. This includes a closer collaboration with the National Energy Regulator of South African (NERSA) to enhance capabilities of the regulator by supporting it in developing a strong regulatory framework especially for integration of renewable energy. It will also involve the Department of Energy and Electricity (DEE) and the Independent Power Producer Office (IPPO) to refine policies that enable a more competitive and sustainable energy sector. SADEPP will support the national partner institutions to enhance their modelling capacity and capabilities to develop and implement new regulatory framework with attention to integrating renewable energy in a liberalised electricity market, which is a key South African political concern In the process, least-cost energy modelling and affordable electricity tariffs will be considered. This

outcome will contribute to a quantitative improvement of the Electricity Regulatory Index[4] from the current 0.75 to 0.90 (thus putting South Africa in top of the African continent).

The second outcome will support the shift towards the implementation of a more market-based electricity sector and the development of measures required to advance the liberalization of the electricity sector. This targeted outcome will apply a cluster approach that anticipates the participation of all affected partners; DEE, Eskom, NTCSA (National Transmission Company of South Africa), IPPO and NERSA. This broad participation builds on a key success of the current DEPP III: bringing crucial stakeholders together for informal and productive discussions on regulatory issues—marking a shift from the past, where such dialogues were often resolved through legal disputes. Three areas are expected to be developed and to focus on (i) market design and rules to support the liberalization of the electricity sector, (ii) establishment of clear roles and responsibilities to support a well-functioning market with accountability and efficiency, (iii) effective unbundling of the electricity sector to facilitate market development, strengthen transparency and attract (infrastructure) investments. This component will be the foundation for attracting more international investment in the electricity sector, including potential Danish investment. This outcome will contribute to the achievement of the national targets of an increase of electricity generation capacity procured from independent power producers from the current 14% to 40%.

The third outcome will support the integration of renewable energy and encompasses a more technical and tangible capacity building programme on topics that will supplement activities under the DEPP III. The main beneficiaries will be Eskom and NTCSA, the two partners (currently both under Eskom umbrella as explained above) that have outlined priority areas related to generation, transmission, distribution, strategy and planning and the just energy transition. The aim is to establish robust measures and procedures for the integration of RE supporting a reliable and affordable supply of electricity. The following outputs have been developed and aligned in cooperation with Eskom and NTCSA: (i) enhanced data management and digitalization leading to a more efficient system operation, (ii) system robustness, security and reliability, and (iii) measures for flexible system operation. . This outcome will contribute to the achievement of the national targets of an increase in the share of renewable energy in total electricity generation from the current 8% to 33%.

Approach to capacity strengthening

A systematic approach will be used to enhance knowledge sharing and the uptake and application of knowledge and experience. The programme will be guided by the DEA "Integrated Approach to Capacity Development in Global Cooperation", which apply across DEA's global cooperation programmes. At first, Danish experiences are shared with partners, followed by a joint assessment and discussion on applicability in a South African context. In the affirmative, the DEA will assist the partner(s) with the implementation with due consideration of sustainability and partner absorption capacity. In SADEPP, the outcome coordination groups will work with the working groups to reflect a structured approach to knowledge exchange and capacity development and monitoring as an integral part of workplans, applying the DEA tools as relevant. Where it is found justifiable, the outcome coordination groups will validate and expand the assessments of partner needs and priorities. From the start of implementation, there will be focus on sustainable knowledge transfer and uptake as an integral part of all activities. This is also seen as part of a structured approach for eventual exit and will feed into the development of a consolidated exit strategy. Further, and in line with South African government norms as applicable, attention will be given to the gender balance in capacity development activities, and programme-wide capacity assessment will also be taken to the annual meeting of the steering- and oversight committee as relevant.

[4] The Electricity Regulatory Index composite index developed by the African Development Bank (AfDB) and independently monitored to measure the development of electricity sector regulatory frameworks and the capacity of regulatory authorities in African countries, across governance, substance, and outcome dimensions.

In practice, this generic approach will be operationalised through concrete, hands-on capacity strengthening activities. Just to mention a few examples these are expected to include technical support to energy systems and energy-economic modelling for policy making and strategic energy planning (e.g. informing future IRP and IEP processes), technical support to drafting and implementation of procurement programmes for renewable energy and related infrastructure, and technical assistance on tariff framework reform, including development of principles and methodologies for cost-reflective price and revenue regulation in an unbundled sector. Capacity building will further cover stakeholder engagement and regulatory governance, balancing cost-reflectivity with consumer affordability and fairness; development and implementation of market codes; market monitoring and surveillance; and knowledge sharing on forward and retail markets in a liberalized power sector. Across activities, structured sparring and dialogue at leadership level, as possibly, on affordability and social impacts will help facilitate that social considerations are systematically integrated into regulatory and market reforms.

3. Theory of change and key assumptions

3.1 Theory of change

The narrative Theory of Change can be summarised as:

If Denmark contributes grant funds to SADEPP.
And if SADEPP engages in partnerships within strategically chosen areas of: regulatory and policy framework, liberalisation of the energy market, and integration of renewable energy with national partners (DEE, NERSA, IPPO, Eskom and others) who have the relevant mandates and a strong continued commitment to the partnership.
And if DEA serves as an effective and efficient implementing partner for this cooperation drawing on extensive experience from numerous Strategic Sector Cooperation and Danish Energy Partnership Programmes (in currently 21 countries).
And if DEA collaborates closely with key national partners leveraging its core competences, best practice knowledge and experience, and applies a structured and effective approach to knowledge exchange and capacity development approaches including peer-to-peer exchanges, embedded long-term advisors, delegation visits including in Denmark, workshops, seminars, learning events and training courses, triangular/South-South exchanges.
And if these activities are strategically designed to address the specific needs of partners, focusing on planning, strategies, regulatory, institutional, and technical measures aligned to partner institutions' own strategies and plan.
And if this is done through sharing experience on medium and long-term just, inclusive, and green transition in the energy sector and climate action.
And if a multi-dimensional poverty approach and human rights principles underpin the cooperation through exploiting opportunities to support South African policies on gender equality, just transition, transparency, accountability and participation in for example public consultations for long-term energy planning and liberalisation of the energy market as a whole.
And if the national partners sustain their commitment to effective uptake, application and use of knowledge and experience in these areas.
And if the national partners strive for synergy between SADEPP and other initiatives in their country in support of its just and inclusive energy transition and climate action.
And if Denmark strives for synergy between SADEPP and Denmark's multilateral energy and climate cooperation such as with the IEA, the OECD-Clean Energy Finance and Investment Mobilisation, the IRENA, the World Bank, the NDC Partnership, and others.

Then, South African regulatory and policy framework for the energy sector will be strengthened to implement a green energy transition at scale,
And then, South Africa will have enhanced and new institutional capabilities to implement a more market-based electricity market with the development of measures required to advance the liberalization of the electricity sector which together with power system optimisation will facilitate and secure investments into renewable energy.
And then, South Africa will have established a relevant market for international investors, finance institutions and private sector companies to investment in the sector, including Danish investments.
And then, South Africa will have established robust measures, technical capabilities and procedures for the integration of RE, supporting a reliable and affordable supply of electricity benefitting both sustainable growth and residents as energy is the backbone of the South African economy.
And then South Africa has enhanced its capabilities to successfully implement a just and equitable clean energy infrastructure development which supports the ambitions outlined in its NDC goals and in accordance with its commitment under the Paris Agreement and its citizens.

Table 3.1: SADEPP intervention logic

Objective	**Outcomes arising from capacity development**	**Outputs arising from capacity development**		**Rationale**	**Examples of progression from DEPP III**
South Africa has enhanced its capabilities to successfully implement a just and equitable clean energy development which is in line with the ambitions outlined in its NDC goals and in accordance with its commitment under the Paris Agreement	Improved regulatory and policy framework that supports deployment of existing and new renewable technologies, promotes fair and cost-reflective tariffs and ensures equitable and efficient access to electricity networks	Enabling environment for RE strengthened, including through robust strategic energy planning	Strategic planning	Improved strategic planning, a fair and cost reflective tariff and procurement framework will contribute towards a stronger enabling and policy environment for RE that will support an inclusive and just transition	The new partnership with NERSA established during DEPP III will be built upon and expanded Enhancing new capabilities and providing support to market reforms building in areas such as electricity pricing and updating of procurement frameworks
		Reformed tariff frameworks developed to ensure fair and cost reflective tariffs with consideration of equity & affordability	Tariff frameworks		
		SADEPP has contributed to capabilities for optimized/ holistic procurement frameworks to enable increased and efficient integration of RE & required system infrastructure development	Procurement framework		
	SADEPP has contributed to advancement of liberalisation of the South African Electricity Supply and Distribution Industries,	Market Design & Rules developed to support the liberalization of the electricity sector that ensure an inclusive and just transition	Market liberalization	Support to the South African plans to liberalise the electricity sector will involve building capacity for market design	Continuation of support to liberalization of the energy market based on experience from Denmark

	considering affordability, resource efficiency and integration of variable renewable energy	Establishment of clear roles and responsibilities to support a well-functioning market with accountability and efficiency	Market roles and responsibilities	and rules, clarity in roles and an unbundling the electricity sector which will in turn ensure affordable and resource efficient integration of RE	Developing operational capacity of key market players that builds on earlier support to liberalization of the electricity market
		Effective unbundling of the electricity sector to facilitate market development, strengthen transparency and attract (infrastructure) investments	Unbundling of the electricity sector		
	Robust measures and procedures for the integration of variable renewable energy lead to a more affordable and reliable supply of electricity	Enhanced data management and digitalization leading to a more efficient system operation	Data management	Enhanced data management combined with improved system robustness and flexibility will lead to more affordable and reliable integration of RE and supply of electricity	Building on earlier advances on long term modelling, forecasting, grid codes and ancillary services to further develop capacity on data management, use of digitalized operations and other measures to further increase robustness
		Enhanced system robustness, security and reliability	System robustness		
		Measures for market-based flexible system operation	System flexibility		

3.2 Key assumptions and drivers

As implementing partner, DEA will be responsible for inputs and use of budgets for programme activities. National partner inputs will be provided in-kind, based on agreed workplans and related budgets. It is also important to note that as implementing partner DEA will be accountable for actively contributing to the achievement of results at output level while outcomes and impact are within DEA influence and interest, respectively, but highly dependent on partner action – however, DEA is required to monitor results at outcome and impact levels and if relevant adjust its approach if the contribution to outcomes and impact are not as strong as expected. Assumptions[5] relate to factors that are not (fully) within the control of DEA in implementing SADEPP, but which underpin the theory of change and include:

- Policy consistency - partner country government's sustained and consistent political support for NDC targets and related policy initiatives related to transparent governance of the renewable energy including the liberalisation of the sector as envisaged by the national policies as the most cost-competitive solution
- Data access - partner countries continue to share the necessary data for providing technical assistance in energy modelling and planning as well as broader topics.
- Investment level – the public and private sector invest in grid extension and RE as expected.
- Market player response – the private sector and other market players respond to energy sector policy and incentives as expected, including international financing and investments.
- Tariffs are gradually increased towards cost reflective levels while considering just prices for the poorest households and communities enabling a "social licence" to reform the electricity market and avoid adverse impacts.

[5] Assumptions and risks factors are connected. Risks (see Annex 4) can be seen as the factors that might have given rise to failure of assumptions – at least for the programmatic and institutional level.

- Renewable energy is the fastest and most cost-competitive enabler to meet future energy demand in SA, including the electrification and digitalisation of society.
- Institutional willingness to change – the sector entities and stakeholders are not held back from change by the political economy and vested interests.
- Human resources – the sector is able to fill vacancies, retain key staff and institutionalise new capabilities in regular and frequent updates of modelling, etc.
- Proposed electricity reforms will be designed to target, engage and consult communities enabling the "social license" to implement the reform at local and provincial level.

Key drivers of sustainable impact

- There are political incentives and drivers for ensuring a continued partner high-level political commitment and strategic engagement with Denmark to meeting energy transition and climate targets.
- A structured approach to knowledge sharing, including delegation visits "seeing is believing".
- Continued attention to the socio-economic and environmental aspects of the energy transition in the partnerships ensuring broad community and citizen support of the new policies and actions, e.g. through consideration of affordability when pursuing cost-reflective tariffs.
- Effective communication of results and lessons targeted at decision makers.
- Triangular cooperation and sustained peer-to-peer exchanges also with other countries.

4. Results framework at outcome level

The SADEPP programme is aligned to the South African overall strategic plan for the sector, and the outcomes and outputs in the SADEPP results framework reflect the overall sector strategic framework that governs DEE and its entities and in particular those that SADEPP engage with namely: DEE, NERSA, Eskom/NTSCA, SANEDI, IPPO and others. DEE and some of the entities are undergoing restructuring and their 5-year strategy and own results framework are being adjusted and revised. In the meantime, DEE has presented an outline strategic plan 2025-2030 for the sector with seven strategic outcomes with key performance indicators. This plan, and where relevant the downstream ones of IPPO, NERSA and Eskom/NTCSA, form the basis for where SADEPP will engage. The SADEPP results framework is thus connected to this DEE strategic plan and contributes as shown below:

Table 4.1: SADEPP results framework as sub-set of the sector results framework

DEE strategic outcome	SADEPP outcome/ outputs	Lead entity (branch)
1 Planning	1.0/1.1	DEE (policy & planning)
2 Market	1.0/1.2, 1.3 2.0/2.1,2.2,2.3	DEE/NERSA/Eskom
3 Investment	1.1/1.2, 1.3 3.0/3.2,3.3	DEE/ IPPO
4 Just Transition	3.0/3.1,3.2,3.3	
5 Coordination	3.0/3.1,3.2,3.3	DEE (Eskom/IPPO)
6 Institutionalization	Not explicitly supported (this is mainly about governance of the state-owned entities)	
7 Digital innovation	3.1	Eskom

By linking the results and also a number of the indicators to the DEE strategic 5-year plan, the SADEPP will be embedded in the national accountability chain. SADEPP, by also explicitly working towards the same indicators as the sector, will be able to demonstrate how the programme support DEE and its entities to reach their goals. SADEPP is essentially a capacity strengthening programme in which technical support and knowledge transfer contribute to achieving enhanced national capabilities that in turn lead to programme outcomes and impact when national partners apply these capabilities. Simply put, Outputs and Outcomes are achieved through capacity strengthening of partner institutions contributed to by SADEPP, consistent with DEA's "Integrated Approach to Capacity Development in Global Cooperation (GC)". To make the

results framework more succinct, the term capacity development or capacity strengthening are generally, however, not reflected in the wording of outputs and outcomes to avoid repetition, but it is a general pre-cursor to this results framework. The capacity development approach is reflected in the narrative theory of change in Section 3.1 and described further in the DEPP 2026 FPD.

The results framework at outcome level is summarised in Table 4.1 below, where the key partners are also indicated under each outcome. The more detailed results framework at output level is found in Annex 3 where typical types of activities and topic area clusters are also indicated under each output as this facilities understanding of what is expected to lead to the outputs. Where possible the same indicators that are already used by partners have been used for SADEPP to avoid double monitoring and to highlight the contribution of SADEPP to achievement of the national goals. In some cases these official indications, which are often quantitative will be complemented by indicators that focus more qualitatively on the results of the capacity development support of SADEPP.

Table 4.2 SADEPP results framework at outcome level

Programme		**South Africa-Denmark Energy Partnership Programme (SADEPP)**	
Programme Objective		South Africa has enhanced its capabilities to successfully implement a just and equitable clean energy development which is in line with the ambitions outlined in its NDC goals and in accordance with its commitment under the Paris Agreement.	
Impact Indicator		Achievement of NDC goals	
Outcome 1		**Improved regulatory and policy framework that supports deployment of existing and new renewable technologies, promotes fair and cost-reflective tariffs and ensures equitable and efficient access to electricity networks.**	
Key partners and other important partners		DEE, NERSA, IPPO	
Outcome indicator		Electricity Regulatory Index[6]	
Baseline	Year	2026	0.75 (latest evaluation from 2025)
Target	Year	2030	0.90 (putting South Africa on top in current list)
Outcome 2		**SADEPP has contributed to advancement of liberalisation of the South African Electricity Supply and Distribution Industries, considering affordability, resource efficiency and integration of variable renewable energy.**	
Key partners and other important partners		DEE, NERSA. Eskom, NTCSA	
Outcome indicator		Percentage of electricity generation capacity procured from independent power producers demonstrating enhanced institutional capabilities to implement an operational power market.	
Baseline	Year	2025	14% Within private sector investment in electricity generation, renewable energy technologies dominate, with wind and solar technologies making up close to 90% of operational private generation projects, and approximately 70% of all operational *and* contracted private generation projects; contracted battery storage projects make up an additional 8.5%, with contracted gas and peaker plants making up 20%.
Target	Year	2030	40% Considering DEE's target of RE making up 60% of new generation capacity over the next five years, and considering the likelihood that RE projects remain relatively more dominant within private investments compared to Eskom generation, it is reasonable to expect that renewables and battery projects will make up a large majority (70-75%) of private generation capacity by 2030.

[6] A composite index developed by the African Development Bank (AfDB) to measure the development of electricity sector regulatory frameworks and the capacity of regulatory authorities in African countries, across governance, substance, and outcome dimensions. Further info: https://africa-energy-portal.org/reports/electricity-regulatory-index-africa-2024

Outcome 3		Robust measures and procedures for the integration of variable renewable energy lead to a more affordable and reliable supply of electricity.	
Key partners and other important partners		Eskom, NTCSA	
Outcome indicators		Share of renewable energy in total electricity generation as an indication of the system's ability to integrate variable renewable energy operationally.	
Baseline	Year	2025	8% of total generation in 2024
Target	Year	2030	33%

5. Inputs, budget, financial management

5.1 Inputs and budget

Inputs

DEA as the Implementing Partner will be responsible for the organization and timely delivery of technical cooperation inputs by DEA staff and external consultants to activities guided by demands and priorities as defined in the annual work plans. Inputs will be delivered based on TOR that ensure the accountability for delivery in alignment with agreed work plans and partner availability and capacity to engage.

Inputs will be staff time inputs from DEA-Global Cooperation (GC) and other DEA units, as well as consultant inputs from DEA Consortium partners under framework contracts and technical energy sector specialist input such as Danish Distribution System Operation specialists, and specialist from the Danish Utility Regulator. Where specific inputs by knowledge partners or other external national consultants or institutions in South Africa are required, such inputs will be procured through DEA under existing and/or new framework contracts.

South African national partner inputs will be delivered in-kind, aligned to the same annual work plans, which are approved by the Steering and Oversight Committee (SOC). Participation of senior/decision making level staffing at the steering and oversight committee level, and middle level management/technical experts at working group level is expected.

Building on the successful experience of long-term advisors (LTAs) in DEPP programmes, it is expected to engage 2 LTAs, tentatively anchored with NERSA and DEE. Draft job profiles with qualification requirements are included in Annex 9. Representatives from the hosting partner institutions for the LTAs will participate in the recruitment panel together with representatives from DEA and the Embassy of Denmark.

Budget

The budget for the SADEPP Programme is DKK 80 million of ODA-eligible grant funds sourced from the Danish Finance Act (FL-konto 06.31.01.70).

Table 5.1 below reflects the tentative budget allocation by outcome. This is an allocation budget not an activity-based budget. The budget will be allocated at output and activity levels in work plans to be agreed by the SOC. However, in Annex 5, a tentative annual allocation by output is provided to be further detailed and updated as per activities determined in annual workplans.

Table 5.1: Summary budget allocations by outcome

Outcomes	Budget allocations
Outcome 1: Regulatory and policy framework	28.53
Outcome 2: Liberalisation of electricity supply and distribution	12.67
Outcome 3: Integration and deployment of renewable energy	28.30
LTA NERSA (Outcome 1)	6.00
LTA DEE (Outcome 2)	4.50
Total, DKK million	**80.00**

5.2 Financial management and reporting

Grant funds will be transferred from the MFA to the DEA upon written request, and DEA will be responsible for all financial management and reporting on SADEPP funding. The financial management and reporting procedures are further defined in the DEPP 2026 Framework Programme Document.

As no cash funds will be transferred or disbursed to national partners directly, there will be no requirements for accounting of funds and financial reporting by national partners. To monitor the delivery by DEA of technical cooperation in-country consistent with work plans agreed between DEA and the national partners, DEA time spent with partners is reported in the annual progress reporting to the MFA (MYNSEK)[7]. Budgets and actual expenditures at outcome and output level broken-down on the cost-categories: DEA staff; Consultants; Other Costs will be presented in the annual financial reporting to the MFA (MYNSEK). The progress- and the financial reports will help PAG to assess value for money at its annual meeting.

6. Institutional arrangement and management set-up

6.1 Institutional set-up, governance and management

The SADEPP Programme will build on the governance structure of the earlier cooperation, consisting of a strategic level and an operational level. A Steering and Oversight committee (SOC) will function at the strategic level and cover the entire cooperation programme. At the operational level, there will be technical working groups for each outcome and output.

Table 6.1 Functions in the governance and management set-up

Structure	Functions	Composition/meeting schedule
Steering and Oversight Committee	• Serves to deepen the collaboration in the energy sector between South Africa and Denmark, reflecting on the relevance, effectiveness and potential of the cooperation • Considers and approves adjustments in the programme at partner, outcome and output level where needed • Approves annual progress reports and work plans, including dialogue regarding distribution of available resources from	<u>South African Partners:</u> Director General from each partner organisation Chair: Director General of the DEE <u>Danish Partners:</u> Ambassador and sector councillor of the Embassy Director, project and team leaders of the DEA Meets annually DEA drafts minutes to be agreed by all parties.

[7] The formulation of SADEPP was made and finalised by the MFA Department for Green Diplomacy and Climate (KLIMA) but when formulation is completed, the management of DEPP 2026 will be moved to the MFA Secretariat for Strategic Sector Cooperation (MYNSEK).

	DEA to support activities in the agreed work plan. • Monitors progress across the programme	
Outcome coordination group (one for each outcome)	• Coordinates and aligns with policy and strategic developments • Assess progress in capacity development and transfer of systems and technology know-how at outcome level • Agrees on annual progress and work plans at outcome level for approval by SOC • Coordinates donor activities across outcome • Based on input from output working groups, assess the needs for resource allocations and reports recommendations to SOC	South African Partners: Focal person for the outcome from the partner organisations involved Chair: Lead focal person for the outcome Danish Partners: Sector councillor of the Embassy Team Lead and Project leads of the DEA Meets every six months DEA drafts minutes to be shared among participants.
Output working group	• Day-to-day coordination and alignment with strategic and institutional developments • Planning and coordination of activities (workshops, study tours, meetings etc.) • Monitors progress across the output using the relevant indicators, engaging with and facilitating collaboration across partners where relevant • Assess progress in capacity development and transfer of systems and technology know-how at output level • Keeps outcome coordination group well informed of progress and developments. • Provides output level information for annual progress and work plans	South African Partners: Representatives for the output from the focal partner organisations involved (in case of multiple representatives, a spokesperson from the respective focal partner will be needed) Other non-focal partners to be invited when relevant Chair: Lead focal person for the output Danish Partners: Project leader of the DEA Meets as required (physically or virtually) DEA drafts short working notes to be shared among participants.

6.2 Work planning, results monitoring, and reporting

Work planning:
Work planning is an ongoing process with each partner, where the annual work plans will be co-developed jointly with the partners to align to their annual work programmes and needs, and availability of DEA specialists and consultants, balanced with available resources from partner's side as well as from the program's side. Staff and other resources allocated by partners to achieve the outputs and outcomes specified in the results framework, should be discussed with partners and considered in the annual work planning submitted for final endorsement by the SOC. Albeit the Danish side can hardly influence partner's resource allocations and impose or require any specific resource allocation from partners, but it is very important to gain sufficient confidence in partners willingness and ability deploy resources when planning a specific activity. DEA will on ongoing basis assess, if sufficient partner resources are available to secure uptake, use and institutional strengthening of knowledge sharing and technical assistance.

The annual work plans will define annual activities, annual output targets (when relevant) and link these directly to the results framework in this Programme Document. Work plans should identify key activities/

milestones that reflect the intended outputs and increased institutional capabilities to produce them. In collaboration with partners and LTAs, a TOR will be formulated for each activity (of a certain minimum size) and the TOR will specify tasks and targets for the activity as well as required specialist inputs from partners, DEA, LTAs, Energy Sector Counsellor, consortium partners and consultants.

In addition to the formal progress monitoring, during SADEPP there will be constant informal feedback loop between DEA and the partner institutions on the assessments on the need for capacity development activities and the appropriate modality of this. This stocktake is both taken on working group level on a regular basis, in the DEA internal quarterly meetings and strategic discussions will also take place at the yearly SOC meeting.

Results monitoring:
Monitoring towards targets will be reported through the progress reporting from the outcome coordination groups once a year to the SOC using a "traffic-light" system, where:

- "green" is on-track – implementation progresses as scheduled.
- "yellow" is partly on-track, which requires attention and potentially remedial action to get back on-track.
- "red" is off-track, which requires urgent attention by the SOC with a decision on necessary adjustments or re-scoping to get back on-track and/or recommend reallocation of funding/ activities. If "red" in two consecutive reporting periods, the SOC could consider extraordinary remedial measures such as setting up a task force.

Results reporting:
Following Danida Aid Management Guidelines (AMG), monitoring and reporting will be based on the results framework at output and outcome level and each key partner institution will, jointly with DEA, monitor progress towards achieving these outputs and outcomes via annual progress reporting to the SOC. An Annual Progress Report will be prepared by DEA and circulated to all partners for comments. The outcome coordination groups will be the responsible organs for monitoring progress. The progress report will be submitted for approval by the SOC during the course of Q1 of each year. An annual progress report for the MFA will be prepared by DEA for approval by PAG as part of the consolidated DEA annual progress reports across all five DEPP 2026 countries. The annual progress reporting for the MFA will assess the development of partner capacity in relation to achievement of outputs and outcomes. Further, it will consider risk mitigation measures informed by systematic assessment of assumptions and risks as part of DEA internal quarterly meetings with participation at DEA-GC Director level.

Communication of results:
DEA together with the Embassy of Denmark in South Africa and the South African partners will actively engage in targeted communication of progress and results informing stakeholders both in Denmark and in South Africa. The focus will be on raising awareness on the opportunities and choices in the clean energy transition and how the SADEPP programme contributes to this, including concrete examples of strategic decisions to which the activities and outputs have contributed. A communication strategy is found in Annex 7. In line with the South African needs and interests of mobilising investment and private sector engagement, regular meeting and dialogue will also be established to attract Danish impact funding and private capital that can contribute to the green energy transition and reform of South Africa.

7. Risk management

A brief summary of key risk factors and mitigating measures is provided below. A detailed risk management matrix consistent with Danida guidelines is found in Annex 4. The risk analysis also responds to risk factors emerging from the context analysis in Annex 1.

Contextual risks

- Any risk of political instability and lack of consensus on the green energy transition could affect the Programme and lead to among others inability to raise tariffs to cost reflective levels.
- Institutional resistance to change and competing interests
- Social resistance to RE deployment if consultation processes are inadequate.

Mitigating measures: monitoring of the risks and providing evidence and advice to support continuity of the approach and policy, with emphasis on strengthening the enabling framework and transparency and stakeholder engagement.
Residual risk: Major.

Programmatic risks

- Unclear division of responsibilities in regulation of RE development and unclear regulation of consultation processes
- Limited resources and managerial capacity in national partner institutions/shortages of staff.
- Market players do not respond to the energy sector policy and incentives as expected leading to among others to low levels of investment in generation and grid expansion.

Mitigating measures: through assessments and tailored support for strengthening the capacity of key partners such as the regulator and others that have a lead role in the energy reforms.
Residual risk: Minor.

Institutional risks

- The programme could risk duplicating existing activities and/or fail to build synergies with other initiatives in the highly dynamic country context
- Any unintended use of resources or misconduct could reflect negatively on the partnership

Mitigating measures: Intensify the communication and coordination efforts with other donors and respond rapidly to any issues of misuse of resources.
Residual risk: Insignificant.

Assumptions and risks factors are connected. Risks can be seen as the factors that might have given rise to failure of assumptions. A table illustrating the linkages between assumptions and risks is found at the end of Annex 4. Risks and related assumptions will be systematically monitored throughout implementation as part of the ongoing political economy analysis including at quarterly DEA internal meetings with participation at DEA-GC Director level. In addition to the risks identified in the risk matrix in Annex 4, selected critical assumptions underpinning key outputs and outcomes will also be monitored as part of regular programme dialogue, progress reporting, and review processes.

Where residual risk is assessed as major, the programme will define clear warning signs that indicate when an output or outcome might no longer be relevant or feasible to achieve significant progress with the Danish support. These are not rigid cut-off points or red lines but triggers for urgent need for partner dialogue and reassessment. Such conditions could include:

- Major shifts in geopolitical developments or technological development/prices.
- Structural changes in institutional mandates affecting core partner institutions and effective inter-ministerial/inter-agency coordination.
- Critical deficiencies in managerial capacity in national partner institutions and major staff turnover, including of staff that benefits from programme capacity development support.
- Persistent fossil fuels subsidies that dis-incentivise energy efficiency action.

- Limited or no interest in being inspired by the Danish market-based approach for a green energy transition arising from vested interests, reducing political support for reforms or adverse market conditions.

If monitoring indicates that a residual risk is increasing towards a significant level or that critical conditions are emerging, this will trigger a structured reassessment of the affected outputs and outcomes. Remedial actions may include adjustment of scope, redesign of support modalities, temporary suspension of activities, or reallocation of resources, as decided by SAG based on recommendations from DEA. The SOC will consider the more detailed implications of such remedial action. This adaptive management approach ensures that support remains relevant and proportionate to the evolving risk environment, while maintaining alignment with programme objectives. DEA has proven capabilities of this from DEPP III where Mexico and China had outcome adjusted fully or to a significant degree.

8. Sustainability, transition and exit

Considering the temporary nature of development cooperation, the exit strategy for SADEPP has been designed to enable Danish-supported energy initiatives to continue to drive sustainable development beyond 2030. Exit is planned with efficiency and sustainability in mind, minimizing transaction costs while maintaining long-term benefits. In a sustainable transition or exit, inputs from partner institutions will be essential to ensure that the transition is effective and aligns with the broader objectives of a green energy transition.

The purpose of the programme of cooperation is that knowledge transferred and new capabilities have resulted in institutional uptake which has contributed to the evolution of regulatory and market environment, improvement of national energy modelling and long-term energy planning, and integration and deployment of renewable energy. Ultimately, the aim of the Danish support is that the partners have established institutional procedures and processes to continue capabilities to be transferred to new staff and to having institutionalised processes to regulate, implement and monitor the evolving market, conduct regular modelling work and up-dates. As this is achieved, DEA can either withdraw or gradually support partners with more narrow technical needs. The partners will by the end of the programme be in driver's seat with most technical capabilities inhouse.

Exit strategy is not merely seen as an administrative closure, but as a dynamic transformation process intended to support national partners in a sustainable development journey. Criteria for successful exit from specific areas of cooperation include evidence of uptake and use of knowledge and experience that has been exchanged through the partnership. The world is experiencing geopolitical tensions and rapid technological development when it comes to e.g. AI and energy transition. The transformation of this programme can be influenced and informed by this. South Africa's energy transition is likely to be more market-driven where Danish technology and investment may be able to support further implementation and operationalisation of the transition. It can also be that a coming phase of the Energy Governance Partnership (not ODA) could be targeted South Africa or more collaboration between knowledge institutions and universities can be considered.

The exit strategy will consider transition to other forms of collaboration including broader Team Europe approaches/Global Gateway packages to support South Africa's energy transition, ability to increase engagement of a broader Danish resource base and investments through the private sector and mechanisms that foster partnerships for mutual leaning and developing forefront green technologies.

The SADEPP strategy centres on developing a strong South African skill base for energy sector regulation and liberalisation and integration of renewables. Key actions include fostering a modelling community, training of trainers, and strengthening bilateral cooperation between Danish and South African industry and cooperation between Danish and South African government entities. Cooperation with regional TSOs and transitioning offshore wind projects to the Danish embassy will further ensure sustainability.

Prior to the MFA Mid-term Review, DEA will – in liaison with national partners and the Embassy - prepare a consolidated exit strategy to be assessed by the MTR. However, there appears many opportunities to transform the long-term partnership with South Africa on energy.

Annex 1: Context analysis

Notes:

1. This summary is based on a detailed analysis conducted by DEA (March 2025) as part of the programme preparation. The details together with sources and links to wider information are available in this working reference document.
2. The MFA (KLIMA) has decided that a subsection A.1.3 on Fragility, Conflict and Resilience (that is normally part of the standard template for Context Analysis), is not required.

A1.1: Poverty and inequality analysis

Status and progress in relation to poverty and inequality: South Africa is ranked as the most unequal country in the world, with a Gini coefficient of 0.63 (see SDG 10). More than 30 years after the end of apartheid and despite consistent political efforts to reduce racial inequalities, South Africa continues to grapple with the historical legacy of racial injustice. Race remains a large contributor to inequality in South Africa, accounting for 41% of disparities as of 2018. The unemployment rate among Black South Africans is four times higher than that of white South Africans. 22% of the South African population live in "extreme poverty", under the $2.15 poverty threshold, in 2025, rising to 34% of the population living in "poverty", according to the $3.65 poverty threshold, and more than half of the population (52%) living under "highly vulnerable conditions" according to the $6.85 poverty threshold. With projections showing a minor reduction in extreme poverty to 21% by 2030, and no change in the 34% living in poverty, South Africa is deemed off track to meet SDG 1 End Poverty. The numbers have remained more or less stagnant since 2016.

Affordability: An important political initiative to ensure access to basic electricity services is the Free Basic Electricity (FBE) Policy, which has been in force since 2003. It is a part of the aim to provide basic municipal services (water, sanitation and electricity) in order to cover basic needs in poor households. FBE provides a right to receive 50 kWh of free electricity per eligible household. The public financial expense is covered by the National Treasury and the services are administered by the municipalities, who inform the national energy company Eskom on which households are eligible for the FBE service. In general, affordability is a major consideration in the context of South Africa's energy system development and sector reform.

Energy poverty: Regardless of electricity access rates and the FBE, a large proportion of the population (43%) experience energy poverty, defined as energy-related expenditure exceeding 10% of monthly income. According to the World Bank, the poorest households spend 27% of their income on energy, compared to a national average of 14%. This poses some challenges considering SDG 1 and 7. While fossil fuel subsidies have supported energy access for poor customers, phasing them out as part of the low-carbon transition could disproportionately burden the poorest households and compromise the universal access agenda.

Access to electricity: Between 1994 and 2018, South Africa connected over 7.4 million households to the grid, raising the electrification rate from 36% to 86%. Achieving universal access to electricity remains a political priority. However, expanding the grid to achieve 100% electrification is costly, as it involves reaching remote areas with low population density and income levels, making it difficult to recover capital and operating costs through tariffs alone. Out of the 3.5 million households not connected to the main grid, 60% are in rural areas. The Eastern Cape, Limpopo, and KwaZulu-Natal are South Africa's poorest provinces. While Limpopo has the highest access to electricity (almost 99%), the Eastern Cape and KwaZulu-Natal have the lowest electrification rates, at 82-83%.

Energy and climate impact on vulnerable groups: For the purposes of this programme, key vulnerable groups to consider include workers and communities in areas dominated by industries directly impacted by the green transition – particularly the coal industry and vehicle manufacturing and maintenance. Notably, the coal industry has long been a key employer of Black workers, hence job losses in the sector risk deepening existing racial and socio-economic inequalities. The Mpumalanga Province, will be the most affected by the low-carbon transition. It is estimated that between 150,000 and 200,000 jobs are at risk (about 18% of the employed provincial labour force), including about 80,000 coal miners and 15,000 jobs in the transport sector. Other at-risk jobs are in formal and informal services, some of which have been traditionally female-dominated activities. Consequently, a major priority in South Africa is to foster economic diversification, broadly, beyond a narrow focus on re- and upskilling in impacted sectors.

A1.2: Political economy and stakeholder analysis

State of democracy: South Africa successfully held a national election in May 2024. The election results reflected historically low levels of support for the ruling ANC party, for the first time since the ANC came to power in 1994 under Nelson Mandela. This resulted in a successful transition of power to a new a coalition government of eleven parties with most notable participation of the ANC, party in power since Mandela, the historically white dominated Democratic Alliance and the Inkatha Freedom Party with base in the crucial KwaZulu-Natal Province. Notably, in the 2024 elections, a large minority of the electorate (25%) voted for anti-constitutional far-left political parties, demonstrating a shift away from liberal democratic values. The Constitution makes provision for 'Chapter 9 Institutions' that are designed to support constitutional democracy, although corruption has weakened these and other state institutions and undermined the rule of law. Furthermore, there are still ongoing concerns around economic employment hindering social mobility and democratic participation, continued corruption, violence and xenophobia, and press freedom.

Improved political oversight and structure of the energy sector: The newly formed coalition government provides a significant opportunity for much-needed reform of the energy sector and an improvement in overall governance and oversight. New political appointments in parliamentary committees and throughout national government have the potential to improve accountability and transparency. The establishment of the Department of Energy and Electricity under Kgosientsho Ramokgopa, including the decision to move the role of oversight with national utility Eskom to this ministry while dissolving the Department of Public Enterprises (DPE) should simplify political oversight of Eskom, the National Energy Regulator of South Africa (NERSA) and the Independent Power Producers Office (IPPO).

New ministerial division may create policy inconsistency: The creation, deletion and amalgamation of ministries in the energy space by President Ramaphosa can be understood as an attempt to manage various political and societal constituencies. Statements and actions by former energy minister and now Minister of Petroleum and Mineral Resources Gwede Mantashe regarding the future of oil and gas projects in South Africa while still energy minister suggest that he will, in his new position, have political space to further his coal and gas interests separate to the transition agendas in the energy and electricity sector. It is still not clear how politically sustainable the delineation of 'energy' and 'minerals' will be, given South Africa's reliance on coal for primary and secondary energy sources.

Electricity sector reform is underway: With the ongoing implementation of long-awaited reforms and recent restructuring of the political institutions, the next 3- 5 years will be critical to the future of the South African electricity sector and the future of the country. After lengthy delays, the state-owned electricity utility, Eskom, is being unbundled into separate Transmission, Distribution, and Generation businesses, to enhance private sector participation in electricity generation.

The Electricity Regulation Amendment Act (ERAA) was signed into law by President Ramaphosa in August 2024 and creates a legal framework for the establishment of a Transmission and System Operator (TSO) that is independent of Eskom. In the interim, the ERAA formally designated the roles of System Operator, Market Operator, and Central Purchase Authority to the existing National Transmission Company of South Africa (NTCSA) within Eskom. There are valid concerns regarding the ERAA and the apparent contradictions it introduces between the role of the TSO and the Regulator, risks relating to timeframes and jurisdiction of the NTCSA, and far-reaching powers that the amendments give to the Minister of Electricity and Energy. These risks must be weighed against changes to the electricity market that will be very difficult to roll back irrespective of the Minister's powers. For this reason, it is essential that the Regulator is strong, technically capable and politically independent. As things currently stand, the National Energy Regulator (NERSA) is central to the market reform process because of its authority to grant trading licences, transmission licences, and import and export licences, as well as to approve the final Market Code.

The NTCSA is also critical to the process but is far more vulnerable to political risk than NERSA. Because the NTCSA remains a wholly owned subsidiary of Eskom until the TSO is fully unbundled, questions remain about the influence of Eskom in the development of the TSO.

A1.4: Human Rights, Gender, Youth and applying a Human Rights Based Approach

Legal framework: 2024 marked 30 years of democracy in South Africa, since the first free elections and the end of apartheid in 1994. The country's constitution from 1996 is considered one of the world's most progressive constitutional documents, establishing human rights protections in line with the Universal Declaration of Human Rights, as enshrined in the Bill of Rights in Chapter 2 of the Constitution. Some of the progressive aspects include provisions for non-discrimination on the basis of sexual orientation, and socio-economic and environmental rights. The South African Human Rights Commission is the independent national human rights institution, established to support constitutional democracy and the realisation of human rights. Despite strong legal framework for the rights of current and future generations to protection of the environment, compliance with environmental regulation is poor. Several acts exist to give effect to the environmental rights set out in the constitution, including the National Environmental Management Act, establishing the use of Environmental Impact Assessments (EIAs) for environmental management and sustainable development, and the Climate Change Act, signed into law in 2024, is a further step towards realizing the right to clean healthy sustainable environment.

Landmark decisions on environmental rights: Abovementioned legal rights frameworks have provided an important foundation for civil society to uphold human rights in the environment and climate realms, as demonstrated by a number of recent achievements in 2017, 2022 and 2024. In 2017 The National Environmental Management Act (NEMA) formed the basis of a case in 2017 against the permission by the Department of Environmental Affairs for a power company to build a new coal fired power plant, based on the argument that insufficient consideration had been given in the EIA to the climate change impacts of the development. This case set a precedent for requiring climate change assessments as part of EIAs to inform decision making. In 2022, with reference to the constitutionally enshrined human/environmental rights, a court judgement recognized poor air quality in Mpumalanga as a breach of residents' constitutional right to an environment not harmful to health and wellbeing. The Provincial government was ordered to pass regulations to implement and enforce the Highveld Priority Area Air Quality Management Plan, to meet health-based air quality standards. And in December 2024, the High Court of South Africa ruled that building of 1500 MW of new coal fired power, as set out in the Government's latest Integrated Resource Plan (IRP), is unconstitutional and unlawful, due to inadequate consideration of the impact of new coal power on constitutional rights, in particular those of children and future generations. This was South Africa's first youth-led climate change litigation.

Gender: Women typically bear the brunt of negative externalities in coal-affected communities. They are also presently underrepresented in the energy sector. Eskom employs 31% females and coal mines employ 21% females in Mpumalanga. However, those female employees are usually better educated than their male colleagues (e.g., 67% of females compared to 49% of males at Eskom hold a post-matric qualification), which results in females holding proportionately higher positions despite being numerically underrepresented. Women are currently under-represented in South Africa's renewable energy sector, with women accounting for only 14% of employees. The IPP Office has reported that construction procurement from women-owned vendors represented 5% of total procurement, compared with a 4% commitment and 5% target. Operational procurement of 6% has been achieved, exceeding the 5% target. Women and girls have received 60% of total bursaries for employment in the renewable energy sector. It is therefore clear that the renewable sector, with a less traditional approach to gender roles, holds greater opportunity for gender balance than currently prevails in the fossil sector.

Youth and jobs: There is significant attention to the need to create opportunities and employment for youth, given the changing demographics and the already very real challenge of youth unemployment. A key challenge in the context of the South African energy transition is the impact on jobs and economic activity in regions heavily reliant on coal fired power generation (Mpumalanga etc), as well as other sectors impacted by the transition, including, in particular, vehicle manufacturing and repair and maintenance of conventional vehicles. This includes direct impacts in the form of job loss in the respective sectors, but also wider impacts in communities built around these industries. Consequently, a major priority in South Africa is to foster economic diversification, broadly, beyond a narrow focus on re- and upskilling in impacted sectors. Notably, the coal industry has long been a key employer of Black workers, hence job losses in the sector risk deepening existing racial and socio-economic inequalities.

A1.5: Inclusive sustainable growth, climate change and environment

Economic challenges arising from climate change and environment: As many other African countries, South Africa is already experiencing the vast, and in some instances devastating, consequences of the climate change. Since 1990, the national average temperature has increased twice as fast as global temperatures, which is effecting natural ecosystems as well as economies and livelihoods of the growing South African population. Under low mitigation scenarios, temperatures are estimated to increase drastically up to 4 °C all over the South African interior towards year 2080-2099 with plausible 6 °C in large parts of the western, central and northern parts of the country. The negative impact of climate change on especially the agricultural and water sector, as well as other important sectors such as fisheries, tourism, infrastructure and more, will, according to the G20 Climate Risk Atlas, lead to massive economic losses with significant impact on the South African GDP. Without urgent action, South Africa stands to lose 5.03% of its GDP by 2050. That rises to 13.5% by 2100. Same report says that by investing in a low-carbon economy now, South Africa can limit those losses to 3.33% by 2050.

Lack of strong mitigation implementation: Compared to most other African countries, South Africa has the financial capability, infrastructure and national administrative expertise to adapt to climate change, however, implementation of the adaptation is lacking severely. In contrast, there is a rather ambitious attitude towards mitigation and the social impacts hereof, exemplified by the unevenly distributed channelling of finance (88 percent to mitigation and 12 percent to adaptation, according to a PCC study). Plans and strategies are not lacking, however, as is also visible in the mitigation area, South Africa has a tendency to create plenty of strategies on a national level without having the ability to implement on a local level. On top of that, the South African vulnerability towards climate change has increased since 2016, while the country's adaptation readiness has decreased. This has led to a falling score on the Notre Dame Global Adaptation Initiative (ND-GAIN) Index-score, which until 2016 had been steady for decades. South Africa now holds a shared 95th place below three other DEPP 2026 countries (China 33rd, Mexico 87th Vietnam 92nd), only above an island state, and DEPP 2026 country, like Indonesia (97th). However, South Africa has created a number of institutions and Act's which are to make a more coherent and cross-institutional response with a focus on a Just Transition, most notably through the establishment of Presidential Climate Commission and the Climate Change Act.

Institutional set-up as a response: South African has quite a few actors on national level that have created policies and strategies to ensure a sustainable respond to climate change, especially when it comes to social impact. Relevant actors and strategies in the space most notably include:

- Department of Forestry, Fisheries and Environment (DFFE) serve as the custodian and coordinator of the climate efforts of the different line ministries. As the ministry for both the climate change related efforts and environmental sector, they need to obtain a natural balance between the two areas, which in other national contexts can lead to dilemmas, e.g. between natural conservation and renewable energy.
- Presidential Climate Commission (PCC) was established by President Ramaphosa in 2020 as a multistakeholder entity to provide independent, transparent advice on South Africa's climate change response with a special emphasis on a socially Just Energy Transition.
- The Inter-Ministerial Committee on Climate Change plays a key role in coordinating national adaptation action and most of the ministers also serve as committee members in PCC.
- The National Development Plan 2030 was made in 2013 with a focus on environmental sustainability and charting an equitable transition to a low-carbon economy across all sectors.
- National Climate Change Adaptation Strategy is made to address climate vulnerabilities and serving as a national reference point for coordinated action across all sectors and administrative levels
- The Climate Change Act supersedes other climate-related laws. It allows DFFE to assign carbon budgets for companies. It also requires the governments at all levels to asses climate risks and expected impacts and create response plans. It provides a definition to the Just Transition Framework that ensures the distributive, restorative and procedural justice of the South African transition as well as requirement to designated departments to include climate change adaptation strategies in sectoral plans, among other things.

A1.6: Capacity of public sector, corruption

South Africa's public sector: While South Africa has strong legislative frameworks to guide public sector policy making, implementation, and enforcement, challenges including limited financial resources, corruption, and inefficiencies weaken policy execution. Budget shortfalls in many government departments and agencies limit ability to implement policies effectively and/or fulfil service delivery roles. E.g., Eskom's financial situation

hampers investment in grid expansion and maintenance, leading to transmission constraints that slow down renewable energy integration. Municipal debt is another major challenge, with local governments (responsible for electricity distribution), often owing large amounts of money to Eskom, making it hard to maintain infrastructure and ensure stable service delivery. Corruption has been a major issue in South Africa's public sector, affecting everything from procurement processes to project implementation. Slow decision-making with complex approval processes and red tape often delay the implementation of key policies and projects.

Capacity of energy sector: Many government institutions lack the technical expertise needed to implement and enforce policies effectively; in the energy context. This is an acute challenge at a time of substantial reforms, requiring new forms of knowledge and capacity within public institutions; due to the historical operation of a monopolistic electricity market under a single buyer model, South Africa lacks expertise on electricity market reform and competitive energy market structures. Market reform is critical to ensure that South Africa's energy supply industry is able to attract the necessary investment for new generation, transmission and distribution infrastructure, but will require extensive upskilling and knowledge transfer in both the public and private sector. At the local government level, lack of subject matter expertise is a longstanding issue, with a shift in the post-apartheid period away from technical expertise in local government in favour of bureaucratic and politically appointed administrators, driven by political patronage, employment equity policies, and cadre deployment.

Anti-corruption measures: corruption is a challenge in South Africa, with low levels of trust in public institutions and accountability mechanisms. Corruption and maladministration within the mining and energy sectors has been publicly acknowledged and accepted since the release of the State of Capture report in 2016. Endemic corruption has done severe damage to the reputation of these sectors and resulted in an exodus of skills and decline in private sector investment. One of the last pieces of legislation to be signed into law before the National Elections in May 2024 included an amendment to the Prevention and Combatting of Corrupt Activities Act that makes "failing to prevent corruption" an offence. The amendment is the result of recommendations made by the Zondo Commission and is an attempt to provide a comprehensive framework to deal with the persistent problem of State Capture in South Africa. It is hoped that including both the failure to report corruption and the failure to prevent corruption will make it easier for the state to prosecute companies for corruption and will supplement the existing powers of the state to raise such prosecutions under the Criminal Procedure Act

A1.7: Matching with Danish strengths and interests, engaging Danish actors and seeking synergies with other Danish and international donor programmes

Shared goals between Denmark and South Africa: Denmark and South Africa have close bilateral relations, and South Africa's position as one of Africa's most influential countries and largest economies makes the country an important African partner for Denmark. The importance of the partnership is further supported by South Africa's membership of BRICS+ and its 2025 presidency of the G20 where they have invited Denmark to participate in the energy working group. The common strategic interests between Denmark and South Africa include, among others, green energy transition and trade through EU trade agreements. Both countries also share a global commitment to creating socially just and sustainable development. South Africa has a climate goal of reducing the country's CO2 emissions to a level between 350-420 million tonnes per year. tons of CO2 equivalents by 2030. In 2015, CO2 offsets were 580 million tons.

Denmark's added value: Denmark is already playing an active role in South Africa regarding climate diplomacy. Frequent meetings with ministers and high-level civil servants and interest organisations on a bilateral level as well as core participation in the Just Energy Transition Partnership (JETP) with other nations collectively exercising and coordinating their support to South Africa and narrates it to South African leaders. Denmark also pushes to engage South Africa in Global Offshore Wind Alliance (GOWA) and by suggesting and supporting South African partners' participation at various climate and energy related engagements such as SADC Energy Week, etc. South Africa already makes a huge effort to play a major driver and African lead example, and supporting this effort is helpful for South Africa. Denmark already plays a big role in promoting the continuous unbundling of the energy sector in South Africa by constantly advising on the benefits of an unbundled energy sector through the 4 main South African partner entities and relating the unbundling and market development to results of the energy cooperation within all three selected outcomes.

The energy partnership between South Africa and Denmark is an integrated part of the Green Strategic Partnership between the two countries, encompassing several sector collaborations in addition to that on energy. This includes a strong tie to Danish financial institutions, such as Impact Fund Denmark, DSIF and EIFO through an Investment Advisor at the Danish Embassy in Pretoria. SADEPP will also seek synergies with several other Danish donor

activities and programmes in South Africa. Denmark is supporting IEA's CETP-programme in South Africa, which has had a focus on e.g. power sector reform and energy efficiency, the former being relevant for SADEPP. The Danish MFA's contribution to OECD's CEFIM-programme is also highly relevant to consider linking to SADEPP, especially the activities around the implementation of the South African Renewable Energy Masterplan (SAREM). Furthermore, there is strong potential for leveraging synergies between different sector collaborations, particularly to explore the energy/water nexus and utilize the upcoming of a major development project within the water sector. The new MFA-financed water sector project will be run by the Danish embassy and in synergy with the national SSC program on water as well as the two city-to-city SSC programs between Johannesburg/Copenhagen and Thswane/Aarhus, respectively. Synergy with the SSC's on Food/agriculture will also be sought at a continuing basis as well as particularly with the energy efficiency component of the SSC between City of Copenhagen and City of Johannesburg.

Commercial partnerships: Synergies with Danish companies centre around two lines – "sustainable energy" and "energy efficiency". On the first, the work of the DEA supports the general commercial strive towards introducing sustainable energy sources in a very coal heavy country as South Africa. DEAs cooperation with SA partners on introducing best practices within legislative and technical procedures when developing sustainable energy sources, underpins the effort of the Danish companies on offering and introducing the new technologies to SA end clients. (Vestas, CIP, NKT, Siemens Gamesa, a.o.). SADEPP will not be including efforts within energy efficiency, however major Danish companies like Danfoss, Grundfos and others within the area are also present in South Africa, which could create synergies.

Coordinating with international donors: The South African energy sector has a massive international donor landscape with each their own focus areas. This makes proper donor coordination crucial in order to neither overburden the often under-resourced South African public sector nor conduct unnecessary duplication of work. As mentioned, Denmark is a part of JETP, hence also a part of the JETP IPG (International Partner Group) where regular meetings are conducted with the participation of either the sector advisor from the Danish Embassy or representatives from DEA or MCEU. The IPG consists of UK, Germany, France, EU, the Netherlands and Denmark and has a natural focus on the most salient topics in the South African JET-space such as power sector reform, grid-buildout, NDC-commitments, coal-decommissioning and job-creation. Additionally, the current partnership does, and SADEPP will if relevant, include cooperation with countries outside of JETP-IPG, e.g. Norway through activities with the South African energy regular around regulation of the power market. SADEPP will also include regular consultation and coordination with international organisations such as IEA, WB, African Development Bank and OECD in relevant areas. The following is a listing of the international donors, agencies and finance institutions most relevant for SADEPP:

Main international partner countries	**Areas of support relevant for SADEPP**
German Embassy and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)	GIZ is active within most topics of which the Danish energy partnership is also active. The big GIZ SAGEN project is Germany main input and support to the South African energy sector. SAGEN discusses and generate knowledge on power generation Transmission System Operation, Distribution System Operations, roles and responsibilities of municipalities and national stakeholders, long term energy planning, coal phase out and flexibility, energy regulation, RE tenders and more. Often GIZ produces very thorough reports and well-founded recommendations through work with the same partners as Denmark has. Knowledge that the Danish Energy Agency can also use in the work with the South African partners. Concretely, GIZ is expected to enhance its engagements with NERSA, which is very relevant to benefit from in SADEPP. GIZ is also very engaged in the municipality space, which SADEPP does not have sufficient resources to also engage with on a deep level. Thus, coordination and consultation with GIZ and FCDO regarding their work and possible synergies with SADEPP activities around e.g. distribution of electricity is very important. The German and EU funded "JUST SA" project is more focused on the socio-economic consequences of the energy transition and discusses a number of topics and themes that is relevant for the Danish engagement as well. JUST SA is, however, a lot broader and spreads over a multitude of sectors in its aim to diversify the South African economy in the transition to a less carbon intensity.

European Union Delegation to South Africa	EU is a member of the JETP and provides support to the South African energy sector through various interventions. EU Delegation participates in all JETP meetings and also calls for monthly meetings in the Development Counsellor and Climate Counsellor groups of all the EU member states. EU recognizes the JETP as one of the main Global Gateway Flagship projects and EU is a close ally with Denmark. Denmark has two Seconded National Experts placed in the EU Delegation, one working with Global Gateway and one working with JETP, Climate and development (currently on leave). EU delegation supports projects within Green Hydrogen and Critical Raw Material value chains, skills and capacity building for the green transition (with GIZ), a jobs fund under the South African National Treasury, and looks into how to support green strategic corridors in the southern Africa.
FCDO/UKaid	UK is the chair and main locomotor of the JETP in South Africa. UK pulls technical results and findings together with political messaging and works as a convener of the JETP IPG, first link to the South African JETP Project Management Unit (PMU) and other donors in the energy sector. FCDO and UKaid has a long portfolio of big and small projects, and their main JETP contribution are loan guarantees theough Bank of England to the AfDB. Weekly coordination with the UK FCDO takes place and should continue at least for the duration of the JETP and as long as UK are so much vested in the South African JET.
US State Department and USAID	Despite the closing down of USAID as well as the US withdrawal from the JETP, it must be anticipated that US will still be present in South Africa within topics of US national interest. This could be the development of private investments in the building out of the South African electricity transmission network and the acquisition of South African IPP's, etc. it must be anticipated that collaboration with US will become more difficult in the coming years and that less information will be shared within the more narrow private sector interests that US will continue to support. DEPP III has made use of consultation with US partners, and this is anticipated to be continued in the future.
Multilaterals, NGOs, DFIs	**Areas of support relevant for SADEPP**
IEA	In 2028, South Africa was the first sub-Saharan African country to institutionalize its engagement with the IEA. Since then, South Africa has delivered data to the IEA at a regular basis. IEA is supporting SACREE on EE appliances prices and standards. Denmark supports the IEA CETP which has a focus on e.g. policy recommendations for the National Energy Efficiency Strategy (NEES), which can be relevant to seek synergies with in SADEPP.
IRENA	Work with Accelerated Partnership for Renewables in Africa (APRA) covers Namibia and Zimbabwe as neighbouring countries to South Africa. Through DEA, regional cooperation activities are highly likely through the APRA framework, e.g. regional wind atlases. Global Offshore Wind Alliance (GOWA), funded by IRENA, is also of interest to South Africa, and this is expected to be used as a platform to leverage potential offshore wind activities in SADEPP.
WB	The Energy Sector Management Assistance Program (ESMAP) – supported by Denmark – is hosted by the World Bank and is currently used to produce an Offshore Wind Roadmap. There has been lots of interaction between the current DEPPIII program and the World Bank as this maybe relevant for future discussions under the SADEPP and is also relevant in relation to the Wind Atlas for South Africa WASA4 project in DEPPIII.
OECD	Denmark supports the OECD Clean Energy Finance and Investment Mobilisation (CEFIM) programme with 42 million DKK from 2025-2028. In South Africa the CEFIM programme under the OECD has agreed with the South African Department of Forestry, Fisheries and the Environment (DFFE) on projects on "Overcoming Financial and Capacity Barriers for Renewable Hybrid Mini-Grids and Green SMEs for South Africa's Just Energy Transition". This is linked with the implementation of the South African Renewable Energy Masterplan, which has a focus on e.g. job-creation from RE and will have good synergy with work under SADEPP.

Annex 2: Partner assessment

More details on the internal structures of the partners and institutional set up is given in the detailed DEA working document (from March 2025) that will be updated periodically.

Name of Partner	**Core business** *What is the main business, interest and goal of the partner?*	**Importance** *How important is the programme for the partner's activity-level (Low, medium high)?*	**Influence** *How much influence does the partner have over the programme (low, medium, high)?*	**Contribution** *What will be the partner's main contribution?*	**Capacity** *What are the main issues emerging from the assessment of the partner's capacity?*	**Exit strategy**[8] *What is the strategy for exiting the partnership?*
Department of Energy and Electricity (DEE) – earlier Department of Mineral Resources and Energy (DMRE) Note, DEE was formed on April 2025 and is still in the process of being structured.	DEE mandate is to ensure the transparent and efficient regulation of South Africa's energy industry. DEE ensures that South Africa has an adequate supply of electricity to maintain economic activity and prevent disruptions and set out policy direction that determines the country's energy mix (IRP). Management: Air Quality Act of 2004 and the National Energy Act of 2008.	**DEE Electricity Policy:** High (for the policy team with which we are working on market reform with since DEA is the only main trusted advisor currently to this process). **DEE Renewable Energy (RE):** Medium-High (WASA4 is only one RE project among many, however this project can only proceed with the assistance of DEA, as it is primarily being funded by DEA, and WASA is essential for RE-	**DEE Electricity Policy**: Medium to high (the policy division has tasks, among these is to set the market rules as seen in the Electricity Regulation Act Amendment Bill, thus the programme is tailored based on their requirements of the ministry.) **DEE RE**: High. They fund parts of WASA4 and have executive authority over SANEDI, thus WASA 4 is dependent on DMRE	The DEPP III programme is anchored at DEE through the programme support agreement signed by the minister (similar planned for SADEPP). As ministry they have regulatory powers for most of cooperation areas, hence they have the final decision power to big parts of the program e.g. RE procurements and market development. They contribute with experience and insights to also the political system of South Africa and provide communication channels for other public agencies.	DEE is the anchor of energy regulation and policy. DEE sets direction on key matters including 1) the energy mix (expansion of RE and coal phase out) 2) market reform. The ministry has regulatory oversight and ultimately through legislative instruments like the Energy Regulation Act direct policy. However, a big need for capacity building in the ministry. Otherwise, it will be left vulnerable to bad advice.	Exit should only be considered when the decision makers have gained sound understanding of market reform, power markets, technical consideration as you procure high shared of RE etc. to ensure good strategic decisions are made.

[8] Also, in general, and from the start of implementation, there will be focus on sustainable knowledge transfer and uptake as an integral part of all activities. This is also seen as part of a structured approach for eventual exit and will feed into the development of a consolidated exit strategy to be assessed by the MTR.

		development in South Africa)				
Independent Power Producer Office (IPPO)	The IPPO procures generation capacity (MW) from Independent Power Producers and secures new generation capacity based on Ministerial Determinations with a goal to enhance private participation in order to meet the national commitment of transition to a clean energy economy and ensure security of energy supply. They have a target of 26 030 MW from solar PV and wind by 2030 (IRP 2019) Under updating.	Medium to high (the partner benefits from the programme in making very important strategic decisions however procurement from private sector continues independently of the programme)	High (DEA is a trusted advisor, and the IPPO is very targeted thus close collaboration in how we design the programme for them and IPPO has played a strong role in sharing DEA inputs to the other partners)	Partner provides key confidential data for analysis, staff time expertise and experience, access to private market, plays a critical role in forging relationships with the other partners and breaking silos with NERSA and DEE. Sharing DEA input to ministerial level. The partner incorporates the knowledge gained (through workshops, presentations, reports, training) into its operations and key decision making.	The IPPO is an active and skilled partner with a strategic role. They are running an effective procurement in a stressed system whilst navigating a changing market. IPPO is working in a strained system with load shedding thus needing to support Eskom in providing generation faster, breaking red tape and bureaucracy for faster roll out. The programme lost key resources when it was on pause and therefore struggled dealing with the load with a smaller staff compliment. The office also procures other technologies e.g. battery storage, gas, etc. and now will also run transmission thus a lot of time constraints.	More knowledge sharing is required and exit should only be considered when the decision makers have gained sound understanding and can plan for future beyond the stressed system.
National Energy Regulator of South Africa (NERSA)	NERSA is an independent authority established in 2005 to regulate South Africa's energy market. Its key functions include licensing, tariff setting, compliance monitoring, dispute resolution, and promoting transparency. Objectives are:	High. NERSA itself has acknowledged and recognized a number of areas where capacity building is needed, particularly in light of the adoption of the new South African Electricity Regulation Act, which assigns	High. NERSA has a significant influence on the development of the program. NERSA requests a range of specific activities within concrete regulatory topics that DEA prioritizes, as the desired competencies greatly impact the overall success of the program, given NERSA's role as a regulator.	Regulatory powers within its mandate. A neutral partner that interfaces with more or less all other partners in the program. NERSA is tasked with, directly or indirectly, approving or authorizing most of the activities carried out by the other partners	NERSA faces challenges due to a lack of competencies and capacity in several areas, which weakens its ability to function as an effective and independent regulator. This has led to suboptimal decisions, lengthy processing times, legal disputes, and a decline in the quality of regulatory work. NERSA fundamentally possesses the financial and	When the support for capacity development of NERSA staff, and the creation of choice awareness for regulatory development has lead to a path towards fulfilling its role as an assertive regulator

	Ensure a reliable and sustainable energy supply. Promote investment in energy infrastructure. Enhance competition and affordability. Establish credibility as a trusted regulator	NERSA a range of new tasks and obligations.			human resources to utilize the Danish contributions for capacity building. Therefore, NERSA has genuine and immediate development potential with the right assistance.	- not necessarily being there yet, as that will take many years - exit can be considered.
Eskom Corporate - Research, Testing and Development	Primary focus is to ensure operational support through research and testing, but for the partnership programme they are the anchor and single point of contact. They are also the contact point to potential new partnerships within Eskom, e.g. with the new Eskom RE Division, which will be explored in SADEPP.	Medium to high (RT&D coordinates all international cooperation, including the partnership with the DEA).	High (they are the anchor to the programme and the DEA is a trusted advisor to Eskom. They have shown great commitment to the programme by initiating common planning sessions with all Eskom Divisions).	The partner will organise and host the knowledge sharing with the Danish Energy Agency and ensure that the programme is run efficiently from Eskom´s side (e.g., coordinating with other country partners, ensuring there isn't any overlap in activities), and they provide knowledgeable input to the development of the partnership.	Possess academic expertise and understanding, but they have long lead-times in getting to results. Distance to divisions as a result of unbundling can be a challenge. Thus, when divisions are ownership-unbundled (NTCSA probably will be within SADEPP period), a direct coordination with them should be introduced.	RT&D will remain the contact for the partnership programme, however, changes to their organisational setup could alter this arrangement.
Eskom Corporate - Strategy and planning	Sets the strategic direction of Eskom and its division.	Medium (long-term advisor was stationed in the previous DEPP phase).	Medium (DEA is a trusted advisor to Eskom. With the long-term advisor stationed here, the collaboration with S&P has grown closer, and, therefore, their influence in how activities related to the strategic work has increased).	The partner will implement the knowledge sharing in the company strategies, therefore, affect the direction of Eskom going forward. Their close ties to the Executives of Eskom ensure that lessons learned from the programme are integrated top-down.	They have strong competencies, and setup as a management consultancy, with strong understanding in structuring a business for success. They have limited understanding of the liberalised market setup. Distance to divisions as a result of unbundling can be a challenge.	Depends on the setup of the holding company in the future, once the unbundling has occurred and the wholesale market has been implemented, it can be considered that the work with strategy and planning will become too commercial thus

						timing an exit. In order to reach that point, a firm understanding of Eskom Divisions roles and responsibilities in a liberalised market need to be demonstrated.
Eskom Generation (Eskom Gx)	Its primary focus is generation/supply of electricity.	Low to medium (there has been minimal cooperation with Eskom generation in DEPP III. However, they have shown interest in cooperating on flexible power plants and wholesale markets).	Low to medium (there has been minimal cooperation with Eskom generation in DEPP III. If they become more involved in the partnership, they will be included in the planning process of activities).	The partner will apply the information from the knowledge-sharing in their business models and operation. This includes operating their thermal fleet more flexible, which will benefit the system with more renewables being introduced, and understanding their role and responsibilities in a liberalised market.	They have technical expertise with thermal power generation. They lack experience with liberalised markets and the role of flexibility from the thermal fleet and the role of renewable energy.	Once technical and operational flexibility has been achieved, it can be considered to move away from Eskom Generation due to the change of the competitive space in the electricity supply industry.
Eskom Distribution (Eskom Dx).	Its primary focus is the distribution of electricity to industrial, commercial, agricultural, mining, residential and municipal customers across South Africa.	Medium to high. Eskom Distribution has acknowledged a number of areas where capacity building is needed with the restructuring of their business, and where they benefit from the experiences of the Danish liberalisation process.	Medium (DEA is a trusted advisor to Eskom but one amongst many). Eskom Dx provides feedback to DEA's suggestions for content when developing new programme activities.	The partner will facilitate the distribution and implementation of projects aimed at improving access to reliable energy. Eskom will contribute with technical expertise, infrastructure, and programme coordination. Need for clear pricing and transparency of cost allocation to improve trust.	They have strong competencies, but face difficulties adapting to liberalisation and competition. They struggle with ageing infrastructure. There are good opportunities for them to embrace competitive landscape and provide service for customers in future market.	Ensuring strong regulation and transparency in pricing of electricity and ensure free and fair access to grid for all users will be part of exiting Eskom Distribution. A setup where DEE, NTCSA and NERSA are

						making regulation in an open process and market is in operation, directly involvement with Eskom Dx will no longer be needed.
National Transmission Company of South Africa (NTCSA)	The core business of NTCSA is to manage and operate South Africa's electricity transmission network. They do this through ensuring grid-access and a competitive market. NTCSA also conducts generation capacity expansion planning studies like the Integrated Resource Plan (IRP) and medium term adequacy assessment studies.	Medium. NTCSA benefits from the program by improving its capabilities in power system operations with a large share of renewable energy. However, improving and expanding the electricity grid, which is a significant challenge and, therefore, a large focus point, will continue without the programme.	Medium to high (DEA is a trusted advisor to Eskom but one amongst many). With the legal separation of NTCSA in July 2024 and the changes in the electricity supply industry, NTCSA might have its own anchor point for the program.	The partner will anchor the knowledge gained from the program activities within their company by incorporating it into its business model. Moreover, the information obtained through these activities – whether through workshops, presentations, reports, or training sessions – will be shared across divisions within the company.	NTCSA's main challenge is the condition of the grid. They are working on modernization and expansion projects to ensure the grid can accommodate new power generation technologies, such as renewable energy from wind and solar. NTCSA has also faced challenges modelling the power sector and it´s security of supply with a multi-nodal model.	Once the partners dominate the Balmorel modelling tool for capacity expansion studies and adequacy analysis, gain the knowledge to do energy planning and trading for the new market set up and obtain the full technical knowledge to balance the system with more renewables in the new market set up to the detail needed, an exit can be considered.

Annex 3: Results framework

Notes:

- SADEPP is essentially a capacity strengthening programme in which technical support and knowledge transfer contribute to achieving enhanced national capabilities that in turn lead to programme outcomes and impact when national partners apply these capabilities. As an important pre-cursor to the results framework below, it should be noted that all programme activities focus on capacity strengthening; thus, while Outcomes, Outputs and targets are not generally formulated explicitly in terms of capacity development, this remains a general pre-cursor to this results framework and the capacity development approach is described in Section 2.2 under "Approach to capacity strengthening", reflected in the narrative theory of change in Section 3.1 and further elaborated in the DEPP 2026 FPD.
- While not required by the standard Danida template for results frameworks, indicative activity types/topic area clusters are listed under each output as this facilitates understanding of what is expected to lead to the outputs.
- Where possible indicators are informed by partner indicators and sources of data. A "SMART" indicator test has been made and will be periodically updated that points to the sources of data and link to national monitoring and evaluation systems.
- Activities will be defined in annual work plans to be approved by the SOC. Capacity development reporting at activity level will be part of annual workplan reporting.
- During the programme, all outcomes are to some extent flexible to address/work with priority demands from primary partners to support their areas of interest which can change.
- The assumptions (summarised in Section 3.2) underpinning the theory of change are important for achieving the stated outcomes and impact and will be closely monitored as explained in Chapter 7.

Programme		**South Africa -Denmark Energy Partnership**	
Programme Objective		South Africa has enhanced its capabilities to successfully implement a just and equitable clean energy development which supports the ambitions outlined in its NDC goals and in accordance with its commitment under the Paris Agreement.	
Impact Indicator		Achievement of NDC goals	
Outcome 1		**Improved regulatory and policy framework that supports deployment of existing and new renewable technologies, promotes fair and cost-reflective tariffs and ensures equitable and efficient access to electricity networks**	
Key partners and other important partners		DEE, NERSA, IPPO	
Outcome indicator		Electricity Regulatory Index[9]	
Baseline	Year		0.75 (latest evaluation from 2025
Target	Year	2030	0.90 (putting South Africa on top in current list)
Output 1.1		**Enabling environment for RE strengthened, including through robust strategic energy planning**	
Indicative activity / topic areas		➢ Support and institutional capacity building around energy systems modelling for policy making and strategic energy planning, (e.g. in support of future IRP and IEP developments) ➢ Collaboration on the use of energy-economic modelling tools for impact evaluation for assessments of energy policy and programmes	
Output indicator		Capacity in the policy ecosystem to develop energy policy on the basis of robust energy planning	
Baseline	Year	2026	Latest update of the IRP in 2025 was long underway and process was heavily criticised for lacking transparency, having insufficient data and inadequate public participation.

[9] A composite index developed by the African Development Bank (AfDB) to measure the development of electricity sector regulatory frameworks and the capacity of regulatory authorities in African countries, across governance, substance, and outcome dimensions. Further info: https://africa-energy-portal.org/reports/electricity-regulatory-index-africa-2024

Target	Year	2028	The IRP is regularly updated based on robust assumptions, and demonstrating increased RE ambition and improved data modelling.
Target	Year	2030	The IRP is regularly updated based on robust assumptions, modelling and methodology, and demonstrating increased RE ambition and institutional procedures in place for regular IRP updates.
Output 1.2		**Reformed tariff frameworks developed to ensure fair and cost reflective tariffs with consideration of equity & affordability**	
Indicative activity /topic areas		➢ Capacity building on tariff framework reform in light of sector reforms (including e.g. development of principles, guidelines, methodologies for price or revenue regulation of unbundled utilities) ➢ Support for institutional capacity building for the regulator's stakeholder management and engagement, including navigating conflicting interests and balancing cost-reflectivity and consumer affordability ➢ Institutional capacity building for efficient regulation of a reforming and liberalising power sector and how least-cost and a more liberal market can affect tariffs. ➢ Sparring on issues of affordability and fairness integrated as relevant across activities, ensuring attention to social aspects in the reform of the regulatory framework	
Output indicator		Status of NERSA's decisions on and implementation of a revised Electricity Pricing rule.	
Baseline	Year	2026	Electricity pricing reform was approved by NERSA in December 2023, to shift from the Multi-Year Price Determination (MYPD) model towards simpler, cost-reflective pricing structures as set out in the Electricity Price Determination Rule (EPDR). However, this decision was withdrawn in 2024, with uncertainty around next steps. In 2025, in response to the entering into force of the ERAA, NERSA set a target for a 'regulator decision on the revised Electricity Pricing rule' by March 2026, with plans to further incorporate the implications of the ERAA into their next strategic plan, to be published in 2026.
Target	Year	2028	NERSA decision by end of March 2026 is followed by further strategic targets for improved electricity pricing system in line with the ERAA.
Target	Year	2030	Pricing system updates planned for or under implementation
Output 1.3		**SADEPP contributed to enhanced institutional capabilities for optimized/holistic procurement frameworks to enable increased and efficient integration of RE & required system infrastructure development**	
Indicative activity /topic areas		➢ Support for review and redesign of RE procurement model frameworks for optimized processes ➢ Knowledge sharing on transmission infrastructure project procurement ➢ Knowledge sharing on best practice for RE tendering, taking into consideration technical grid constraints	
Output indicator		Institutional capacity to review, revise and implement procurement frameworks and procedures in support of effective and time-efficient procurement of renewable energy and transmission infrastructure.	
Baseline	Year	2026	Several factors have impacted further integration of RE projects, in spite of major private interest, grid constraints being a significant barrier. The 2025 IRP, published November 2025, and related Ministerial Determinations and mandate instructions to the IPPO, will inform upcoming procurement volumes, and the IPPO is conducting reviews and research projects to inform the design and roll-out of future procurement rounds, with optimisation of grid capacity as a key focus area.
Target	Year	2028	Joint research and analyses have contributed to the IPPO's revision of procurement procedures and implementation for at least two new procurement roll-outs across RE and related infrastructure.

Target	Year	2030	Joint research and analyses have contributed to the IPPO's revision of procurement procedures and implementation for more than two procurement roll-outs across RE and related infrastructure.
Outcome 2		**SADEPP has contributed to advancement of liberalisation of the South African Electricity Supply and Distribution Industries, considering affordability, resource efficiency and integration of variable renewable energy**	
Key partners and other important partners		➢ DEE, NERSA. Eskom, NTCSA	
Outcome indicator		Percentage of electricity generation capacity procured from independent power producers demonstrating enhanced institutional capabilities to implement an operational power market.	
Baseline	Year	2025	14% Within private sector investment in electricity generation, renewable energy technologies dominate, with wind and solar technologies making up close to 90% of operational private generation projects, and approximately 70% of all operational *and* contracted private generation projects; contracted battery storage projects make up an additional 8.5%, with contracted gas and peaker plants making up 20%.
Target	Year	2030	40% Considering DEE's target of RE making up 60% of new generation capacity over the next five years, and considering the likelihood that RE projects remain relatively more dominant within private investments compared to Eskom generation, it is reasonable to expect that renewables and battery projects will make up a large majority (70-75%) of private generation capacity by 2030.
Output 2.1		**Market Design & Rules developed to support the liberalization of the electricity sector that ensure an inclusive and just transition**	
Indicative activity /topic areas		➢ Capacity building in support of market code development and associated engagement and implementation processes ➢ Capacity building and support for enactment of new regulation, including around market monitoring and surveillance ➢ Knowledge sharing around forward markets and retail markets ➢ Sparring on issues around affordability and fairness integrated as relevant across activities, ensuring attention to social aspects in the development of a liberal market	
Output indicator		Implementation status of the market code, which provides the guidelines for buying and selling electricity between generators, retailers, and traders.	
Baseline	Year	2025	Draft Market Code under development by NTCSA, to be finalised and submitted subject to NTCSA being officially licensed as Market Operator (according to the ERAA, the Market Operator must develop the Market Code, hence the Market Operator must be officially established and licensed for the Market Code development to proceed). NERSA is preparing to receive a Market Code from the Market Operator for review, public hearing and approval by the Regulator.
Target	Year	2028	Capacity building activities have supported the processes around development and approval of the Market Code.
Target	Year	2030	Lessons and experiences from the first years of the market transition period have informed further evolution of the Market Code and related regulations and functions, to support market implementation through and beyond the transition period.
Output 2.2		**Establishment of clear roles and responsibilities to support a well-functioning market with accountability and efficiency**	
Indicative activity /topic areas		➢ Capacity building to support monitoring/enforcement of market operator license conditions ➢ Capacity building with NERSA for ongoing evaluation and updates of license conditions	

		➢ Capacity building and support for NTCSA's implementation of market operator procedures and functions	
Output indicator		Clearly defined and operationalized roles and responsibilities among key institutions in the liberalised market, with demonstrated institutional capacity for effective enactment.	
Baseline	Year	2026	Work is ongoing to define roles and the allocation of key functions and responsibilities in a future market-based electricity sector and in the transition thereto. Uncertainty remains and diverse interests are being negotiated. Areas of particular uncertainty include market monitoring roles, the interface between transmission, system operation and market operation, and the exact roles and structure of a new independent TSO to be established. A Market Code is anticipated to formalise roles and responsibilities, with a first version of the Market Code likely to require further refinement as the market and market actors evolve and experiences are gathered.
Target	Year	2028	Programme activities have supported key institutions to develop and adopt actionable strategies and plans to strengthen the internal capacity for effective enactment of new roles and responsibilities as defined in the Market Code.
Target	Year	2030	Key institutions have fully operationalised their new roles and responsibilities in accordance with the Market Code, including any refinements or changes introduced during the transition period.
Output 2.3		**Effective unbundling of the electricity sector to facilitate market development, strengthen transparency and attract (infrastructure) investments in support of the energy transition.**	
Indicative activity /topic areas		➢ Support for institutional capacity building to steer, oversee and implement the further unbundling of Eskom	
Output indicator		Private sector investment in energy infrastructure[10] as an indication of the extent to which unbundling is successfully improving access to the market for private actors and increasing participation.	
Baseline	Year	2025	R80 billion
Target	Year	2028	On track to reach 2030 target
Target	Year	2030	R400 billion
Outcome 3		**Robust measures and procedures for the integration of variable renewable energy lead to a more affordable and reliable supply of electricity**	
Key partners & other important partners		➢ Eskom, NTCSA	
Outcome indicator		Share of renewable energy in total electricity generation as an indication of the system's ability to integrate variable renewable energy operationally.	
Baseline	Year	2025	8% of total generation in 2024
Target	Year	2030	33%
Output 3.1		**Enhanced data management and digitalization leading to a more efficient system operation**	
Indicative activity /topic areas		➢ Knowledge sharing and capacity building on the use of data for efficient network utilisation ➢ Knowledge sharing on data management in liberalised market context ➢ Machine learning and forecasting ➢ Dynamic line rating	
Output indicator		Status of NTCSA's digitalisation strategy	
Baseline	Year	2025	Eskom and NTCSA have set strategic objectives for digital transformation and use of data analytics to create value and enhance decision making, including an objective to develop and implement a digitalisation strategy. However, no publicly available sources provide relevant information on timelines, targets or measurable indicators.

[10] Separately and as part of the Danish – South African economic ties, the level of South African/ Danish commercial engagement will be monitored.

Target	Year	2028	Knowledge sharing, sparring and capacity building activities have supported the NTCSA's development and implementation of a digitalisation strategy
Target	Year	2030	In line with NTCSA's digitalisation strategy
Output 3.2		**Enhanced system robustness, security and reliability amid increasing shares of variable renewable energy**	
Indicative activity /topic areas		➢ Capacity building around grid code development and compliance ➢ Capacity building and support for resource adequacy assessment ➢ Cyber Security ➢ Capacity enhancing technology ➢ Energy modelling (for planning/development purposes)	
Output indicator		System Minutes Lost (<1 min duration events)	
Baseline	Year	2025	4.37 minutes (2024-25)
Target	Year	2028	3.53 minutes
Target	Year	2030	In line with NTCSA target
Output 3.3		**Measures for market-based flexibility services developed to enhance system operation for increased integration of variable renewable energy**	
Indicative activity /topic areas		➢ Knowledge sharing on ancillary service mechanisms ➢ Forecasting ➢ Energy modelling for system operation	
Output indicator		Progress on the development, planning and implementation of market-based flexibility solutions	
Baseline	Year	2025	Reserves and balancing functions will be an integrated part of NTCSA's roles as market and system operator, as well as the transitional vesting contracts framework managed by the CPA. This will need to evolve towards a fully-fledged market based balancing over the 5 years transition period.
Target	Year	2028	NTCSA has developed an indicative plan for the system flexibility services required to support system operation in a market-based system with higher shares of VRE in the system, identifying pathways toward future market-based flexibility solutions.
Target	Year	2030	NTCSA has implemented a market-based solution for at least one system flexibility service, allowing competitive participation and supporting secure and efficient system operation.

Annex 4: Risk management

Contextual risks[11]:					
Risk Factor	**Likelihood**[12]	**Impact**[13]	**Risk response**	**Residual risk**	**Background to assessment**
CR1 Any risk of political instability and lack of consensus on the green energy transition could affect the Programme and lead to among others inability to raise tariffs to cost reflective levels.	Likely	Major	The country programme will monitor political stability and consensus around the green energy transition and where relevant provide arguments for continuing the approach.	Major	General analysis on economic outlook (annex 1) – also noted as an assumption in the theory of change.
CR2 Institutional resistance to change.	Likely /unlikely (at least sustained)	Major	The country programme will monitor institutional stability and political economy effects that strengthen vested interests and provide arguments and evidence to help the sector leadership in bringing about liberalisation and change.	Major	General analysis on economic outlook (annex 1) – also noted as an assumption in the theory of change.
CR3 Social resistance to RE deployment if consultation processes are inadequate.	Unlikely (at least in a sense that it cannot be managed)	Major	The main response is to provide via SADEPP thorough and consistent support for the South African government's priority of a Just Energy Transition.	Major	The green transition risks negatively impacting livelihoods for groups such as coal workers and people employed in jobs dependent on the coal industry e.g., in communities around the coal mines, who risks losing current jobs due to closing down workplaces.
Programmatic Risks[14]**:**					
Risk Factor	**Likelihood**	**Impact**	**Risk response**	**Residual risk**	**Background to assessment**

[11] This category covers the range of potential adverse outcomes that may arise in a particular context, including the risk of harm beyond the immediate context or the country's borders and may include governance failure (e.g. the failure of effective public financial management or law enforcement); competition for resources; natural hazards; and pre-existing socio-political tensions. (Danida Guideline to Risk Matrix 2018).

[12] Danida classification categories are: very unlikely, unlikely, likely, almost certain (see link)

[13] Danida classification categories are: insignificant, minor, major, significant (see link)

[14] This category covers include two kinds of risk: (1) the potential for a programme to fail to achieve its objectives; and (2) the potential for the programme to cause harm in the external environment. With regard to (1), the risk factors for programme failure include many of the contextual risks outlined above, as well as institutional and political factors. But there are many other reasons for potential programme failure, including inadequate understanding of the context or flawed assessment of what needs to be done; management and operational failures; and failures of planning and co-ordination. Risk is also associated with new or innovative programme approaches (although there may also be risk in failing to innovate). (Danida Guideline to Risk Matrix 2018). The categorisation of likelihood, impacts, and residual risk is also consistent with Danida guidelines.

PR1 Unclear division of responsibilities in regulation of RE development and unclear regulation of consultation processes.	Likely	Major	The main response to strengthen the Regulator so it is strong, technically capable and politically independent. As things currently stand, the National Energy Regulator (NERSA) is central to the market reform process because of its authority to grant trading licences, transmission licences, and import and export licences, as well as to approve the final Market Code.	Minor	There are valid concerns regarding the ERAA and the apparent contradictions it introduces between the role of the TSO and the Regulator, risks relating to timeframes and jurisdiction of the NTCSA, and far-reaching powers that the amendments give to the Minister of Electricity and Energy.
PR2 Limited resources and managerial capacity in national partner institutions/shortages of staff.	Likely	Major	The main response is to develop capacity and tailor the capacity development to the needs and opportunities.	Minor	Key sector institutions have very high level of vacancies and turnover is high. (noted as assumption in the theory of change).
PR3 Market players do not respond to the energy sector policy and incentives as expected leading to among others to low levels of investment in generation and grid expansion.	Unlikely	Major	The main response is to provide support to sector led policy initiatives aimed at reforming the sector.	Minor	Linked to assumptions in the theory of change.
Institutional risks[15]:					
Risk Factor	**Likelihood**	**Impact**	**Risk response**	**Residual risk**	**Background to assessment**
IR1 The programme could risk duplicating existing activities and/or fail to build synergies with other initiatives The programme could risk duplicating existing activities and/or fail to build synergies with other initiatives in the highly dynamic country context.	Unlikely	Major	The DEA programme will through DEE coordinate DEA activities with other stakeholders and donors.	Minor	Mapping of donors (Annex 1) shows that there is a potential overlap, but it can be managed.
IR2 Any unintended use of resources or misconduct could reflect negatively on the partnership.	Very unlikely	Significant	There will be no direct fund transfers to partner institutions. The Programme will follow DEA financial and	Insignificant	Any fraud or misconduct associated with the Programme would have major consequences for partner institutions.

[15] This category includes "internal" risk from the perspective of the donor or its implementing partners. It includes the range of ways in which an organisation and its staff or stakeholders may be adversely affected by interventions, e.g. damage to a donor's reputation if it fails to achieve its objectives, or from financial/fiduciary failure (Danida Guideline to Risk Matrix, 2018).

			contracting procedures, and the risk of direct corruption is considered unlikely.		

From SADEPP CPD section 3.2: Assumptions[16] relate to factors that are not (fully) within the control of DEA in implementing SADEPP, but which underpin the theory of change and include and include the ones listed in the table below, which makes the connection between assumptions and risk analysis:

Assumptions	**Where covered by the risk analysis**
➢ Policy consistency - partner country government's sustained and consistent political support for NDC targets and related policy initiatives related to transparent governance of the renewable energy including the liberalisation of the sector as envisaged by the national policies as the most cost-competitive solution	CR1/PR1
➢ Data access - partner countries continue to share the necessary data for providing technical assistance in energy modelling and planning as well as broader topics.	PR2/IR1
➢ Investment level – the public and private sector invest in grid extension and RE as expected.	PR3
➢ Market player response – the private sector and other market players respond to energy sector policy and incentives as expected, including international financing and investments.	PR3
➢ Tariff – tariffs are gradually increased towards cost reflective levels.	CR1
➢ Renewable energy is the fastest and most cost-competitive enabler to meet future energy demand in SA, including the electrification and digitalisation of society, while providing access to affordable and reliable energy to populations including low-income groups.	CR1
➢ Institutional willingness to change – the sector entities and stakeholders are not held back from change by the political economy and vested interests.	CR2
➢ Human resources – the sector is able to fill vacancies, retain key staff and institutionalise new capabilities in regular and frequent updates of modelling, etc.	PR2
➢ Proposed electricity reforms will be designed to target, engage and consult communities enabling the "social license" to implement the reform at local and provincial level.	CR3

[16] Assumptions and risks factors are connected. Risks (see Annex 4) can be seen as the factors that might have given rise to failure of assumptions – at least for the programmatic and institutional level.

Annex 5: Budget details

Table A5.1: Summary budget allocations at output level

All numbers in DKK.

Outcomes	Outputs		2026	2027	2028	2029	2030	Sub-total
1: Improved regulatory and policy framework that supports renewable technologies, promotes fair and cost-reflective tariffs and ensures equitable and efficient access to electricity networks.	**1.1:** Enabling environment for RE, strengthened, including through robust strategic energy planning	DEA staff	817,430	1,226,145	1,226,145	1,226,145	1,226,145	5,722,012
		Consultants	185,377	440,269	926,883	1,135,432	787,851	3,475,811
		Other Costs	28,800	68,400	144,001	176,401	122,401	540,003
		Subtotal	1,031,607	1,734,815	2,297,029	2,537,978	2,136,397	**9,737,827**
	1.2: Reformed tariff frameworks developed to ensure fair and cost reflective tariffs	DEA staff	996,337	1,494,505	1,494,505	1,494,505	1,494,505	6,974,358
		Consultants	150,008	356,269	750,040	918,799	637,534	2,812,649
		Other Costs	35,369	84,001	176,843	216,633	150,317	663,162
		Subtotal	1,181,713	1,934,775	2,421,388	2,629,937	2,282,356	**10,450,169**
	1.3: SADEPP contributed to optimized capabilities for procurement frameworks	DEA staff	630,346	945,519	945,519	945,519	945,519	4,412,424
		Consultants	185,377	440,269	926,883	1,135,432	787,851	3,475,811
		Other Costs	24,253	57,600	121,264	148,548	103,074	454,740
		Subtotal	839,976	1,443,389	1,993,666	2,229,499	1,836,444	**8,342,975**
							Outcome 1 Subtotal:	**28,530,971**
2: SADEPP has contributed to advancement of liberalisation of the South African Electricity Supply and Distribution Industries, considering affordability, resource efficiency and integration of VRE.	**2.1:** Market Design & Rules developed to support the liberalization of the electricity sector	DEA staff	330,024	495,036	495,036	495,036	495,036	2,310,170
		Consultants	74,779	177,601	373,897	458,024	317,812	1,402,114
		Other Costs	19,200	45,600	96,001	117,601	81,601	360,002
		Subtotal	424,004	718,238	964,934	1,070,661	894,449	**4,072,286**
	2.2: Establishment of clear roles and responsibilities to support a well-functioning market	DEA staff	334,053	501,079	501,079	501,079	501,079	2,338,368
		Consultants	87,411	207,601	437,055	535,393	371,497	1,638,958
		Other Costs	17,179	40,800	85,895	105,222	73,011	322,107
		Subtotal	438,643	749,481	1,024,030	1,141,694	945,587	**4,299,433**
	2.3: Effective unbundling of the electricity sector	DEA staff	334,053	501,079	501,079	501,079	501,079	2,338,368
		Consultants	81,348	193,201	406,739	498,256	345,729	1,525,273
		Other Costs	23,242	55,200	116,211	142,359	98,780	435,792
		Subtotal	438,643	749,481	1,024,030	1,141,694	945,587	**4,299,434**
							Outcome 2 Subtotal:	**12,671,153**

3: Robust measures and procedures for the integration of variable renewable energy lead to a more affordable and reliable supply of electricity	**3.1:** Enhanced data management and digitalization for a more efficient system	DEA staff	383,125	574,687	574,687	574,687	574,687	2,681,874
		Consultants	218,780	519,603	1,093,902	1,340,029	929,816	4,102,131
		Other Costs	17,634	41,880	88,169	108,007	74,944	330,634
		Subtotal	619,539	1,136,171	1,756,758	2,022,724	1,579,447	**7,114,638**
	3.2: Enhanced system robustness, security and reliability	DEA staff	830,637	1,245,955	1,245,955	1,245,955	1,245,955	5,814,458
		Consultants	222,317	528,003	1,111,586	1,361,693	944,848	4,168,447
		Other Costs	27,284	64,800	136,422	167,117	115,959	511,582
		Subtotal	1,080,238	1,838,759	2,493,963	2,774,765	2,306,762	**10,494,487**
	3.3: Measures for flexible system operation	DEA staff	834,028	1,251,041	1,251,041	1,251,041	1,251,041	5,838,193
		Consultants	227,370	540,003	1,136,849	1,392,640	966,322	4,263,185
		Other Costs	31,327	74,400	156,633	191,875	133,138	587,372
		Subtotal	1,092,724	1,865,445	2,544,523	2,835,557	2,350,501	**10,688,750**
							Outcome 3 Subtotal:	**28,297,875**
LTA: Outcome 1			-	1,500,000	1,500,000	1,500,000	1,500,000	6,000,000
LTA: Outcome 2			-	-	1,500,000	1,500,000	1,500,000	4,500,000
							LTA Subtotal:	**10,500,000**

Sub-totals per year:	7,147,087	13,670,553	19,520,322	21,384,508	18,277,531	
					Grand total	**80,000,000**

Annex 6: List of supplementary materials

#	Document/information	Internet link if available
1.	Steering Committee Meeting on Energy Cooperation between Denmark and South Africa	
2.	DEA Global Cooperation on SADEPP- website	(link)
3.	DEA Memorandum on the Multidimensional Concept of Poverty and the Human Rights-Based Approach in the Danish Energy Agency's Government to Government Cooperation	
4.	DEA Political Economy Analysis in a Global Cooperation context	
5.	DEA Integrated Approach to Exit Strategies	
6.	Africa's Century" - Strategy for strengthened Danish engagement with African countries, August 2024	(link)
7.	Denmark's strategy for development cooperation "A Changing World - Partnerships in Development"	(link)
8.	Danida Guidelines – Bilateral Cooperation	(link)
9.	Review Report, MFA MTR of DEPP III, March 2024	(link)
10.	South Africa NDC update	(link)
11.	The Energy Progress Report 2025 (by World Bank ESMAP; IEA; IRENA, WHO and United Nations Statistics Division)	(link)
12.	World Bank ESMAP RISE indicators South Africa	(link)
13.	South Africa energy data, International Energy Agency (IEA)	(link)

Annex 7: Plan for communication of results

Communicating key events, significant results and / or positive effects of the programme will happen on an ongoing basis and in close coordination between DEA, MCEU, and MFA.

The execution of this external communication plan is contingent upon the availability and appropriate use of DEA and MCEU communication channels. Implementation will be aligned with the priorities and requirements of the wider organization, ensuring that communication activities are coordinated, consistent, and supportive of overall organizational objectives. Adjustments to the plan may be made as necessary to reflect evolving needs, resources, or strategic direction

What? (the message)	**When?** (the timing)	**How?** (the mechanism)	**Audience(s)**	**Responsible**
SADEPP programme information, selected results targets and results updates against targets.	When SADEPP approved - and updated regularly/ annually	Danida Open Aid	The Danish resource base and taxpayers.	MFA(MYNSEK)
Fact sheet/small brochure ("Kernefortælling") on SADEPP. Key messages from SADEP results, achievements and effects communicated through relevant channels and / or communication products	Fact sheet when SADEPP is approved and updates as relevant. Other key messages as relevant during implementation.	Danish Energy Agency website. MCEU website. Social media.	Danish resource base and Danish taxpayers. International development partners.	DEA MCEU
Key messages on SADEPP results and achievements, including "impact stories".	During SADEPP implementation.	MFA/Danida website and newsletters. World's Best News campaign. State of Green. Social media.	The Danish resource base, international partners.	MFA (MYNSEK)
Key messages on SADEPP results and achievements.	As relevant during implementation.	Websites, social media etc. of key national partner institutions.	National partners and stakeholders.	National partners

Annex 8: Process action plan

Action/deliverable	Target date	Responsible
Danida Programme Committee Meeting on early draft Framework Programme Document (FPD)/concept note for DEPP 2026	8 April 2025	MFA(KLIMA)
Country formulation mission and consultations with national partners on virtual platforms and in connection with other DEA technical missions.	2nd-3rd quarters 2025 and again, as relevant, after appraisal	DEA
Finalisation of full DEPP 2026 document package (FPD with 5 CPDs) and submission to MFA appraisal team	24 October 2025	DEA with MFA (KLIMA) and formulation consultants
Appraisal of proposed DEPP 2026 including SADEPP	24 October 2025-2February 2026	MFA (LEARNING) with appraisal consultants
Meeting in the MFA External Technical Panel on DEPP 2026	19 February	MFA (LEARNING)
Submission of DEPP 2026 FPD and CPDs for final verification by MFA (LEARNING)	9 March 2026	MFA (KLIMA)
Final verification of DEPP 2026 FPDand CPDs	11March 2026	MFA (LEARNING)
Approval of DEPP 2026 by the Danish Minister for Foreign Affairs	tbd	Minister for Foreign Affairs
Approval of the DEPP 2026 grant by Finance Committee of the Danish Parliament	tbd	Danish Parliament
SADEPP implementation	1 May 2026 – December 2030	DEA
Meetings of the SADEPP technical working groups	At least twice a year	DEA
Meetings of the SADEPP Steering and Oversight Committee	Annually	Embassy/ Partners/DEA
DEA GC internal meetings on assessment of assumptions and risks	Quarterly	DEA
Meetings of the DEPP Programme Advisory Group to consider SADEPP progress and issues as inputs to the Strategic Advisory Group	Annually	DEA, MCEU, MFA (MYNSEK & KLIMA)
Meetings of the Strategic Advisory Group	Twice a year	DEA, MCEU, MFA (MYNSEK & KLIMA)

Mid-term Review of DEPP 2026 including SADEPP	2028	MFA (LEARNING)
Final reporting on SADEPP	Early 2031	DEA
Financial closure	Mid-2031	MFA

Annex 9: Job profiles for long term advisors

As a part of The SADEPP programme, two long term advisors (LTAs) will be posted and working in partner institutions as in-house experts and advisors. Below are two draft profiles, which have been drafted in cooperation with the relevant partner organisations, in this case National Energy Regulator of South Africa (NERSA) and Department of Energy and Electricity (DEE). The formulation of the job profile for the LTA in NERSA is further in the process than the LTA in DEE, hence the length and level of detail below differ. The LTA profile for DEE will be further developed as the beginning of SADEPP approaches.

Long term advisor in power market regulation to capacitate NERSA to the ongoing power market reform

The overall objective of the position is to contribute to long-term institutional and regulatory capacity-building at NERSA, supporting its ambition to operate as a strong, independent and forward-looking energy regulator.

The LTA will act as a trusted advisor across NERSA divisions, supporting the development of regulatory frameworks, internal processes, and analytical tools required under the new electricity market architecture. The role includes facilitating structured knowledge transfer from Danish and European regulatory practice, carefully adapted to the South African legal, institutional and political context.

Core Responsibilities

As Long-Term Advisor, you will contribute to the implementation of the DEA–NERSA cooperation and support NERSA in navigating the regulatory and institutional implications of electricity-market reform. The exact focus of the role will be adapted to the candidate's professional background and strengths. The advisor will work in close collaboration with both NERSA staff and the South Africa programme team at the Danish Energy Agency, based in Copenhagen

Core responsibilities include:

- Providing analytical and advisory support related to electricity-market reform, including regulatory frameworks, market arrangements and institutional roles under South Africa's Electricity Regulation Amendment Act (ERAA).
- Supporting NERSA's engagement with stakeholders through consultations, dialogue forums and structured processes related to pricing, market rules and regulatory development.
- Contributing to the development, review and implementation of regulatory instruments such as guidelines, methodologies, internal procedures and concept papers.
- Supporting compliance, enforcement and market-oversight functions, including consideration of incentives, sanctions and monitoring tools.
- Supporting internal coordination within NERSA and contributing to cross-cutting ERA-related coordination mechanisms, including the Electricity Market Advisory Forum.
- Facilitating involvement of relevant experts for targeted capacity building initiatives, including the Danish Energy Agency and other actors in the Danish electricity industry and academia.
- Supporting and/or leading on the definition and management of activities/projects under SADEPP.

The advisor is expected to have a solid overall understanding of the main regulatory, market and institutional topics covered by the assignment, but not necessarily to provide in depth expertise across all areas. The role focuses on applying the advisor's core areas of competence, working in close coordination with the South Africa team in GE and supporting cooperation across relevant NERSA divisions. The advisor will also help identify needs and facilitate the involvement of targeted short-term experts from Danish institutions and other relevant partners where appropriate.

Minimum Qualifications

- Master's degree (or higher) in economics, law, public administration, engineering, energy systems or a related field.
- Substantial experience in electricity sector regulation, market design or economic regulation.
- Strong understanding of European/Danish electricity market and regulatory frameworks.
- Experience working with policy or regulatory processes, either in an advisory capacity or through hands on roles within regulatory authorities, ministries, system operators or similar institutions.
- Excellent written and oral communication skills in English.
- Strong intercultural awareness and ability to work in complex institutional environments.

Desired Professional Skills and Experience

In addition to the above, we are seeking a candidate with solid practical experience applying regulatory frameworks in real world settings. This may include work with tariff setting, revenue or price control models, regulatory accounting, market rules, licensing, compliance monitoring or enforcement mechanisms.

Experience contributing to the development or implementation of new regulatory instruments, market reforms or evolving regulatory models is highly valued. Familiarity with market liberalization processes, unbundling or the transition from vertically integrated electricity systems will be considered a strong asset.

Experience working in international cooperation, advisory or capacity building contexts is an advantage, but not a requirement.

Other skills that will help you succeed in this role include:

- Strong relationship building and collaboration skills
- Ability to translate abstract goals or challenges into actionable action plans or interventions
- Comfortable working in complex, ambiguous environments, with proactive approach to problem-solving
- Excellent ability to identify and mobilize relevant sources of expertise to support project objectives
- Established professional network in the Danish/European energy sector would be a bonus

Long term advisor in Energy Planning and Policy Development Programme in DEE

The purpose of this role would be to provide support in the day-to-day workings of the organization, serving as highly skilled advisor to colleagues within relevant departments. It is anticipated that this LTA would provide support around the Energy Planning or Market Reform functions within the DEE. The LTA will support DEE colleagues in the design and implementation of evidence-based energy reforms, strengthening of market regulation capabilities, and development of analytical frameworks and high-quality research products to inform national energy decision-making. Important to discuss and agree upon measures and procedures that ensures "Chinese wall" between the advisory services provided by LTA and the undertaking of actual policy works to be discussed and agreed upon.

Key Areas of Support

The LTA will directly support DEE, with a focus on strengthening and institutionalizing internal capacity. The LTA will also serve as a link to facilitate collaboration with the DK based experts, in the following areas:

- Regulatory and market reforms
- Frameworks for a competitive energy market
- Long term energy planning support
- Energy sector data and statistical reporting

Key Responsibilities

The selected expert will be responsible for tasks together identified with the DEE – to be agreed on an annual basis as part of the action planning process under SADEPP. Activities could include but are not limited to, for example:

- Research, Analysis, and Reporting internally in DEE.
- Coordinating function between DEE an its key organizations/stakeholders in the given area for each
- Capacity building workshops, and training. These can be both at an operational level or targeted only for executive management.
- Sharing technical insights on key topics on the related profile.

Required LTA Profile

This will be drawn up subject to further dialogue between DEE and DEA and joint specification of priorities for the specific profile.

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Ministry of Foreign Affairs of Denmark (MFA)
Ministry of Climate, Energy and Utilities of Denmark (MCEU)
Danish Energy Agency (DEA)

Vietnam-Denmark Energy Partnership Programme (VNDEPP, 2026-2030)

Country Programme Document

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Key abbreviations and acronyms

BESS	Battery Energy Storage System
CASE	Clean, Affordable and Secure Energy for Southeast Asia
CBAM	Carbon Border Adjustment Mechanism
CEFIM	OECD Clean Energy Finance and Investment Mobilisation programme
CFN	Climate Finance Network
CO_2	Carbon dioxide
COP	Conference of the Parties (to the UNFCCC)
CPD	Country Programme Document in DEPP 2026
DAC	OECD Development Assistance Committee
Danida	Danish International Development Cooperation
DEA	Danish Energy Agency
DEA-GC	DEA Global Cooperation
DEPP	Danish Energy Partnership Programmes
DERMS	Distributed Energy Resource Management Systems
DKK	Danish kroner
DPPA	Direct Power Purchase Agreement
EAC	Energy Auditing Companies
EAV	Electricity Authority of Vietnam
EE	Energy Efficiency
EECoE	Energy Efficiency Centre of Excellence
EESD	Department of Energy Efficiency and Sustainable Development (now IGIP)
EIA	Environmental Impact Assessment
Energinet	Danish Transmission System Operator
EOR	Energy Outlook Report
EOR-NZ	Energy Outlook Report – Net-Zero
EPU	Electric Power University
ESIA	Environmental and Social Impact Assessment
ESCO	Energy Service Company
ETS	Emissions Trading System
EU	European Union
EV	Electric Vehicle
EVN	Vietnam Electricity (state-owned enterprise)
FI	Financial Institution
FIT	Feed-in Tariffs
FL-Konto	Finanslov-konto
FPD	Framework Programme Document
GDP	Gross Domestic Product
GGGI	Global Green Growth Institute
GHG	Greenhouse Gases
GIF	Green Investment Facility
GtG	Government-to-Government
GW	Gigawatt
HRBA	Human Rights-Based Approach
HUST	Hanoi University of Science and Technology
IEA	International Energy Agency
IE	Institute of Energy (Vietnam)
IGIP	Department of Innovation, Green Transformation and Industrial Promotion
IISD	International Institute for Sustainable Development
IPCC	Intergovernmental Panel on Climate Change
IRENA	International Renewable Energy Agency
JETP	Just Energy Transition Partnership
KPI	Key Performance Indicator
LCEE	Low Carbon Transition in the Energy Efficiency sector project

LTA	Long-Term Advisor
MAE	Ministry of Agriculture and Environment (Vietnam)
MCEU	Ministry of Climate, Energy and Utilities of Denmark
MFA	Ministry of Foreign Affairs of Denmark
MFA(KLIMA)	MFA, Department for Green Diplomacy and Climate
MFA (MYNSEK)	MFA, Secretariat for Strategic Sector Cooperation
MOC	Ministry of Construction (Vietnam)
MOIT	Ministry of Industry and Trade (Vietnam)
MONRE	Ministry of Natural Resources and Environment (Vietnam)
MRV	Monitoring, Reporting and Verification
MTR	Mid-Term Review
NDC	Nationally Determined Contribution (under the UNFCCC)
NLDC	National Load Dispatch Centre
NSMO	National System and Market Operator
ODA	Official Development Assistance (OECD)
OECD	Organisation for Economic Co-operation and Development
PAG	Programme Advisory Group
PAP	Process Action Plan
PD	Programme Document
PDP	Power Development Plan
PFIs	Participating Financial Institutions
PPA	Power Purchase Agreement
RE	Renewable Energy
RSF	Risk Sharing Facility
SAG	Strategic Advisory Group
SAIDI	System Average Interruption Duration Index
SAIFI	System Average Interruption Frequency Index
SC	Steering Committee
SCADA/EMS	Supervisory Control and Data Acquisition / Energy Management System
SDG	Sustainable Development Goals
SEC	Strategic Engagement Cooperation
SSC	Strategic Sector Cooperation
ToR	Term of Reference
TSO	Transmission System Operator
UK PACT	United Kingdom Partnering for Accelerated Climate Transitions
UNFCCC	United Nations Framework Convention on Climate Change
VEPG	Vietnam Energy Partnership Group
VNDEPP	Vietnam-Denmark Energy Partnership Programme
VWEM	Vietnam Wholesale Electricity Market
VRE	Variable Renewable Energy
VAS	Voluntary Agreement Scheme

1. Introduction, context, strategic considerations rationale and justification

1.1 Introduction and background

This Country Programme Document (CPD) outlines the background, justification, objectives, theory of change, results framework, and management arrangements for Danish support under the Vietnam-Denmark Energy Partnership Programme (VNDEPP). This CPD is one of a total of five CPDs under the Danish Energy Partnership Programme with China, Indonesia, Mexico, South Africa, and Vietnam for the period from 2026 to 2030 (the programme is named DEPP 2026, as 2026 is the year the programme starts). A DEPP 2026 Framework Programme Document (FPD) provides the overarching description of DEPP 2026 and contains information relevant to all five country programmes. Cross-references to the FPD are therefore made, where relevant.

In 2013, DEA started the cooperation with Vietnam and exchanged experiences through the Low Carbon Transition in the Energy Efficiency Sector project (LCEE). The introduction of the Government-to-Government (GtG) modality under DEPP, in 2017, marked a significant evolution in the cooperation. From a project, the cooperation became a partnership across several Vietnamese institutions across the energy sector and driven by the mandate of greening the sector. Furthermore, the cooperation on energy between Denmark and Vietnam is underpinned by the Green Strategic Partnership (2023) between the two respective country governments, which aims to promote a green transition, further global ambition on climate, environment and nature, as well as a socially just green transition that creates green jobs and avoids increasing inequality.

Highlights and outcomes across the three phases of the cooperation within energy are outlined in Table 1.1.

Table 1.1: History of Vietnam-Denmark energy cooperation

LCEE 2013-2017	**DEPP II 2017-2020**	**DEPP III 2020-2026**
Partners: *Ministry of Construction (MOC) and Ministry of Industry and Trade (MOIT)* Highlights/outcomes: • Supported the planning and follow-up on demonstration projects for EE in industries using Danish technology. • Piloted Green Investment Facility (GIF) fund, which financed 30 businesses transition to energy-efficient LPG-fired kilns. • TA and finance to demonstration projects led to an estimated saving of over 200,000 tons of CO2 emissions per year once the entire targeted village had transitioned. It also led to a decrease in energy consumption by at least 50%. • Assisted MOC on ad-hoc basis with reviews of regulation, such as building codes. • Capacity development of enterprises and energy service	Partners: *EREA, ERAV, EESD under MOIT* Highlights/outcomes: • First long-term energy planning publication (EOR) contributing to national policy development and leading to significant policy dialogue, and input to the preparation of Power Development Plans. • The completion and publication of Vietnam's first Technology Catalogue, containing high-quality data based on input from open consultations with energy sector stakeholders in Vietnam. • Capacity development in energy planning and RE integration through training, technical dialogue and stakeholder consultation workshops. • Direct twinning between ERAV/National Load Dispatch Centre (NLDC) and Energinet,	Partners: *EREA, ERAV, EESD under MOIT* Highlights/outcome: • Development and publication of Energy Outlook Report 2021 and EOR-NZ (2024) providing an analytical framework for alternative pathways and concrete policy recommendations to reach the net-zero target in 2050. • Co-development with MOIT of a new Technology Catalogue on Storage and Power-to-X technologies, and advanced modelling trainings to stakeholders at MOIT and IE. • Study mapping the port infrastructure for the offshore wind industry in Vietnam, assessing readiness level, investment needs for port expansion, and positive impact on skill-differentiated job creation.

providers through targeted trainings on specific technologies and implementation of energy audits. • EE policy guidelines for provincial implementation completed. • Capacity development on EE in buildings (EE design and operation, EE compliance).	building capacities on practical implementation of integrating renewable energy in the power grid. • Capacity development of ERAV on forecasting, ancillary services and related grid codes. • Engagement on Energy Efficiency in industry at provincial level, including development of Provincial Energy Efficiency Action Plans.	• Shared Danish experiences in regulatory mechanisms for transparent and competitive auctioning for offshore wind energy. • Revised Energy Efficiency Law introduces relevant provisions addressing DEPP III recommendations on incentivising EE investments in large industries through VAS scheme implementation, regular energy audits and the setting of an EE fund. • Initial design and consultations for the establishment of an Energy Efficiency Centre of Excellence, hosted by a Vietnamese institution. • System Operator partnership signed between NSMO and Energinet, setting the basis for closer cooperation on cost-optimized operation of the power system. • Pilot testing of flexibility measures to integrate more VRE in the power system performed at two thermal power plants. • Supported ERAV on regulatory developments, including draft DPPA regulation, different drafts of the Electricity Law, as well as discussions related to the transfer of NSMO to ERAV and on-going market developments.

The GtG modality, with DEA as the primary driver, is structured around the sharing of long-established Danish expertise and knowledge. It focuses on the development of technical, legal, and policy instruments in close collaboration with partner countries. The GtG modality has proven successful in facilitating policy dialogue between Denmark and Vietnam at various levels, including ministerial, National Assembly, and Politburo levels. It has also promoted climate diplomacy and operational ties between Vietnamese line ministries and the Danish Ministry of Climate, Energy, and Utilities (MCEU), supporting global climate change mitigation efforts. In 2025, several key results have been achieved, such as concrete progress on first pilot tests on flexibility of coal-based power plants, with the potential to enable the integration of more renewable energy. Moreover, DEPP III provided technical inputs towards the drafting of a new law on energy efficiency, approved in June 2025. This demonstrates a renewed interest to accelerate and strengthen the technical cooperation on energy, as well as the importance of long-term Danish government-to-government engagement in the energy sector. Throughout the programme phases, it can be recognized that the shared knowledge and technical expertise often require time to be adopted and institutionalized at Vietnamese partners and stakeholders; moreover, the application of approaches and tools resulting in policy changes and investment decisions entails a long process, considering the political economy and economic interests within which the energy sector is embedded in.

1.2 Country context

Vietnam stands at a pivotal moment in shaping its energy future. Historically, the country's economic growth has been fuelled by fossil energy consumption, with coal still accounting for nearly half of its electricity generation today. While domestic fuel production was sufficient to supply the energy demand up until 2014, more recently the domestic production of coal, oil and gas has declined, which, combined with the rapid increasing energy demand, has led to a drastic increase in fuel imports. This reliance on imported fossil fuels contributes to higher risks for energy security and high import costs, due to fossil prices volatility resulting from, e.g. geopolitical developments; high carbon emissions; and severe air pollution, posing both environmental and public health challenges. On the other hand, the government has set ambitious climate and energy targets. Internationally, Vietnam has strengthened its 2030 commitments through the JETP and announced its net-zero emissions target by 2050, as well as with the 2022-updated NDC, targeting 15.8% unconditional and 43.5% emission reduction in 2030 compared to 2014-levels. With some of Southeast Asia's best wind and solar resources, Vietnam has immense potential for renewable energy, but technical, regulatory, and institutional barriers still need to be addressed.

A significant shift in the energy transition began in 2019 with the introduction of a feed-in tariff (FiT) scheme, leading to a renewable energy boom—16 GW of solar power was deployed in 2020, followed by 4 GW of onshore wind in 2021. To guide the transition, the government has introduced key policies, including the Climate Change Strategy (outlining sector-specific emission targets for 2050), the Power Development Plan, and the Energy Master Plan, all aligned with the net-zero goal. Despite these efforts, Vietnam continues to face energy security challenges. Power shortages have disrupted households and industries, with severe electricity shortages in the Northern provinces during the hot season in 2023, due to a combination of surging demand for cooling, low water levels affecting hydropower, and inadequate infrastructure. These power outages can disproportionately affect lower-income and vulnerable households, who have less capacity to adapt to an unstable supply. While investments in infrastructure and new power projects aim to improve the reliability of the system, an unstable power supply remains a major barrier to industrial growth and green job creation. Addressing these issues requires both short-term solutions, such as improving power plant flexibility to integrate more renewables, and long-term energy planning to ensure that a cost-effective and just green transition remains a the underlying enabler of Vietnam's economic and social development.

Starting from the end of 2024, a wave of reforms has been initiated by the Secretary General of the Communist Party, Tô Lâm, with the aim of streamlining public administration and spur economic development. At the national level, ministries and agencies have been merged and their number has been reduced, and provinces are being merged bringing the number down from 63 to 34 and abolishing the administrative level of districts altogether. As part of the new strategic direction, greater emphasis is also placed on the importance of the private sector in Vietnam's development, including in the energy sector. At the same time, shifts in the policy arena of the green transition show a stronger focus on implementation of regulation. The recent reforms and ensuing acceleration in the issuing and implementation of important regulation for the energy sector can provide a window of opportunity for accelerating the green transition in Vietnam. Three important pieces of legislation have been issued in 2025, to which development and revisions DEPP has been contributing: The Electricity Law (1 February 2025); The Energy Efficiency Law (18 June 2025), the decree on the development of a carbon market (2025). The accelerated development and approval of new legislation hints that the large reform of streamlining the public administration is likely to provide a favourable public environment for the energy cooperation with Vietnam.

With strong international commitments, vast renewable energy potential, and a demonstrated ability to scale up renewables quickly, Vietnam is attracting growing interest from the private sector. Over the years, regulatory uncertainties, infrastructure constraints, and weak public governance, including lack of coordination, transparency, and enforcement in policy development and implementation, have been key challenges to unlocking large-scale renewable energy deployment. Several Danish companies have demonstrated strong interest in supporting the green energy transition in Vietnam with technology and solutions, e.g. within RE power projects and EE investments. A stable and transparent regulatory framework

is necessary to facilitate international investments, and steps have been taken to ensure such framework; however, it is still too early to assess the effect.

1.3 Results and lessons learned

The main results across the three outcomes of DEPP III (2020-2026), as well as the Strategic Sector Engagements (SEC) projects undertaken within the DEPP III programme period, are summarised in the table below.

Table 1.2 Key results for each outcome under DEPP III and SEC projects

DEPP III	Results
Outcome 1: MOIT has enhanced capacity for energy sector planning and policy development, integrating RE and EE as cost-effective measures of meeting Vietnam NDC while ensuring national security of supply.	• In June 2024, a major achievement under DEPP III was the publication and launch of the **Energy Outlook Report – Pathways to Net-Zero (EOR-NZ)**, a collaborative effort between the Electricity and Renewable Energy Authority (EREA) and the Danish Energy Agency (DEA). This report provides critical analysis and recommendations to support Vietnam's pathway to achieving its 2050 net-zero target. Following its launch, extensive dissemination activities were carried out to ensure broad awareness and application of the findings. Capacity-building efforts were also a key focus, highlighted by the delivery of basic and advanced training on modelling tools to stakeholders from government agencies and universities. • Additional activities included a **national port infrastructure study** to support offshore wind development launched in August 2024, a series of expert meetings on power purchase agreements (PPA) and project bankability, and the development of a Levelized Cost of Energy (LCoE) estimation tool (during 2023) to strengthen awareness on RE deployment's sensitivity to costs and other technical assumptions. • Moreover, **study tours to Denmark** from various ministries and energy institutions were conducted, facilitating direct exposure to Danish experiences and best practices in offshore wind and energy planning, including meetings with the Danish private sector.
Outcome 2: Regulatory framework and flexible tools in the power system support the efficient and secure transition towards clean energy with a rising share of electricity from variable RE sources	• DEPP has made progress in strengthening Vietnam's capacity for integrating renewable energy into the national power system. A key focus was placed on **regulatory development and power system flexibility**. • In July 2023, a workshop on thermal power plant flexibility gathered 70 participants from Vietnam's energy sector. Indian experts from NTPC (one of India's leading power generation companies) shared their experience with thermal plant flexibility, showcasing a successful Global South case study. The concrete experiences within testing of thermal power plants shared from India fundamentally supported the interest and activation of Vietnamese stakeholders, particularly ERAV and EVN, in further studying the case for flexibility and undertaking tests in Vietnam. **Pilot testing of 2 coal-fired power plants** took place in September 2025, deriving important learnings on investments needs and incentives for increasing plant flexibility towards higher RE integration in the power system. • Additionally, an **international workshop on renewable energy (RE) plant compliance** was held in April 2024, bringing together system operators from Vietnam, India, and South Africa to share experiences and best practices, with a whitepaper summarising the main takeaways under development. • Capacity development also continued through ad hoc regulatory support, where DEPP III provided ERAV with input on the draft Direct Power Purchase Agreement (DPPA), revisions to the Electricity Law, and other key regulations during 2024. **Capacity development on cybersecurity in the energy sector** has been requested by EAV, with training sessions undertaken during 2025. • Additionally, initial scoping work was completed on **electric vehicle (EV) charging regulation**, in collaboration with EVN and international consultants, aimed at understanding the potential grid impact of widespread EV charging infrastructure.
Outcome 3: Incentive	• Input and recommendations from the current DEPP have led to the inclusion of provisions relevant to **establishing Voluntary Agreement Schemes (for industrial**

schemes for EE in the industrial sector and improved capacity in place to develop and revise the EE regulatory framework at national level and enforce compliance with legal framework at provincial level	**sectors) in the revised Energy Efficiency Law**. Based on analytical and strategic insights into energy efficiency policy impacts, the revised law now authorises voluntary agreements between industries and authorities. This development stems from extensive work testing the scheme through several pilot projects in Vietnamese industrial companies, which resulted in concrete investment decisions. With the scheme proven relevant and attractive to Vietnam's industrial sector, DEA is well positioned to support the development of detailed regulations and practical implementation of the scheme. The current programme activities on improving energy audits and facilitating bankable energy efficiency investments provide a strong foundation for further engagement and realisation of the significant potential for emissions reductions from energy efficiency in Vietnam. • An **EE Centre of Excellence** has been designed and is expected to be anchored at the Electric Power University (EPU), with the establishment expected to be in operation during early 2026. VNDEPP will continue to support this effort to ensure sustainability of past activities.
Strategic Sector Engagements (SEC) projects	Support from the Strategic Sector Cooperation (SEC) mechanism has contributed to DEPP III's overarching goal by engaging with non-core partners (e.g. private sector, civil society, and academia). Four projects have been conducted during DEPP III.: • A strategic engagement initiated in 2024 has focused on **power system operation with NSMO and Energinet**, strengthening capacity in institutional structures of an independent system operator, as well as technical collaboration with expert dialogues. This successful engagement has led to the development of Outcome 2 in VNDEPP with NSMO as a direct partner. While the direct technical assistance from Energinet will be discontinued due to Energinet's decision to exit international cooperation activities, the cooperation will focus on regulatory and technical aspects of a cost-efficient power system operation. • Another strategic engagement has been initiated in 2024 with the Agency for Private Enterprises and Collective Development under the Vietnam's Ministry of Finance, as well as the former Central Institute for Economic Management under the Ministry of Planning and Investment, now Institute for Policy and Strategic Studies (IPSS) under the Central Committee for Policy and Strategy. The engagement has successfully provided insights and **recommendations to strengthen governance and institutional structures for the revision of Resolution 55 of the Politburo** on strategic orientations of the Viet Nam's National Energy Development Strategy to 2030 and outlook to 2045, thereby enhancing the efficiency of policy implementation. As an outcome of the engagement, IPSS has expressed particular interest in a continuation of the collaboration within the area of governance in VNDEPP. • Another two strategic engagements focused on **offshore wind**: firstly, a project on marine spatial planning in cooperation with the Vietnamese Administration of Seas and Islands (VASI) and MONRE (in 2023-2025), and secondly, a project targeting capacity development of coastal provinces (2024).

Lessons learned from DEPP III

- **Strong political commitment and institutional ownership are critical for progress.** Where Vietnamese counterparts (e.g. ERAV and EESD) showed active engagement, such as in energy modelling or energy efficiency, the programme recorded strong progress. Conversely, limited engagement—especially due to staff turnover—led to delays, particularly under the offshore wind track. Consistent institutional prioritisation and dedicated staffing are essential to sustaining momentum and ensuring effective collaboration
- **Capacity development must be participatory, targeted, and embedded in planning**. A key strength of DEPP III was the co-design of the Annual Work Programmes with partners reflecting capacity development needs. This participatory approach ensures relevance and ownership of capacity development activities. Furthermore, the continued work and close partnership on EOR and EE proved effective in providing direct inputs to respectively the National Power Development Plan 8 - Revised and the Energy Efficiency Law.

- **Institutional sustainability requires early anchoring and ownership.** The establishment of the pilot Energy Efficiency Centre of Excellence (EECoE) was an important milestone in DEPP III. However, recognising the risk of it being unsustainable post-DEPP III, the programme has engaged in dialogue to anchor the Centre within existing Vietnamese institutions. If this institutional anchoring is not realised, the relevance and design of the EECoE will be reconsidered. This highlights the importance of early planning for sustainability, ideally through embedding pilot institutions in the national framework from the outset and ensuring that the technical capabilities are integrated in procedures and processes. Furthermore, considering that staffing at relevant institutions can either be limited or affected by high turnover, initiatives would also need to be targeted at broadening the institutional knowledge base and engaging with other national technical capabilities, e.g. national consultancy companies, think-tanks and universities.
- **Coordination among donors and partners is essential to avoid duplication.** While international cooperation offers valuable technical and financial support, overlapping donor activities—particularly in industrial EE—risk duplication. DEPP III's coordination with other programmes (e.g. GIZ, UNIDO, WB, as well as under the framework of JETP) has proven valuable in maximising synergies and also enabling stronger sustainability of the activities.
- **Flexibility in programme implementation enables resilience and responsiveness.** The ability to adjust work plans, reallocate funds, and redirect activities in response to delays or evolving needs (e.g. dropping the EOR25 in favour of short-term planning tools) allowed DEPP III to maintain relevance. This adaptability is especially important in dynamic institutional and political contexts and should be built into programme design from the outset.
- **While adaptative management is important, it also key to allow some patience as progress and political commitment naturally fluctuate during a five-year period**. It is important to maintain technical level engagement during times with limited political commitment to avoid losing all technical capabilities, e.g. maintain cooperation through relevant modelling activities and analyses as input to future planning process. The activity level (training and technical assistance) should be accordingly adjusted to reflect the political commitment.
- **Strategic engagement with non-core partners enhances the enabling environment and provides new avenues of cooperation in VNDEPP.** SEC projects promoted low-carbon pathways and cost-efficient NDC implementation through knowledge sharing, technical dialogue, and policy support. The SEC projects contributed to DEPP III's broader objectives by strengthening the enabling environment for both current implementation and future upscaling of Vietnam's energy and climate targets. Some of the initiatives piloted through SEC projects proved their potential for scalability under VNDEPP.

1.4 Justification and alignment with Denmark's development policy priorities

VNDEPP builds on over a decade of collaboration between Vietnam and Denmark, proving that economic growth can be decoupled from the use of coal. The programme supports Vietnam's green transition by advancing evidence-based energy policies, reducing barriers to renewable energy, and promoting energy efficiency.

VNDEPP will underpin progress on SDG 7[1] (Affordable and Clean Energy) by assisting the MOIT and its agencies in long-term planning, integration and regulation of renewable energy and energy efficiency measures with the aim to supply affordable, reliable and sustainable energy for all based on least-cost development. VNDEPP also targets advancement in SDG 13 (Climate Action), as it will support the Government's actions to mitigate climate change and its impacts, including reducing emissions through energy efficiency and greater use of renewable energy. The programme will also contribute to several other SDGs since energy is an enabler of wider socio-economic development.

[1] The SDG 7 Energy Progress Report 2025 (by World Bank ESMAP; IEA; IRENA, WHO and United Nations Statistics Division) (link).

VNDEPP aligns with Denmark's new Development Cooperation Strategy (2025) "A Changing World - Partnerships in Development", which prioritises a just, sustainable, and green transition—focusing on job creation, clean energy access, and renewable energy expansion through Danish solutions and international alliances. Key contributions include:

- Renewable energy integration and system optimisation ensure affordable and reliable electricity.
- Economic diplomacy is strengthened by promoting ambitious renewable targets, suitable policies, and cooperation with Denmark's Trade Council, industry associations, and financing institutions.
- A just green transition is addressed through applying transparent and inclusive principles, as well as socio-economic analysis, job impact assessments, air quality improvements, and capacity building for provincial authorities.

VNDEPP will support Danish economic diplomacy by supporting the development of improved regulatory frameworks in Vietnam. . An improved framework can provide opportunities for enhanced Danish investments in Vietnam's energy sector, for instance through promoting transparent regulatory frameworks for renewable energy, strengthening market mechanisms and implementing energy efficiency mechanisms. This is only possible because the DEA is a "no-strings-attached" government partner to the relevant energy authorities in Vietnam, and because DEA is a trusted partner in the development of a green and affordable energy system. Where considered relevant by both Vietnamese and Danish stakeholders, DEA will exchange experiences and coordinate with other Danish and European development partners, including multilateral stakeholders.

Climate diplomacy and high-level engagement are additional areas where Denmark can elevate its influence. By fostering strong political ties and facilitating high-level dialogues between Denmark and Vietnam, Denmark can continue to position itself as a key partner in Vietnam's Just Energy Transition efforts. This diplomatic engagement will complement Denmark's technical and commercial contributions, creating a holistic partnership that supports Vietnam's climate goals and economic development. Synergies with Danish commercial interests and financial institutions further enhance Denmark's strategic positioning. Existing Danish companies operating in Vietnam's energy market provide a foundation for commercial collaboration and technology transfer. Leveraging Danish financial institutions and development funds to facilitate investments in RE and EE projects will support blended finance models for Vietnam's energy transition. The Danish Embassy will actively coordinate commercial partnerships and development cooperation, ensuring a cohesive and integrated approach.

Furthermore, VNDEPP supports trade policy and market access with green ambitions, helping Vietnamese industries meet EU standards and access EU markets. It fosters inclusive private sector development by:

- Improving market conditions through regulatory reforms.
- Contributing to strengthening local value chains and enabling knowledge transfer on technologies and solutions.
- Creating demand for high-efficiency, low-emission products via regulatory improvements.
- The programme enables responsible investment by ensuring regulatory clarity, cost-efficiency, and transparent planning—bridging Denmark's development, commercial, and climate diplomacy.

1.5 Target groups and cross-cutting concerns

The key national partners are described in Section 1.6 below. VNDEPP indirect beneficiaries include power consumers, particularly low-income and vulnerable groups, who stand to benefit from more reliable and clean energy systems based on a just and least-cost development of the sector. VNDEPP will strive for making the learnings and results from the energy system modelling available and disseminated to inform further macro-economic analyses, including engaging in any relevant coordination, exchanges and knowledge sharing with other development partners.

Furthermore, VNDEPP will consider integration of socio-economic modelling and energy planning to analyse how different energy scenarios can impact income and employment. These analyses support a deeper

understanding of costs, benefits and implications of a just transition, with low-carbon development not only reducing emissions, but also contributing to job creation, health improvements, and poverty reduction, particularly in vulnerable communities. These topics cover traditional areas for development assistance, such as good governance (e.g. transparency, public consultations) and access to reliable, clean and affordable energy (i.e. just and sustainable energy transition based on least-cost development of the energy sector with ensuing co-benefits, such as improved air quality and job creation).. VNDEPP will work to integrate perspectives on co-benefits and potential adverse impacts of the energy transition in Vietnam, in coordination with national partners, development partners and multilateral institutions, such as IEA, World Bank and the EU Delegation. Moreover, the programme will make use of results and findings from the Strategic Sector Cooperation on Statistics, that focuses on assessing and developing data related to green transition. The programme will seek synergies with this cooperation, where relevant.

The VNDEPP is committed to integrating key Human Rights-Based Approach (HRBA) principles of transparency, participation, accountability, and non-discrimination. These principles guide DEA's work in fostering inclusive policy development, ensuring that a broad range of stakeholders are engaged in energy planning processes. It is recognized, however, that Vietnam's context presents unique challenges that require tailored approaches. One challenge is the tendency for knowledge and information to be siloed within institutions, which can limit the participation of key stakeholders such as universities, other non-governmental organizations, and social enterprises in energy sector dialogues. This reduces opportunities for diverse perspectives to shape policy decisions. To overcome this, VNDEPP will focus on actively including academic institutions in modelling work and creating platforms for broader participation, ensuring a more inclusive and participatory policy-making process.

The programme also facilitates knowledge sharing on responsible renewable energy development, drawing from Denmark's experiences in energy planning and management. In the process of implementing renewable energy projects in Vietnam, fragmented coordination between authorities and insufficient capacities on provincial level are constraining factors. With increasing responsibilities delegated to the subnational level, some provinces are faced with the challenges of limited resources and skills in the green transition. As a result, progress is likely to differ across provinces, which may lead to uneven or delayed implementation of the green transition. To address this, VNDEPP will draw on Denmark's experience to promote efficient implementation and governance structures between the national and provincial level. This could be supported by Danish concepts like the Renewable Energy Implementation Task Force where several agencies, including the Danish Energy Agency, are supporting municipalities in their efforts in developing renewable energy projects.. This mechanism can entail focus on building local capacity and fostering cross-cutting knowledge sharing at the provincial level. This can both entail increased information sharing on national regulation to provincial level, as well as addressing thematical areas like social acceptance, inclusion of local communities, environmental assessments and sustainability.

The programme will monitor women's participation in technical training and planning processes and will report on identified barriers and opportunities for gender equality in partner institution and gender sensitive policies. Through coordination with the next phase of the Strategic Sector Cooperation on Education linking vocational education to labour market developments (implemented by the Danish Ministry for Children and Education), the youth dimension is addressed through vocational training, re-skilling initiatives (particularly for workers in fossil sectors), and partnerships with education institutions.

1.6 Choice of partner institutions

Key partners for VNDEPP and justification for the selection are presented below and further information is given in Annex 2 Partner Assessment.

The **Electricity Authority of Vietnam (EAV) under Ministry of Industry and Trade of Vietnam (MOIT)** was established under the Decree 40/2025/ND-CP dated 26 February 2025 by merging the Electricity and Renewable Energy Authority (EREA) and the Electricity Regulatory Authority of Vietnam

(ERAV)[2]. EAV's mandate includes electricity development planning, regulation and licensing, system operation, legal and policy framework development, and international cooperation. It aims to ensure the effective development and regulation of Vietnam's electricity sector, with key targets focusing on sustainable development, market development, regulatory framework establishment, system reliability, and international integration.

The **National Power System and Market Operator Company (NSMO) under MOIT** is responsible for operating and maintaining the stability of the Vietnamese power system and operating the Vietnamese wholesale electricity market (VWEM). NSMO's responsibilities correspond to those of "Energinet Elsystemansvar". NSMO plays a key role in operating the Vietnamese power system and has very qualified staff who are eager to collaborate and learn from international experiences. NSMO also plays an important role to deliver on the political priority of security of supply.

The **Department of Innovation, Green Transformation, and Industrial Promotion (IGIP) under MOIT,** formerly known as the Department of Energy Efficiency and Sustainable Development (EESD) advises and assists the Minister in state management concerning scientific research and innovation, application and technology transfer, product quality and technical standards, energy efficiency and savings, climate change, green growth, sustainable development, industrial promotion and decarbonisation of the energy sector. Its responsibilities include drafting laws and legal documents, formulating strategies and policies, developing technical and economic standards, and overseeing the implementation of regulations and programs. IGIP also plays a crucial role in energy management, greenhouse gas emissions guidelines, and sustainable development initiatives. Additionally, it focuses on communication, training, and awareness programs to enhance capacity in energy efficiency and related areas. IGIP is tasked with additional duties as assigned by MOIT, making it a comprehensive partner in advancing sustainable energy practices and policies in Vietnam.

2. The Country Programme

2.1 Country Programme Objective

The **overall objective** is to "*Facilitate a just green energy transition in Vietnam, by enabling clean energy development and implementation of the long-term climate goals of a net-zero society by 2050.*"

2.2 Summary description of the Country Programme

VNDEPP will continue to focus on the same overall thematic areas as in DEPP III, and with continued anchoring at the Ministry of Industry and Trade of Vietnam (MOIT), albeit with adjustments to the approach. These adjustments will refine the continued capacity development on long-term energy planning; integration of variable renewables; and energy efficiency in the industrial sector, with a stronger orientation towards implementation to ensure a more targeted, effective and sustainable impact.

Outcome 1: "*A secure electricity system increasingly based on renewables, supported by data-driven planning, market-based mechanisms, and strengthened institutional capacity.*" The Vietnamese partners will strengthen their technical capabilities in planning and operating the energy system with higher shares of RE.This first component will focus on long-term energy planning and cost-effective integration of renewable energy. In the previous and current phases, Denmark and Vietnam developed advanced energy models and a robust data foundation, which are now part of the toolbox applied in the Vietnamese energy planning processes, and as a common point of reference for energy planning in Vietnam, alongside the Technology Catalogues, which provide essential technology data for the models. In VNDEPP, the component will continue to build on these developments, with an enhanced focus on energy security in Vietnam (including lowering the dependency on imported fossil fuels), least-cost energy investments and pathways aligned with climate targets.

[2] EREA and ERAV were key partners in previous phases of DEPP, and as such engaging with key departments under EAV (i.e. Planning, RE and Hydro, Tariff, Power system, Power markets) enable a continued engagement with partners carrying the same mandate and in most cases staff and focal points previously trained and/or engaged in earlier phases.

Addressing these three elements will support Vietnam in meeting the future energy demand, while achieving a sustainable and just energy transition and sending strong investment signals for investors. The outcome is supporting the achievement of national targets for renewable energy development, specifically the target on 25-30% RE on the total energy supply by 2030, as outlined in the Resolution 70 of the Politburo, and the RE capacity targets outlined in the revised Power Development Plan 8. The outcome will also focus on least-cost investment options for new renewable sources to secure affordable and reliable electricity supply for households and industry.

In this next phase, a new approach will include a more frequent and regular publication cycle of the Vietnam Energy Outlook Report (EOR) to enable it to become an even more relevant planning tool (i.e. providing up-to-date energy system baselines and scenarios aligned with latest development plans) and further integrated into national energy planning cycles (e.g. improving the dissemination and implementation of policy recommendations). More targeted policy analyses will be conducted focusing on near-term implementation, e.g. the role of power system flexibility on security of energy supply. The EOR analytical framework can further provide the quantitative basis for post-model analyses and studies on, socio-economic aspects of the green transition, including job creation and reduction of air pollution. The latter might include cooperation with other institutions responsible for, or with expertise within, macro-economic modelling and study of distributional effects.

This outcome will also strengthen the broader energy planning community to ensure sustainability and institutionalisation of planning tools and principles, as well as the develop capacity in provincial authorities in implementing energy policies and allowing further uptake of renewable energy. Outcome 1 will also deliver targeted support to EAV in the development of the regulatory framework for offshore wind, including the tender framework.

Furthermore, this component will continue the focus from the previous programme phase on market development and flexibility of power plants to enhance the integration of renewable energy in the power system, by expanding the application of the gathered learnings and recommendations from the first tests to a larger number of power plants. Co-funding by ClimateWorks (initiated during DEPP III and continuing under DEPP 2026 until 2027) will support the work on flexibility testing of power plants and the analysis of economic incentives for enhancing flexibility of thermal power plants, as to enhance the integration of variable renewable energy in the electricity generation.

Outcome 2:"*Optimised technical and economic operation of the power grid, enabling higher integration of renewables and enhancing grid stability and security of supply.*"
This second component will focus on the operation of the power system with higher shares of renewable energy. The partners for this component are EAV and the National Power System and Market Operator Company (NSMO), both under MOIT. The previous programme phase supported the new organization at NSMO throughout its restructuring through a TSO partnership with Energinet. Energinet decided to discontinue international cooperation activities from Q2 2026, including the partnership with NSMO, in order to focus resources on national core tasks and future development of the power system in Denmark. The cooperation between the DEA and NSMO will continue under VNDEPP, focusing on both regulatory and technical aspects of a cost-efficient power system operation, including, among others, digitalization of system operation and planning, load forecasting methodologies, and support to relevant regulatory and market design

Outcome 3:*"Strengthened uptake of energy efficiency in the industrial sector through enhanced institutional capacity for implementing incentive schemes, leading to energy savings, improved industrial competitiveness, and adherence with national emission reduction targets".*
This third component will be focusing on energy efficiency in industry. As a contribution of the DEPP III, awareness and trust in energy efficiency projects among Vietnamese institutions and industry have increased, including energy audits and voluntary agreement schemes (VAS) adopted in the Energy Efficiency Law. The Energy Efficiency Law, published in June 2025, demonstrates higher ambitions for EE, with notably the aim of boosting incentives and financial support through the establishment of an EE Fund mobilising

financial resources to promoting EE.3 In this new phase of cooperation, VNDEPP will engage with IGIP to develop a technical framework for an incentive scheme to be operational under the EE Fund, and support the development of regulation and guidelines for financial support to EE investments under the EE Fund (e.g. application criteria and requirements for technical quality assurance). Furthermore, VNDEPP will strengthen institutional, technical and analytical capacities for the promotion and implementation of EE measures and emission reductions in Vietnam's industrial sector. The latter will entail continued support to the institutionalization of knowledge through, e.g. trainings on energy efficiency in the industrial sector and capacity development on good governance for the Energy Efficiency Centre of Excellence (EECoE).

Approach to capacity strengthening

A systematic approach will be used to enhance knowledge sharing and the uptake and application of knowledge and experience. The programme will be guided by the DEA "Integrated Approach to Capacity Development in Global Cooperation", which apply across DEA's global cooperation programmes. Outcome implementation groups will work to validate and expand the assessments of partner needs and priorities and reflect a structured approach to knowledge exchange and capacity development and monitoring as an integral part of workplans, applying the DEA tools as relevant. From the start of implementation, there will be focus on sustainable knowledge transfer and uptake as an integral part of all activities. This is also seen as part of a structured approach for eventual exit and will feed into the development of a consolidated exit strategy.

3. Theory of change and key assumptions

3.1 Theory of change

The VNDEPP Theory of Change is presented below.

- ***If* Denmark** contributes with grant funds to VNDEPP.
- ***And if*** VNDEPP engages in a partnership within strategically chosen areas with national partners who have the relevant mandates and a strong continued commitment to the partnership.
- ***And if*** DEA serves as an effective and efficient implementing partner for this cooperation drawing on extensive experience from numerous Strategic Sector Cooperations and Danish Energy Partnership Programmes (currently with 21 countries).
- ***And if*** DEA collaborates closely with key national partners leveraging its core competences, best practice, knowledge and experience, and applies a structured and effective approach to knowledge exchange and capacity development approaches including peer-to-peer exchanges, embedded long-term advisors, delegation visits from/to Denmark, workshops, seminars, learning events and training courses, triangular/South-South exchanges.
- ***And if*** these activities are strategically designed to address the specific needs of partners, focusing on planning, strategies, regulatory, institutional, and technical measures aligned to partner institutions' own strategies.
- ***And if*** this is done through sharing experiences on medium and long-term inclusive and green transition in the energy sector and climate action.
- ***And if*** a multi-dimensional development and poverty alleviation approach and human rights principles underpin the cooperation as a whole.
- ***And if*** the national partners sustain their commitment for an effective uptake, application and use of knowledge and experience in these areas.
- ***And if*** the national partners strive for synergy between VNDEPP and other initiatives in their country in support of an inclusive energy transition and climate action.
- ***And if*** Denmark strives for synergy between VNDEPP and Denmark's multilateral energy and climate cooperation, such as with the IEA and CIF, among others.

[3] New points on the amendment of the Law on Energy Efficiency and Conservation.

- **Then**, evidence-based and analytically grounded energy planning — including modelling of energy-emissions trajectories under different scenarios — that demonstrate the cost-effectiveness of an inclusive green energy transition, can be used to build consensus and drive Vietnam's clean energy transformation in line with the country's broader development goals.
- **And then**, the country's regulatory and legal framework for renewable energy, energy efficiency and power system optimisation will be adapted to facilitate and contribute to attracting direct investments into renewable energy and energy efficiency.
- **And then**, more suitable conditions are set for an increased and sustained renewable energy share in Vietnam's energy mix and a reduced energy intensity, with future energy demand increasingly being met by renewables and low-carbon technologies and solutions.
- **And then,** a long-term contribution will have been made towards a resource-efficient electricity system, providing more secure and reliable power supply in Vietnam based on a least-cost development of the sector, including consideration of adverse social and environmental impacts from deployment of land-intensive energy sources and grids
- **And then** a long-term and sustainable contribution will have been made to an inclusive green energy transition through advancement of clean energy development and implementation of the country's NDCs under the Paris Agreement and the 2050 net-zero target.
- **And then** a contribution has been made to sustainable growth through emissions reduction; reduced air pollution; increased transparency and governance in the energy sector, including health and environmental improvements, job creation, and economic development benefitting more than 100 million people.
- **And then** a contribution to the United Nations' sustainable development agenda has been made, addressing Sustainable Development Goal 7 (Affordable and Clean Energy) and Sustainable Development Goal 13 (Climate Action), as well as and Sustainable Development Goal 17 (Strengthen the means of implementation and revitalise the Global Partnership for Sustainable Development), among others.
- **And then** a contribution to sustained multilateralism and a rule-based international order has been made, by demonstrating Denmark's commitment to its responsibility under the Paris Agreement and the United Nations Framework Convention on Climate Change (UNFCCC).

3.2 Key assumptions and drivers

As implementing partner, DEA will be responsible for inputs and use of budgets for programme activities. National partner inputs will be provided in-kind, based on agreed workplans and related budgets. It is also important to note that as implementing partner DEA will be accountable for actively contributing to the achievement of results at output level while outcomes and impact are within DEA influence and interest, respectively, but highly dependent on partner action – however, DEA is required to monitor results at outcome and impact levels and if relevant adjust its approach if the contribution to outcomes and impact are not as strong as expected. Assumptions[4] relate to factors that are not (fully) within the control of DEA in implementing VNDEPP, but which underpin the theory of change and include:

Assumptions:

- Vietnam government's sustained political ambition towards the 2050 net-zero target and policy initiatives related to decarbonisation of the energy sector.
- Climate-diplomacy relations that support Vietnam in addressing both climate action and a just energy transition, including community consultations.
- MOIT continued commitment to exchange on context-specific conditions (including on the power and energy system, socio-economic and environmental impacts of renewable energy, among others), as necessary assumptions for providing technical assistance in energy modelling and planning.

[4] Assumptions and risks factors are connected. Risks (see Annex 4) can be seen as the factors that might have given rise to failure of assumptions – at least for the programmatic and institutional level.

- Additionality and synergy ensured in a dynamic field with many actors and international development partners.
- The partnership develops in a way that strategically supports transformational change aligned to Vietnam's Power Development Plans in its current and future editions, as well as other key strategic plans (including updated NDCs) and legislative pillars for the development of the energy system (e.g. Electricity Law and Energy Efficiency Law).
- The mobilisation of financial resources for EE investments is enabled by a strong institutional set-up with the required human resource capacities.
- MOIT and other partners engage effectively throughout the programme and value peer-to-peer exchanges of good practice and paths to avoid.
- Country-level programme governance and management mechanisms (Steering Committee/Implementation Groups) meet regularly as foreseen and are effective in monitoring progress and results and in providing strategic guidance to implementation, including ensuring continued alignment to Vietnam's priority needs and with emphasis on assumptions and risk factors, as well as capacity development results for sustainable outcomes.
- Renewable energy remains an enabler to meet future energy demand in Vietnam, including the electrification and digitalisation of society, while providing access to reliable energy to populations including low-income groups.
- The cooperation contributes effectively to enabling investments, where required, to complement institutional strengthening.

Key drivers of sustainable impact:

- There are political incentives and drivers for ensuring a continued high-level political commitment in Vietnam and a strategic engagement with Denmark to meet energy transition and climate targets.
- Cost-competitive prices of renewable energy technologies associated infrastructure and international financing.
- A structured approach to knowledge sharing, including delegation visits ("seeing is believing").
- Continued attention to the socio-economic aspects of the energy transition in the partnership, ensuring broad community and citizen support of the new policies and actions.
- Continued collaboration on institutional aspects of the green transition with a focus on implementation as a supplement to the technical areas of cooperation.
- Effective communication of results and lessons targeted at decision makers.
- Triangular South-South cooperation and sustained peer-to-peer exchanges also with other countries.
- Engagement with other key partners in the energy sector, broadening the partnership and/or leveraging additional expertise and area of influence, such as through SEC (Strategic Engagement Cooperation) projects.

4. Results framework at outcome level

VNDEPP is essentially a capacity strengthening programme in which technical support and knowledge transfer contribute to achieving enhanced national capabilities that in turn lead to programme outcomes and impact when national partners apply these capabilities. Simply put, Outputs and Outcomes are achieved through capacity strengthening of partner institutions contributed to by VNDEPP, consistent with DEA's "Integrated Approach to Capacity Development in Global Cooperation (GC)". To make the results framework more succinct, the term capacity development or capacity strengthening are generally, however, not reflected in the wording of outputs and outcomes to avoid repetition, but it is a general pre-cursor to this results framework. The capacity development approach is reflected in the narrative theory of change in Section 3.1 and described further in the DEPP 2026 FPD.

The results framework at outcome level is summarised in Table 4.1 below, where the key partners are also indicated under each outcome. The more detailed results framework at output level is found in Annex 3, where typical types of activities and topic area clusters are also indicated under each output.

Table 4.1 VNDEPP results framework at outcome level

Programme		**Vietnam-Denmark Energy Partnership (VNDEPP) Programme**	
Programme Objective		Facilitate a just green energy transition in Vietnam, by enabling clean energy development and implementation of the long-term climate goals of a net-zero society by 2050.	
Impact Indicator		➢ Increased share of renewable energy: increase in the share of renewable energy in the national electricity mix (%). ➢ Improved energy efficiency: energy savings from industrial energy efficiency measures (in GWh/year). ➢ Increased energy security: reduction in the frequency (SAIFI index) and duration (SAIDI index) of power outages.	
Outcome 1		**A secure electricity system increasingly based on renewables is supported by data-driven planning, market-based mechanisms, and strengthened institutional capacity.**	
Key partners		<u>Key partners:</u> ➢ Electricity Authority of Vietnam (EAV) under the Ministry of Industry and Trade (MOIT) Other stakeholders who are not direct partners include: ➢ Institute of Energy (IE) ➢ Universities (e.g. HUST, EPU), research institutes ➢ National System and Market Operator (NSMO) ➢ Electricity of Vietnam (EVN)	
Outcome indicator		National energy planning and regulatory decisions on renewable energy development and integration are informed by institutionalized modelling approaches and analytical methodologies supported by the programme[5]	
Baseline	Year	2026	While energy analysis and modelling capabilities exist in Vietnam, there is considerable room for strengthening the landscape, particularly in applying models for policy-relevant, system-level analysis. EAV and other institutions face challenges in using data-driven tools for scenario-based planning, assessing power system flexibility, and developing suitable mechanisms that enable integration of higher shares of renewable energy. Regulatory frameworks and institutional coordination for power plant flexibility, RE project facilitation, and market incentives remain underdeveloped or fragmented[6].
Target	Year	2030	By 2030, EAV and relevant institutions base their energy policy recommendations, power system planning, and market advancement efforts on robust, data-driven analysis supported by a diverse modelling toolkit. Regulatory frameworks and market designs support power system flexibility and renewable power project implementation through clear coordination mechanisms, updated codes, and aligned national–provincial roles. This integrated approach enhances Vietnam's ability to operate a secure, renewable-based electricity system, enabling an inclusive and just energy transition.
Outcome 2		**Optimised technical and economic operation of the power grid, enabling higher integration of renewables and enhancing grid stability and security of supply.**	
Key partners		<u>Key partners:</u>	

[5] Means of Verification: Evidence of formal adoption and documented application of programme-supported analytical tools, planning methodologies and regulatory or governance frameworks in official planning documents, procedures and decisions.
[6] Means of Verification: RISE indicator Electricity Sector Renewables Score 49 (Vietnam | RISE)

		➢ Electricity Authority of Vietnam (EAV) under Ministry of Industry and Trade (MOIT) ➢ National System and Market Operator (NSMO)	
Outcome indicator		NSMO operates under an established governance framework and applies advanced operational and adequacy assessment methodologies to manage increasing VRE integration without compromising system reliability.[7]	
Baseline	Year	2026	NSMO aims at establishing a stronger capacity on securing a stable and optimised operation of the grid with higher VRE share. NSMO has a need to enhance its capacity and experience with planning and operating power systems with a high share of renewable energy.
Target	Year	2030	NSMO has sufficient capacity and established an efficient governance structure to operate the power system with higher share of VRE, without compromising day-to-day operations, grid stability and security of supply.
Outcome 3		**Strengthened uptake of energy efficiency in the industrial sector through enhanced institutional capacity for implementing incentive schemes, leading to energy savings, improved industrial competitiveness, and adherence with national emission reduction targets.**	
Key partners		Key partners: ➢ Department of Innovation, Green Transformation and Industrial Promotion (IGIP)/ Ministry of Industry and Trade (MOIT) Other stakeholders who are not direct partners include: ➢ Electric Power University (EPU) ➢ Energy Auditing Companies (EAC's) ➢ Industrial Enterprises (IE's) ➢ Financing Institutions (FI)	
Outcome indicator		Increase in energy efficiency investments in the industrial sector in Vietnam.	
Baseline	Year	2026	EE incentives schemes are not fully implemented and institutionalised
Target	Year	2030	Investments are enabled and accelerated to advance the implementation of energy efficiency measures in the industrial sector and support its transition towards sustainable energy and GHG emission reduction[8].

5. Inputs, budget, financial management

5.1 Inputs and budget

DEA as the Implementing Partner will be responsible for the organisation and timely delivery of technical cooperation inputs by DEA staff and external consultants to activities guided by demands and priorities, as defined in the annual work plans. Inputs will be delivered based on Terms of Reference (TOR) that ensure the accountability for delivery in alignment with agreed work plans and partner availability and capacity to engage. Inputs will be staff time inputs from DEA-Global Cooperation (GC) and other DEA units, as well as consultant inputs from DEA Consortium partners under DEA's Framework Contracts, as relevant. Where specific inputs by knowledge partners or other external national consultants or institutions in Vietnam are required, such inputs will be procured through DEA under existing and/or new framework contracts.

Vietnamese national partner inputs will be delivered in-kind, aligned to the same annual work plans, which are approved by the Steering Committee. Participation of senior/decision making level staffing at the steering committee level (expectedly at Vice Minister level), and middle level management/technical experts at working group level is expected.

[7] Means of Verification: Evidence of application in official planning documents and operational procedures. Evidence of application of forecasting, balancing and flexibility tools and approaches in operational practice.

[8] Means of Verification: annual energy savings (and GHG emission reductions) for relevant industrial sub-sectors, as a result of EE project investments.

Building on the successful experience of long-term advisors (LTAs) in DEPP programmes, it is expected to engage one LTA, anchored at EAV (MOIT) with focus on Outcome 1 and one LTA anchored at IGIP (MOIT) with focus on Outcome 3, the latter for an initial period of 2 years. It is being considered to allocate one LTA also to cover Outcome 2, tentatively to be positioned at NSMO, and for a duration of 2 years starting mid-programme. Draft job profiles with qualification requirements are included in Annex 9. Representatives from the hosting partner institutions for the LTAs will participate in the recruitment panel together with representatives from DEA and the Embassy of Denmark.

The budget for the VNDEPP is DKK 60 million of ODA-eligible grant funds sourced from the Danish Finance Act (FL-konto 06.31.01.70). Table 5.1 below reflects the budget allocation by outcome (including LTAs under each outcome). In Annex 5, a tentative allocation by output is provided to be further detailed and updated in annual workplans.

Table 5.1: Summary budget allocations by outcome

Outcomes	Budget allocations
Outcome 1: A secure electricity system increasingly based on renewables is supported by data-driven planning, market-based mechanisms, and strengthened institutional capacity.	27.62
Outcome 2: Optimised technical and economic operation of the power grid, enabling higher integration of renewables and enhancing grid stability and security of supply.	14.22
Outcome 3: Strengthened uptake of energy efficiency in the industrial sector through enhanced institutional capacity for implementing incentive schemes, leading to energy savings, improved industrial competitiveness, and adherence with national emission reduction targets.	18.16
Total, DKK million	**60.00**

5.2 Financial management and reporting

Grant funds will be transferred from the MFA to the DEA upon written request, and DEA will be responsible for all financial management and reporting on VNDEPP funding. The financial management and reporting procedures are further defined in the DEPP 2026 FPD.

As no cash funds will be transferred to or disbursed through national partners directly, there will be no requirements for accounting of funds and financial reporting by national partners to the MFA. To monitor the delivery by DEA of in-country technical cooperation consistent with work plans agreed between DEA and the national partners, the time spent by DEA with partners is reported in the annual progress reporting to the MFA (MYNSEK[9][10]). Budgets and actual expenditures at outcome and output level broken-down on the cost-categories (DEA staff; Consultants; Other Costs) will be presented in the annual financial reporting to the MFA(MYNSEK) and the VNDEPP Steering Committee. The progress- and the financial reports will help PAG to assess value for money at its annual meeting.

6. Institutional arrangement and management set-up

Institutional set-up, governance, and management

[9] The formulation of VNDEPP was made and finalised by the MFA Department for Green Diplomacy and Climate (KLIMA) but when formulation is completed, the management of DEPP 2026 will be moved to the MFA Secretariat for Strategic Sector Cooperation (MYNSEK).

[10] As explained in the FPD, from 1st of January 2026, an internal transfer of the administrative responsibility for DEPPs in the MFA have been initiated from KLIMA to MYNSEK. The transfer is being made gradually and expected to completed by end of Q2, 2026. It is expected that KLIMA will continue being engaged with DEPP 2026 in relation to follow more technical and thematic areas related to energy and climate, and will also continue to participate SAG meetings alongside MYNSEK, but with a more limited responsibility.

The VNDEPP Programme will build on the governance structure of the earlier cooperation, consisting of a strategic level and an operational level. Table 6.1 summarises this set-up. It also forms part of the wider governance structure of the DEPP programmes explained in the framework project document. VNDEPP will continue to coordinate with the variety of bilateral and multilateral development partners engaged in the energy transition and climate action programmes in Vietnam. Particularly, further collaboration is expected around the JETP. Close coordination has already been established in previous programme phases with e.g. the EU and GIZ.

Table 6.1 Functions in the governance and management set-up

Structure	Functions	Composition/meeting schedule
Steering Committee	• Serves to deepen the collaboration in the energy sector between Vietnam and Denmark, reflecting on the relevance, effectiveness and potential of the cooperation. • Considers and approves adjustments in the programme at partner, outcome and output level, where needed. • Approves annual progress reports and work plans. • Monitors progress across the programme. • Coordinates and aligns with policy and strategical developments. • Enhances the cross-cutting dialogue and coordination between policy makers at both political and ministerial level through high-level participation and discussion around timely topics, thus elevating the results and insights produced in the programme beyond MOIT.	Vietnam Partners: Chair: MOIT Vice Minister; Director (or Deputy Director) General from each partner organisation. Danish Partners: Co-Chair: Ambassador; Director and Country Programme Manager at DEA, LTAs, and energy sector counsellor of the Embassy. • Meets annually • DEA drafts minutes to be agreed by all parties.
Implementation groups for each outcome	• Assess progress in capacity development and transfer of systems and technology know-how. • Prepare and submit annual progress reports and annual work plans to the Steering Committee for approval. • Implement approved annual work plans. • Approve terms of reference for the implementation activities and the deliverables of such activities. • Undertake the day-to-day coordination and ensure that implementation activities (workshops, study tours, meetings etc.) are aligned with strategical and institutional developments. • Engage with and facilitate collaboration across partners and stakeholders, including other development partners. • Monitor progress across the outputs against approved annual work plans, using the appropriate monitoring indicators. • Keeps SC well informed of progress and developments. • Assess the needs for resource allocations and reports recommendations to SC.	Vietnam Partners: Focal person for the output from the partner organisations involved. Other non-focal partners to be invited, when relevant. Danish Partners: Energy sector counsellor and Senior Programme Manager of the Embassy, Project and team leaders of the DEA, relevant LTA • Meets regularly and as required (physically or virtually), at least quarterly. • DEA drafts working notes and minutes to be shared among participants and with the Steering Committee.

Work planning

Work planning is an ongoing process with each partner, where the annual work plans will be developed to align to partners' annual work programmes and needs, and availability of DEA specialists and consultants, balanced with available resources. Work planning will be prepared with partners at outcome level, for endorsement by the Steering Committee. The annual work plans will define annual activities, annual output targets and link these directly to the Results Framework in this Programme Document. Work plans should have indicators that reflect the intended outputs and increased institutional capabilities to produce them. In collaboration with partners and LTAs, TOR will be formulated for each activity (of a certain minimum size) and the TOR will specify tasks and targets for the activity, as well as required specialist inputs from partners, DEA, LTAs, Energy Sector Counsellor, at the Embassy, DEA consortium partners and consultants. Furthermore, the annual work plans will specify division of labor between parties and the contribution needed from all parties for the outputs to succeed.

Coordination across VNDEPP outcomes. Furthermore, at least once a year, a meeting between EAV and NSMO will be organised to respectively feedback learnings and inputs from Outcome 1 and Outcome 2.

Results monitoring

Monitoring towards targets will be reported through the progress reporting from the implementation groups once a year to the Steering Committee using a "traffic-light" system, where:

- "green" is on-track, with implementation progressing as scheduled.
- "yellow" is partly on-track, which requires attention and potentially remedial action to get back on-track.
- "red" is off-track, which requires urgent attention by the Steering Committee with a decision on necessary adjustments or re-scoping to get back on-track and/or recommend reallocation of funding/activities. If "red" in two consecutive reporting periods, the Steering Committee could consider extraordinary remedial measures, such as setting up a task force.

In addition to the formal progress monitoring, during VNDEPP there will be a constant informal feedback loop between DEA and the partner institutions on assessing the need for capacity development activities and the appropriate modality of this. This assessment will take place at implementation group level on a regular basis, during the DEA internal quarterly meetings and at the yearly Steering Committee meetings.

Results reporting

Following Danida Aid Management Guidelines (AMG), monitoring and reporting will be based on the results framework at output and outcome level and each key partner institution will, jointly with DEA, monitor progress towards achieving these outputs and outcomes via annual progress reporting to the Steering Committee. An Annual Progress Report and annual financial report for the MFA will be prepared by DEA for approval by the PAG as part of the consolidated DEA annual progress reports across all five DEPP 2026 countries, as further described in the FPD. The annual progress reporting for the MFA will assess the development of partner capacity in relation to achievement of outputs and outcomes. Further, it will consider risk mitigation measures informed by systematic assessment of assumptions and risks, as part of DEA internal quarterly meetings with participation at DEA-GC Director level.

Communication of results

DEA together with the Embassy of Denmark in Vietnam and the national partners will actively engage in targeted communication of progress and results informing stakeholders both in Denmark and in Vietnam. The focus will be on raising awareness on the opportunities and choices in the clean energy transition and how the VNDEPP programme contributes to this, including concrete examples of strategic decisions to which the activities and outputs have contributed. With due respect to confidentiality provisions, the DEA will communicate the positive value and effects of the collaboration to decision makers, opinion leaders, and the public, through a variety of means, including websites, social media, press releases and reports published on the DEA website. The communication strategy is found in Annex 7.

7. Risk management

A summary of key risk factors and mitigating measures is provided below, while a detailed risk management matrix consistent with Danida guidelines is found in Annex 4. The risk analysis also responds to risk factors emerging from the context analysis in Annex 1.

Contextual risks

- Lack of consensus on the green energy transition could affect the programme and delay the green transition. Vested interests in the political economy working for continued reliance on coal and natural gas, working against the green energy transition.
- Continued government subsidies to keep low electricity prices, possibly resulting in disincentives for energy efficiency (EE) measures and partly slow down RE deployment.
- Ineffective national-provincial level, inter-ministerial and inter-agency coordination.
- Risk of climate-induced energy insecurity and shift in political priorities in the energy sector.
- .
- Social resistance to RE deployment, if consultation processes are inadequate.

Mitigating measures: Demonstrate the benefits of the green and just energy transition through least-cost energy modelling and long-term scenarios, with emphasis on security and reliability of supply. Engage in robust partnership with and provide capacity development support to government institutions that have the mandate and the power to regulate the electricity sector and who implement the Government's ambitious energy transition and climate action agenda. Emphasise transparency and stakeholder engagement.

Residual risk: Major.

Programmatic risks

- Change of responsibilities in power system planning and power market development.
- Challenges in mobilising the relevant departments under MOIT.
- Limited resources and managerial/technical capacity in national partner institutions/shortages of staff.
- Insufficient willingness or ability to share available data.
- Limited access to finance to support EE investments.
- Market players do not respond to the energy sector policy and incentives as expected, leading to, among others, low levels of investments in RE and EE.
- Lack of institutionalisation of capacity development.

Mitigating measures: Emphasise development of institutional capacity based on thorough partner assessments and tailor-made support responding to key partner mandates, needs and priorities. Demonstrate the importance of data availability and quality for efficient and effective partnership and sustainable results. Ensure that the partnership targets all market players from State-Owned Enterprises (SoEs) to private sector.

Residual risk: Minor to major.

Institutional risks

- The programme could risk duplicating existing activities and/or fail to build synergies with other initiatives.
- Any unintended use of resources or misconduct.

Mitigating measures: Actively seek synergy with other initiatives including those supported by Denmark in multilateral cooperation (e.g. OECD-CEFIM, IEA). Continue to engage in sector coordination working groups with MOIT.

Residual risk: Minor.

Assumptions and risks factors are connected. Risks can be seen as the factors that might have given rise to failure of assumptions. A table illustrating the linkages between assumptions and risks is found at the end of Annex 4. Risks and associated assumptions will be systematically monitored throughout implementation. In addition to the risks identified in the risk matrix (Annex 4), selected critical assumptions underpinning key outputs and outcomes will also be monitored as part of regular programme dialogue progress, reporting, and review processes.

Where residual risk is assessed as major, the programme will define clear warning signs that indicate when an output or outcome may no longer be relevant or feasible to achieve significant progress with the Danish support. These are not rigid cut-off points or red lines, but triggers for dialogue and reassessment. Such conditions may include:

- Significant reversal or delay of national energy transition policies or regulatory reform.
- Structural changes in institutional mandates affecting core partner institutions.
- Persistent lack of data access necessary for modelling and advisory support.
- Prolonged absence of market response to introduced policy instruments.
- Major shifts in political priorities, due to climate-induced energy insecurity or geopolitical developments.

If monitoring indicates that a residual risk is increasing towards a significant level, or that critical conditions are emerging, this will trigger a structured reassessment of the affected outputs and outcomes. Remedial actions may include adjustment of scope, redesign of support modalities, temporary suspension of activities, or reallocation of resources, as decided by SAG based on recommendations from DEA. The Steering Committee will consider the more detailed implications of such remedial action.

This adaptive management approach ensures that support remains relevant and proportionate to the evolving risk environment, while maintaining alignment with programme objectives.

8. Sustainability, transition and exit

A robust exit strategy is crucial for VNDEPP to ensure that Danish-supported energy initiatives continue to deliver sustainable impact after 2030. Rather than a mere administrative closure, the strategy builds upon a transformative process, embedding knowledge and capabilities within Vietnamese institutions to strengthen national energy modelling, planning, integration of renewable energy and energy efficiency in industry.

The programme's final phase focuses on institutionalising knowledge and practices, advancing just and green projects, and achieving three key outcomes. First, VNDEPP aims to establish a regular publication cycle for the Vietnam Energy Outlook, aligning with national planning and expanding capacity building to academic institutions and provincial authorities. Second, the programme will deepen governance engagement at policy, regulatory, and operational levels to support the integration of renewable energy into the power system, building on previous capacity development efforts. Third, it will solidify the Centre of Excellence as a knowledge hub and incentive framework on energy efficiency for industrial stakeholders, ensuring lasting impact. In general, VNDEPP will aim at enabling partners to institutionalise the processes and procedures in their annual cycles, and consolidate "train-the-trainer" approaches to avoid dependence on continued training by the DEA or the Danida Fellowship Centre (DFC) courses on recurrent topics and models. Furthermore, it is expected that, during the course and by the end of VNDEPP, new or updated regulatory frameworks will be in place, with relevance to some areas of the cooperation. This will enable a sustainable up-take of the technical support by national institutions and allow the energy cooperation with Vietnam to take new forms in the future.

As an overall priority, VNDEPP will ensure that knowledge and experience are provided to support capacity development within the Vietnamese authorities and that the expertise built will be valid and useful after the programme ends, i.e. planning approaches, policy recommendations, and inputs to regulatory frameworks

can be implemented in the future without the support provided by the programme. This requires capacity development both on technical expertise and on governance.

Exit from specific areas will be based on evidence of knowledge uptake, shifts in policy priorities, or progress against joint targets. Continuation with partner institutions will depend on the completion of agreed outputs, emerging needs, and resource availability. Before the MFA Mid-term Review, DEA will collaborate with national partners and the Embassy to prepare inputs for a transition from the current programme format and consider new ways to ensure sustainability while continuing the energy cooperation with Vietnam. As Vietnam is likely to accelerate on the implementation of RE and EE targets, new forms of cooperation could be advanced. This could transition into a potential new phase of the Energy Governance Programme (EGP), or it could entail commercial cooperation with the Danish private sector regarding specific technologies or co-investments. Danish multilateral support to institutions such as IEA, IRENA and the World Bank's ESMAP could also be considered as a transition/exit move.

Annex 1: Context analysis

Notes:

- As agreed with the MFA, this annex has been considerably shortened compared to DEA's detailed context analysis dated March 2025, which is an invaluable reference document that can be used in VNDEPP implementation, but which is too detailed for the present CPD.
- The structure of the annex remains consistent with Danida guidelines, but the shortened version inevitably means that some details are not included here, such as the detailed document references under each section, which can be found in DEA's more detailed version.
- The MFA has decided that a subsection A.1.3 on Fragility, Conflict and Resilience (that is normally part of the standard template for Context Analysis), is not required.
- Generally, no additional studies or analytical work are required in the formulation and approval process for VNDEPP. Some information in this Annex may be updated during implementation so that the context analysis remains a useful tool and reference in programme implementation.

A1.1: Poverty and inequality analysis
Poverty - Vietnam is a country in transition with significant economic and social progress since the war ended in 1975. GDP per capita rose from $481 in 1986 to $2,655 in 2020. Poverty declined sharply from 16.8% in 2010 to 5% in 2020, lifting 10 million people out of poverty. Household consumption grew about 5% annually, and welfare improved broadly across all income groups. Despite this, poverty remains a major concern, with hunger and poverty cited as top issues by citizens. Without inclusive adaptation to climate change, an additional 400,000 to 1 million people could fall into extreme poverty by 2030. About 10% of households are vulnerable to poverty due to climate risks, which vary regionally: poor households in Northern Midlands and Mountain areas face precipitation and temperature variability, while those in North Central, Central Coastal, and Mekong Delta regions are vulnerable to sea-level rise. Ethnic minorities are disproportionately exposed and vulnerable to these climate impacts. While the electricity poverty (lack of access to electricity) has been eradicated, the energy-cost poverty indicator[11] increased. ***Inequality*** - Inequality in Vietnam increased marginally in the latter half of the decade. The Gini index[12], which measures income distribution inequality, was at its highest at the beginning of the decade, coinciding with the global financial crisis, but it quickly reverted to lower levels. From 2010 to 2014, inequality declined as households at the lower end of the welfare distribution experienced higher-than-average growth rates. However, in the latter half of the decade, consumption among richer households grew faster than among poorer ones, leading to increasing inequality. The poorest households are increasingly concentrated in low-income agricultural areas, which risks them falling further behind and being less connected to the more vibrant sectors of the economy.
The **economically vulnerable population** in Vietnam is over twice the size of the poor population, with the largest disparity in the Mekong Delta. Despite poverty reduction, ethnic minorities in remote agricultural areas, particularly in the northwest and Central Highlands, still face chronic poverty due to factors like geographical isolation, limited market access, social exclusion, cultural and language barriers, poor land quality, low migration, and education levels. Electrification has been crucial: only 2.5% of poor households had electricity in 1975, rising to 96% by 2009—comparable to China and Thailand despite Vietnam's lower income. Electricity use varies regionally, with mountain and highland households consuming much less than delta and coastal areas. Electricity inequality is high in poor districts due to lack of access but lower in middle-income areas. Electricity poverty dropped from 41% in 2004 to 8% in 2016, yet energy-cost poverty increased by 5%, indicating rising energy costs as a greater burden—rural populations reliant on coal and biomass face energy-cost poverty at nine times the urban rate. Poor and ethnic minority households are most disadvantaged in income, consumption, and clean energy access, increasing health risks from coal and biomass use. Higher energy costs reduce their spending on other goods, harming welfare. Ethnic minorities in remote northern regions suffer infrastructure issues, with blackouts affecting healthcare and communication, while power outages in industrial hubs like Haiphong and Hanoi disrupt factories, causing economic losses and job instability.
Key risks in which Vietnam green energy transition may harm **poor and vulnerable groups** include the following:

[11] Energy poverty is defined as a situation where households spend a significant portion of their income on energy expenses, leading to financial strain.

[12] Gini index measures the extent to which the distribution of income (or, in some cases, consumption expenditure) among individuals or households within an economy deviates from a perfectly equal distribution (World Bank).

- *Lack of Access to Rights* - There is a risk of insufficient participation and consultation in the deployment and of renewable energy (RE) projects and infrastructure. This is particularly concerning land rights and compensation mechanisms, which risk being overlooked or inadequately addressed.
- *Negative Impact on Livelihoods* - The green transition poses risks to certain population groups. For instance, workers in carbon-intensive industries and coal workers, e.g. in Quang Ninh, may face unemployment, need for re-skilling or changed economic opportunities as green economy initiatives are implemented.
- *Rising Electricity Prices* - Establishment of a liberalised power market may disproportionately impact certain population groups, increasing their financial burden. In Vietnam, the electricity prices are highly subsidised, and with market-based pricing mechanisms vulnerable groups can be harmed by a relatively higher cost-burden compared to other population groups with higher income.

When conducting programme activities and applying the Danish experience and approach to green transition, public consultation, rights to appeal, sustainable development of local societies transforming to green energy are integrated parts of the modality. Thus, by raising awareness and facilitating knowledge sharing about these overarching transition-related risks, VNDEPP aims to support the creation of policy frameworks that mitigate such risks. This includes promoting fair and inclusive consultation processes, effective stakeholder engagement, environmental and social impact assessments aligned with international best practices, as well as implementing cost-efficient energy development strategies. Furthermore, Denmark's experience in facilitating re-skilling to meet the green transition's sectoral demands will help reduce the risk of negative impact on livelihood and strengthen local support for RE.

A1.2: Political economy and stakeholder analysis

Vietnam's climate and energy policies are largely shaped by **political economy** factors, notably its one-party system where the Communist Party controls state and society. Since the 'Doi Moi' economic reforms, the Party has emphasised socio-economic performance as its main source of legitimacy. This focus has driven unprecedented economic growth but also affects policymaking, especially in energy. Despite rising climate ambitions, Vietnam plans a substantial increase in coal-fired power to support energy-intensive economic growth. In 2020, it ranked fifth globally for planned coal capacity additions, after China, India, Turkey, and Indonesia. The revised Power Development Plan (PDP) aims to expand installed capacity by 2030 before phasing out coal plants by mid-century. Vietnam's reliance on coal is influenced by a complex network of actors within a tightly regulated electricity market dominated by state-owned enterprises, favouring large coal investments and weakening renewable energy regulations. The national energy policy is guided by three main political goals:

- **Affordability**: Ensuring low electricity prices to support economic growth and maintain the Party's legitimacy. Electricity tariffs are centrally regulated below cost-recovery and vary by consumer type. This forces the state utility, EVN, to depend on government funding, increasing public debt and indirect coal subsidies, creating regulatory bias towards fossil fuels.
- **Security of supply**: The Party prioritises energy supply as essential for economic growth, often overestimating demand. This justifies coal's role in power stability, while underestimating renewables' grid potential due to asymmetric information.
- **Sustainabilit**y: Growing environmental and health concerns face administrative silo-mentality, leading to weak coordination between environment, climate and energy policies. Large indirect fossil fuel subsidies contribute to regulatory inconsistencies.

These principles are entrenched as both government and National Assembly closely align with the Communist Party's directives.

Political scene – rising green ambitions: In 2021, Prime Minister Pham Minh Chinh announced at COP26 that Vietnam aims for net-zero emissions by 2050. This was formalised in July 2022 through the National Climate Change Strategy, focusing on shifting from coal to cleaner energy and reducing fossil fuel dependence. The latest Power Development Plan 8 (PDP8), approved in April 2025, underpins this transition, targeting significant renewable energy (RE) capacity growth: 6 GW offshore wind, 26 GW onshore wind, and 1.5 GW biomass by 2030. However, PDP8 relies heavily on natural gas, positioning LNG as a transition fuel, with planned expansions of LNG thermal and coal power capacities to 22 GW and 31 GW, respectively, by 2030. The 2022 Just Energy Transition Partnership (JETP), involving nine countries including Denmark and the EU, aims to mobilise at least $15.5 billion over three to five years to support Vietnam's low-emission, climate-resilient development. JETP targets include reducing coal-fired capacity peak from 37 GW in 2035 to 30.2 GW by 2030, increasing renewable electricity generation from 36% to at least 47% by 2030, and capping annual power sector emissions at 170 MtCO2e by 2030, down from 204–254 MtCO2e in 2035 as per PDP8. Denmark's technical assistance focuses on integrating RE, improving coal plant flexibility to a 50–60% capacity factor, creating room for more renewables, and enabling some units to shift to alternative uses by 2030.

Political scene – solar PV boom and stalemate: Vietnam's renewable capacity surged in 2020 with 11 GW of solar, predominantly rooftop installations, increasing capacity from 97 MW in 2018 to 16.5 GW in 2020. This growth was driven by a lucrative 20-year feed-in tariff (FiT) exceeding $70/MWh, far above average electricity prices and attractive to investors. The expansion surpassed revised PDP7 targets by over tenfold and 2025-planned capacity by more than double, overwhelming grid absorption capacity. Consequently, solar investors face grid congestion, limiting power sales and creating investment uncertainty. Following FiT expiry in 2020, investigations into over 30 projects suspected of unfair preferential treatment led to resignations of senior officials at EVN and MOIT. The stop-start regulatory environment, grid congestion, preferential treatment, and resignations caused a political stalemate in the energy sector.

Specific issues facing Vietnam's energy sector:

- **Energy Security:** The Institute of Energy predicts rapid power demand growth of 10–12% annually through 2030, one of Asia's fastest. Vietnam faces supply security challenges during dry seasons due to limited hydropower capacity and adverse weather, including heatwaves causing spikes in demand and water shortages in hydro dams. Delays in RE integration and lack of flexibility risk increased curtailment, higher system costs, and greater fuel import dependency.
- **Electricity Market**: Retail electricity prices are heavily regulated and subsidised to protect disadvantaged groups, creating distortions. Prices have risen more slowly than input costs (9.27% vs. 3% last year) and are reviewed only twice yearly, with just three adjustments in six years. This suppresses true cost signals, causes EVN losses, supply shortages, low energy efficiency, and discourages optimisation and demand management.
- **Infrastructure Limitations**: Energy infrastructure and grid capacity are inadequate for projected RE integration, causing congestion and inefficiencies in transmitting electricity from surplus to high-demand areas.
- **Regulatory Uncertainty**: A historical lack of clear and consistent regulations has been challenging for investors and energy project development. During 2025, a substantial effort from the Ministry of Industry and Trade for issuing new regulation in the energy sector to address these challenges has been experienced. While this is a positive development towards more regulatory clarity and coherence, the effect of the reforms is still unclear.
- **Monopolies and State-Owned Enterprises (SOEs)**: Vietnam retains a significant state-owned sector, contributing one-third of GDP and dominating key sectors (energy, transport, telecoms, finance). Despite advanced legal frameworks, enforcement is weak, and ownership policy is fragmented. State ownership often overlaps with market regulation, blurring lines between business and government functions. Some SOEs provide social welfare, such as subsidised electricity prices for certain groups.

Stakeholder analysis

Annex 2 provides a detailed description and assessment of the most important key national partners and stakeholders engaged in the programme. In addition, the following are stakeholders who may benefit and/or punctually engage with the programme: i) Committees and institutes under the National Assembly and the Party, especially the Central Commission for Policy and Strategy including the Institute for Policy and Strategic Studies and the Committee on Science, Technology and Environment. Think-tanks, research organisations and universities, ii) Provincial energy authorities and departments, iii) National business organisations (VCCI, VBF etc.); iv) Power consumers and industry – including private and state-owned enterprises; v) International NGOs in Vietnam; vi) RE power producers, energy investors and project developers; vii) Service providers and manufacturers in the sector, including for EE.

Strategies for stakeholder engagement and coordination include: i) Utilise the Embassy's extensive network with donors, businesses, national organisations, and key energy sector stakeholders, ii) Ensure the programme is demand-driven and aligned with partner priorities to secure government commitment and integration with daily activities; iii) Maintain high-level coordination through Steering Committee meetings to align expectations.; iv) Involve external stakeholders like organisations and think tanks as appropriate; v) Deploy LTAs, Sector Counsellor, and local staff in-country for strong local knowledge and language capabilities; vi) Hold regular coordination meetings among DEA, Embassy staff, LTAs, Trade Council, and relevant stakeholders; vii) Continue engagement in international forums such as VEPG and JETP to promote synergies and avoid duplication; viii) Maintain regular bilateral meetings with major donors like the World Bank, USAID, and GIZ; ix) Consider establishing a new high-level strategic policy dialogue to engage cross-cutting stakeholders, including the Institute for Policy and Strategy and National Assembly.

Who stands to gain/to lose from the programme: Vietnamese government officials and other beneficiaries such as Electricity Vietnam (EVN), Petro Vietnam (PVN), National System and Market Operator (NSMO), as well as local consultants and research institutes engaged in the program will benefit from exchange of experience and knowledge, as well as training courses and other learning opportunities in the program. Through knowledge sharing on least-cost approaches to energy planning, improved grid integration of further renewable resources, and generally

supporting accelerated RE development, the program can contribute to reducing the overall cost of the energy transition and strengthen security of supply, which will ultimately benefit the power consumers, including households and enterprises in more disadvantaged segments of society. The programme will support a transparent and comprehensive approach to the development of the relevant regulatory frameworks, which will benefit investors by streamlining the processes and allowing for enhanced and transparent competition. Entities entirely reliant on the fossil fuel business, as well as their employees, stand to lose from the green energy transition that the programme is promoting. EVN as a single buyer of electricity is currently forced to buy power from e.g. RE sources at a higher price than it can sell power in its retail business, which creates unsustainable economic losses. Non-inclusive land acquisition practices negatively impact rural communities in the development of power development projects, incl. solar and wind projects and transmission. Similarly, development of offshore wind power will affect coastal communities, incl. fisheries and aquaculture. Responsible policy development and business practice, which the program will continue to promote, can mitigate many of the negative impacts, as this is imperative for ensuring a fair and equal compensation and participatory planning procedure, critical for a just and inclusive energy transition.

A1.4: Human Rights, Gender, Youth and applying a Human Rights Based Approach

Vietnam lacks an independent national human rights institution, and its judicial system is not independent, with judges and chief justice being Communist Party members bound by party decisions. The Party restricts civil society participation in policy development, and while public consultation mechanisms exist in theory, they are ineffective in practice. Although human rights such as freedom of speech, press, and assembly are enshrined in the Constitution (reinforced in 2013), domestic laws and enforcement, especially "national security" provisions in the Penal Code, severely limit these rights. These provisions are increasingly used to silence dissent, with prolonged pre-trial detention and denial of legal access for those charged under national security laws, violating constitutional guarantees of fair trial. State censorship restricts media freedom; in 2022, Vietnam ranked 178 out of 180 countries in the Reporters Without Borders Press Freedom Index and third worldwide for imprisoning journalists. Freedom House classifies Vietnam as "Not Free" for global and internet freedom.

Authorities have intensified repression against activists, especially environmental and human rights defenders, often using charges such as tax evasion to suppress dissent. Since 2017, there has been a wave of arrests targeting NGOs and those involved in coal phase-out and infrastructure projects. Human Rights Watch estimates at least 159 political prisoners, and 22 detainees remain in custody. Since mid-2021, six climate and environmental leaders have been detained pre-trial without charges; five were sentenced for tax evasion, and one for "appropriation of information or documents," with trials often held behind closed doors. For example, Hoang Thi Minh Hong, founder of the environmental group CHANGE, was jailed for three years in 2023. This pattern suggests misuse of tax laws to criminalise environmental activists.

While the updated Law on Environmental Protection recognises non-state actors in Environmental Impact Assessments (EIA), implementation is lacking. Decree No.8/2022/NĐCP limits EIA consultations to certain state agencies, excluding wider civil society and undermining inclusivity.

Internationally, Vietnam was re-elected to the UN Human Rights Council (2023-2025) despite its harsh treatment of dissidents. It joined the Just Energy Transition Partnership (JETP) in 2022 with countries including Denmark and the G7. However, Vietnam's concept of a "just" transition focuses mainly on social aspects like job losses, rather than on representation of workers and vulnerable minorities in decision-making. Vietnam emphasises financial support from partners, framed by historical perceptions of Western emissions and economic gains, rather than its own responsibility to protect affected communities.

Regarding gender equality, Vietnam has made positive policy strides, but deep-rooted stereotypes and labour market discrimination persist. The 2023 Voluntary National Review notes increased female participation in politics and business, alongside improvements in women's sexual and reproductive health rights.

Vietnam has undergone four Universal Periodic Reviews (UPR) by the UN. In the 2024 UPR, the government committed to fostering independent civil society, free expression, and media independence but rejected recommendations concerning human rights defenders. Encouragingly, all recommendations on women's rights, disability, and children's rights were accepted, along with a pledge to ratify ILO Convention 87

Youth and jobs. In 2019, Vietnam recorded the highest proportion of young people in history, creating the potential for a demographic divide. Vietnam's 20.4 million young people (aged 10-24) made up 21% of the population, and this demographic window is expected to last until 2039 (UNFPA). Vietnam has a youth law from 2005 and a youth development strategy for the 2021-2030 period. The control of civil society makes it more difficult for the Vietnamese youth to organise, since they are also subject to strict government surveillance and approval processes, restricting the topics they can work with. Youth still organises itself in different organisations.

A1.5: Inclusive sustainable growth, climate change and environment

Climate change and economic growth - Vietnam's rapid economic growth has reduced poverty, but also led to a fourfold increase in per capita emissions (2000–2015). The country's rapid economic growth, urbanization, and

industrialisation over the last 30 years have been powered by a coal-dependent energy supply that creates significant GHG emissions. Vietnam has one of the most GHG-intensive economies in East Asia (measured as emissions per unit of output), similar to Indonesia's, but much higher than China's or the Philippines'.

As the climate changes, it is increasingly disrupting Vietnam's economy, and the costs are already starting to undermine growth. Initial calculations from the recent Country Environmental Analysis (CEA) suggest that Vietnam lost $10 billion in 2020, or 3.2 percent of its GDP, to climate change impacts. The magnitude of these damages, which are projected to increase rapidly, emphasises the increasing need for Vietnam to adapt to the risks from a changing climate. While Vietnam's vulnerability to climate change stems from the accumulated stock of GHG in the atmosphere and the slow response by the largest polluters to reduce their GHG emissions, it is exacerbated by poor planning and unsustainable management of natural resources in Vietnam. A case in point is the Mekong Delta where continued sand mining compounds the effect of sea level rise on erosion of the coastline and riverbanks. Vietnam's rapid economic growth has worsened air pollution, causing issues for a personal security, especially in Hanoi and Ho Chi Minh City. These cities rank among Southeast Asia's 15 most polluted, with particulate matter levels 4–5 times the WHO safety threshold. WHO estimates 60,000 annual deaths in Vietnam linked to air pollution, with the north experiencing the highest levels. Key pollution sources include transport, industry, construction, agriculture, and poor waste management. Many factories use outdated, inefficient equipment without proper emission controls. While the government has introduced pollution control measures, implementation remains slow, requiring further action.

Climate change and environment - Climate change poses an increasingly severe threat to Vietnam's agriculture, forestry, and fisheries. Rising temperatures are likely to shorten plant growth cycles in the North, and severe water shortages could lead to significant reductions in annual yields. The most productive agricultural area of the country, the Mekong Delta, faces growing threats from sea-level rise and associated saltwater intrusion, which could render the production of some crops impossible. The Mekong Delta contributes 50 percent of the country's rice production and 95 percent of rice exports, 65 percent of aquaculture production and 60 percent of exported fish, 70 percent of fruit production, and a third of Vietnam's agricultural GDP.

Agricultural losses due to climate change in Vietnam are projected to reach 5.6–6.2 percent by 2030 and 7.6–10.6 percent by 2050, depending on the climate scenario.

Climate change and migration - Climate change could significantly increase internal migration in Vietnam, especially to urban areas. Depending on the trajectory of climate change and socioeconomic development, 25–33 percent of all internal migrants in Vietnam by 2050 could be climate migrants. Hanoi and the Red River Delta are projected to be the largest hotspots for climate in-migration by 2050, while the largest climate out-migration hotspots by 2050 are projected to be the Mekong Delta due to sea-level rise and around HCMC due to declines in water availability.

Climate change and challenges to energy security - The electricity demand is expected to rapidly increase in the coming decades, while the extreme weather conditions will affect the energy security caused by rising temperatures, heat waves and droughts. Hydro power is the most important RE source in Vietnam today with 73% of all renewable power coming from hydropower and a total generation of 81 TWh in 2023. Recently, the country has faced electricity shortages and planned blackouts because of extreme heat, droughts, and hydropower plants reaching dangerously low water levels, for example, in industrial parks in northern provinces where large global manufacturers have facilities. As a result, the government has instituted rolling blackouts - sometimes unannounced - across the country, particularly in the north. This is happening while the country's abundant natural endowments of wind and sunlight remain underutilised. The programme will contribute to a least cost approach to making a long-term plan for the transition from a fossil-based energy system to variable RE sources. In the short term, the programme focuses on integration of RE will allow RE to be absorbed in the existing power system, which needs more flexibility on both generation and consumption side.

Vietnam submitted in 2022 a revised Nationally Determined Contribution (NDC) under the 2015 Paris Agreement. Emission reduction targets were increased from 9% to 15,8 % unconditionally and from 27% to 43,5% conditionally, compared to a business-as-usual (BAU) scenario based on 2014 levels. The conditional targets are dependent on international support received through bilateral and multilateral cooperation and through mechanisms under the Paris Agreement. Due to the significant and rapid surge of renewable projects since 2019 following the feed-in tariff regulations, Vietnam is already well on track to meet its mitigation targets. The programme in Vietnam, namely the activities related to the Energy Outlook Report, will continue to contribute to a dialogue and technical capacity development in long-term energy planning, envisioned to be an input into-the updates of the Vietnamese NDC and related policies and strategies. Thus, the programme could play a positive and facilitation role by providing data and energy system analysis for informed decision making in e.g. upcoming NDC updates, and conduct studies to establish a feasible development pathway for the Vietnam power sector to reduce emissions and obtain its long-term emissions targets in a cost-efficient manner. Conduct collaborative studies on

security of supply and the role of flexible power production to emphasise the opportunities and benefits of RE in Vietnam's energy sector to allow RE to be absorbed in the power system.

Policies and strategies:

Resolution 70, issued by the Politburo in August 2025, outlines Vietnam's strategy for ensuring national energy security through 2030, with a vision to 2045, addressing shortcomings from Resolution 55 and strengthening governance for implementation. The resolution emphasizes five key directions: 1) Enhance Party leadership and state management, removing institutional bottlenecks and ensuring accountability across levels, 2) Develop a competitive, transparent energy market with market-based pricing and greater private sector participation, 3) Build a balanced, diversified energy system, prioritizing renewable, new, and clean energy while advancing nuclear and gas power, 4) Promote science, technology, innovation, and digital transformation to increase efficiency and domestic production of energy equipment, 5) Ensure economical, efficient, and environmentally sustainable energy use, supporting Vietnam's climate commitments and long-term green growth.

The National Climate Change Strategy to 2050 - Approved in 2022, Vietnam's National Climate Change Strategy (NCCS) aims to achieve peak emissions by 2035 and net-zero emissions by 2050, focusing on decarbonising energy, transport, and agriculture in line with COP26 goals. It also seeks to enhance climate resilience by strengthening economic, social, and natural systems, upgrading disaster management infrastructure, promoting climate-resilient agriculture, improving water and land management, and reducing vulnerabilities to climate and health risks.

Power Development Plan 8 Revised (PDP8-rev) - Approved in 2023, PDP8 is a cornerstone for the implementation of power development in the country. The PDP8 sets the goal of ensuring robust national energy security, meeting the requirements of economic and social development while driving the country's industrialisation and modernisation. It is an aim of PDP8 to ensure a just transition to RE. A revision of the PDP8 was adopted in April 2025 updating the targets in PDP8. The PDP8-rev aims to strongly develop RE sources for electricity production with the target of RE at 74%–75% by 2050. The Revised PDP8 projects that installed capacity will reach 183–236 GW by 2030, compared to around 80–90 GW in 2023, and continue to expand toward 2050. Coal remains the dominant power source, accounting for 41% of the electricity mix in 2022, followed by hydropower, gas, and solar. Under the Revised PDP8, coal will be gradually phased out by 2050, with LNG and domestic gas providing transitional baseload capacity—about 22.5 GW of LNG and 10.9–14.9 GW of domestic gas by 2030. Offshore wind is planned to reach 6 GW by 2030 and scale up to 17 GW by 2035, while onshore and nearshore wind will expand to 26–38 GW by 2030. Solar power is expected to reach 46–73 GW by 2030, and hydropower about 33–35 GW. Battery energy storage capacity is targeted at 10–16.3 GW by 2030, alongside 2.4–6 GW of pumped-storage hydropower by 2030 and up to 21.3 GW by 2050. Nuclear power is reintroduced, with 4–6.4 GW planned by 2035 and up to 10.5–14 GW by 2050.

Electricity Law: On 1 February 2025, the revised Electricity Law came into force, replacing Vietnam's first Electricity Law from 2004. The new law defines the framework for the development of 10-year plans for the electricity sector (PDP) and investments in new electricity generation capacity, including the introduction of the principle of a competitive process for investments in new capacity. A new chapter on RE and 'new energy sources' (including hydrogen) sets out the overall framework for, among other things, offshore wind, which opens both private and foreign investments and the possibility of providing special incentives to investors in early offshore wind projects. Moreover, the newly established National System and Market Operator (NSMO) is given the task of optimising system operation and dispatch for an electricity system with increasing production from wind and solar (currently 13%) within significant imposed regulatory constraints.

Energy Efficiency Law: A revision of the EE Law has been approved by the National Assembly on 18 June 2025, including new approaches to promote and implement EE in the industrial sector, which trace directly back to DEPP III contributions. Specifically, the revised EE law introduces new tools for technical and financial support to the industrial sector (including a voluntary agreement scheme for industrial enterprises and the set-up of an EE fund), as well as mandates the strengthening of the mandatory requirements for EE audits.

A new decree on the development of a carbon market in Vietnam was issued in 2025, detailing that the market will first be developed in a pilot phase during 2025-2028. The mechanism will consist of a national emissions trading system (ETS) that will initially cover the largest emitters, including coal-fired power plants, iron and steel producers and cement production. In addition, there is a plan to design and develop a market for carbon credits that can be earned, bought and sold both nationally and internationally.

Political will - Vietnam has demonstrated a strong commitment to tackling climate change by setting ambitious targets, including achieving net-zero emissions by 2050. Under the JETP agreement, its 2030 vision includes raising RE's share in electricity generation to 47% (up from 36%), capping peak emissions at 170 Mtoe (down from 240 Mtoe), and reducing coal-fired power capacity to 30.2 GW (down from 37 GW).

Despite challenges, there are strong drivers for clean energy transition: i) Declining coal finance as global lenders divest; ii) Net-zero by 2050 commitment; iii) Energy security via reduced fuel imports., iv) FDI potential linked to low-carbon export competitiveness, e.g. access to EU market.

Institutional capacity - Progress toward a RE-based system has been slowed by inadequate regulatory framework and governance challenges in implementing green policies, especially related to incoherency, issues in coordination on national and regional level, unclear mandates and administrative procedures together with weak enforcement. See section A1.6 for an assessment of the political system and institutions.

Environmental and social impact assessment (ESIA) requirements and issues. In Vietnam, environmental and social impact assessments are an important element of the regulatory framework for sustainable development. Investors or owners of RE projects in Vietnam must obtain several government authorisations and permits before constructing, transferring, or acquiring such projects. The EIA process in Vietnam consists of the following stages: Screening, Assessment, Review, Approval and Monitoring. During the stage of screening, provisions for protection and conversation of sensitive areas are made. In such areas, a full EIA is required for any project with likely effects. In the assessment, the state of the environment and sensitive environmental factors at the project location together with socio-economic and biodiversity conditions are identified, assessed. The assessment should also indicate the impacts caused by land clearance, migration and relocation, if any. Additionally, the assessment shall also entail the results of the required public consultations with the communities and individuals directly affected by the project. If approval is given, the project owners are obligated to monitor compliance with the environmental protection requirements.

A1.6: Capacity of public sector, corruption

Decision-making in Vietnam is complex due to highly centralised power, strong Party influence, siloed ministries, and the challenge of balancing central directives with local needs, often causing overlapping responsibilities and bureaucratic delays. In early 2025, the government began a major reorganisation of central administration to improve efficiency by reducing ministries and agencies and addressing overlaps. This reform could positively impact energy policy implementation and the green transition.

Vietnam's political stability is maintained under the Communist Party, with major power shifts every five years at the National Party Congress, next in May 2026. A recent leadership crisis saw three of the top four politicians replaced, causing concern abroad, but stability is expected to improve ahead of the Congress.

In December 2024, the Politburo announced the most comprehensive government restructuring in decades to streamline operations, cut bureaucracy, and boost efficiency. The Ministry of Home Affairs leads this process, with National Assembly approval in February 2025 and final adoption in June 2025. The reform reduces ministries and agencies from 30 to 22, dissolves 13 general departments and 519 administrative units, and cuts over 3,300 local departments, along with leadership restructuring.

Nationally, key ministries like Industry and Trade (MOIT) remain. The Ministry of Planning and Investment merged into the Ministry of Finance (MoF), which now manages functions from Vietnam Social Security and owns 18 state-owned enterprises previously overseen by the Committee for State Capital Management. Under MOIT, partner agencies Electricity and Renewable Energy Authority (EREA) and Electricity Regulatory Authority Vietnam (ERAV) have merged into Electricity Authority Vietnam (EAV).

At the local level, districts were abolished, provinces merged from 63 to 34 units (including six centrally managed cities), and communes remain, creating a two-tier local government. Commune-level administrative units will decrease by 60–70%. Provinces now implement central policies and issue local regulations, overseeing communes. The Provincial People's Committee acts as the executive, supported by regional offices of key ministries. Despite decentralisation reforms, provinces still heavily depend on central planning, causing varied capacity and coordination in the green transition. Communes enact higher-level policies and have powers to organise law enforcement locally.

This consolidation aims to reduce overlapping duties and bureaucracy. The government issued 28 decrees to guide decentralisation and delegation across sectors. Short-term delays in administrative procedures are expected, but the long-term goal is a more efficient and accountable government. For the programme, restructuring poses short-term risks from shifting mandates and power but is mitigated by aligning programme design with new responsibilities. In the long term, a more efficient bureaucracy should speed approvals and ease political deadlock.

The Party's tightening control has reduced the National Assembly's ability to challenge the executive. Decision-making power now lies more with the Politburo, Party institutions, and the executive, weakening the Assembly's influence. Implementation and enforcement rely on the Communist Party's control of regulatory powers and state-owned enterprises. While the Party has driven successful reforms for development and poverty reduction, the World Bank and OECD stress the need to improve government capacity and coordination for effective implementation in a more complex economy. Successful implementation depends on alignment of responsible actors' interests; otherwise, contrary behaviour arises. Overlapping and unclear laws also hinder

implementation. OECD notes that laws passed by the National Assembly are often incomplete, requiring multiple partial laws and decrees that fail to fully realise legislative intent.
MOIT leads energy sector policy and planning, subject to Prime Minister approval, issuing circulars and guidelines implementing laws and resolutions. MOIT plays a key role in meeting Vietnam's Nationally Determined Contribution (NDC) targets. MoF holds powerful roles in clean energy finance and governance. Together, these ministries coordinate the state budget for master plan implementation. Recently, the Ministry of Finance took ownership of 18 state-owned enterprises, including Petro Vietnam (PVN), Vietnam Electricity (EVN), Vietnam National Coal and Mineral Industries Group (TKV), and Vietnam National Petroleum Group (Petrolimex).
Vietnam's workforce totals about 60 million, with 11% in public sector wage jobs. However, energy sector agencies generally lack human resources. OECD cites limited technical capacity at district and commune levels to enforce regulations. MOIT, a key programme partner, suffers from insufficient staff and short preparation times with unrealistic deadlines, affecting policy quality. Policy making tends to be reactive crisis management rather than proactive long-term planning. Public servant salaries in Vietnam are much lower than in OECD countries—half of Thailand's and a third of China's—leading to loss of qualified staff to better-paying private sector jobs, undermining public administration quality 910.

Anti-corruption measures. Since the 1986 Doi Moi reforms, Vietnam has struggled with corruption, ranking 83/180 in the 2023 Corruption Perceptions Index. Under General Secretary Nguyen Phu Trong's "blazing furnace" campaign since 2016, and intensified by his successor To Lam in 2024, high-profile resignations and imprisonments have followed, including the President and Parliament Chairman. The energy sector has been seriously impacted by the anti-corruption campaign. The investigations of MOIT deals specifically with two areas: First, preferential treatment under the uncontrolled expansion of RE, especially solar, under the feed-in-tariff regime. The second area for investigation is fraud cases related to a government subsidy scheme in the oil industry to stabilise fuel prices at gas stations and the supply crisis in late 2022. In addition, the state-owned electricity company Electricity Vietnam (EVN) is accused of artificial inflation of purchase prices and their central role in ensuring security of supply during last summer's heatwave, when northern Vietnam experienced rolling brownouts that the World Bank estimates cost approximately 0.3% of GDP. The campaign has created political paralysis, weakened MOIT's already limited staffing, and made energy policy sensitive, delaying critical reforms and legislation needed for major investments such as wind power by 2030.

A1.7: Matching with Danish Strengths and interests, engaging Danish actors and seeking synergies

VNDEPP aligns closely with Denmark's leadership in the green transition, particularly in renewable energy policy, long-term planning, and energy system integration. Danish institutions like the Danish Energy Agency (DEA) and Energinet bring expertise in offshore wind, energy modelling, and grid integration—areas highly relevant to Vietnam's challenges in balancing coal phase-out with renewable energy scale-up.
Denmark's experience in establishing flexible, market-based power systems and decoupling economic growth from emissions offers valuable insights for Vietnam. VNDEPP contributes to just and sustainable growth by integrating socioeconomic analyses (economic growth, jobs, air quality) and building provincial capacities for renewable energy project implementation to ensure sustainability and social acceptance.
Engagement with new partners, such as the Vietnam Institute for Policy and Strategic Studies (IPSS), supports strategic policymaking aligned with the Communist Party and government priorities.
The programme also enhances economic diplomacy by promoting ambitious renewable targets, suitable policies, and technical conditions for renewable energy and energy efficiency (EE). Cooperation with the Danish Embassy's Trade Council and financing institutions fosters commercial partnerships and market access, supporting compliance with EU standards.
VNDEPP encourages inclusive private sector development by improving market conditions, fostering local value chains, and creating demand for high-efficiency, low-emission products through regulatory improvements like energy audits and green tenders, benefitting both Vietnamese and Danish firms.

Denmark's strategic positioning in Vietnam through the Government-to-Government (GTG) program is influencing and supporting Vietnam's energy transition. By focusing on long-term commitment and trusted partnerships, Denmark has established itself as a pivotal player in Vietnam's energy sector. Embedded advisors within the MOIT enable Denmark to gain comprehensive insights into Vietnam's energy planning processes, regulatory frameworks, and market dynamics. Such a presence solidifies Denmark's role as a key partner in providing technical inputs to Vietnam's PDPs, power optimisation strategies, and renewable and EE policies. Leveraging Denmark's established reputation and expertise in Vietnam's energy sector is crucial. Denmark's advisory roles and technical expertise in RE integration, power system modelling, and grid stability are well-regarded. This expertise is particularly relevant given Vietnam's challenges in balancing coal phase-out with the scale-up of RE sources. Denmark's close collaboration on energy market reform, power system planning, and EE can directly contribute to policy development and the implementation of RE projects. This involvement can further

embed Danish-inspired technology catalogues, power system modelling tools, and operational best practices within Vietnam's energy infrastructure. Sharing Danish expertise on managing variable RE and strengthening NSMO will be invaluable. Additionally, Denmark's experience in EE can be leveraged to introduce cutting-edge technologies and best practices in Vietnam's industrial sectors. Danish companies like Danfoss and Grundfos are well-positioned to lead this effort. In the area of power sector reform and restructuring of the power sector, Denmark can provide advice on suitable policy measures and capacity building on restructuring of vertically integrated power utilities and designing suitable mechanisms that support renewable energy deployment and use and demand response. This strategic positioning will not only enhance Vietnam's power sector reforms, but also align with Denmark's strengths in energy market development. Climate diplomacy and high-level engagement are additional areas where Denmark can elevate its influence. By fostering strong political ties and facilitating high-level dialogues between Denmark and Vietnam, Denmark can position itself as a key partner in Vietnam's Just Energy Transition efforts. This diplomatic engagement will complement Denmark's technical and commercial contributions, creating a holistic partnership that supports Vietnam's climate goals and economic development. Synergies with Danish commercial interests and financial institutions further enhance Denmark's strategic positioning. Existing Danish companies operating in Vietnam's energy market, such as Vestas for wind turbines and Danfoss for EE solutions, provide a foundation for commercial collaboration and technology transfer. Leveraging Danish financial institutions and development funds to facilitate investments in RE and EE projects will support blended finance models for Vietnam's energy transition. Embedding Danish advisors and investment advisors within the Danish Embassy or relevant diplomatic missions will actively coordinate commercial partnerships and development cooperation, ensuring a cohesive and integrated approach.

In relation to commercial interests in RE, several Danish companies have commercial activities in Vietnam:

- Vestas has secured several orders for onshore and nearshore wind projects under the lucrative FIT scheme, with the total capacity of 1.6 GW - representing 35% of the wind capacity connected to the grid before the 2021 deadline. Vestas is currently exploring investment opportunities in onshore wind in Vietnam, while pursuing onshore, nearshore and offshore projects as a turbine supplier. There is also a growing market for service contracts
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- CIP/COP has been active in Vietnam since the early days, focusing on the La Gan project in the Binh Thuan province. CIP has a MoU with the state-owned corporation, Vietnam National Industry – Energy Group (PVN) to develop Vietnam's first large-scale offshore wind project, with an initial investment potential of $4 billion and further growth opportunities as regulatory frameworks evolve. CIP/COP also monitors other RE opportunities, but has no concrete plans yet.
- Maersk has significant investments in Vietnam and is expanding with a greener profile. In 2024, APMT/Maersk announced a partnership with Hateco to develop two new terminals in Hai Phong in Northern Vietnam. In order to reduce emissions and electrifying inland container transportation, Maersk will deploy electric trucks from early January 2026. On 19 Jan 2026, Maersk will launch its first heavy-duty electric truck in Vietnam. Electrification of Vietnam's logistics sector and sourcing green fuels for maritime transport are key priorities.
- Ørsted decided in 2023 to halt business development in Vietnam, but maintains an office in Hanoi and continues to work on supplier contracts with PetroVietnam Technical Services Corporation (PTSC) in Vung Tau.
- Semco Maritime holds multiple contracts with PetroVietnam Technical Services Corporation (PTSC) in Vung Tau for Offshore substation production, supplying projects in Taiwan and Poland.
- Other Danish companies are also active in Vietnam related to the energy sector, include Seaborg Technologies, NKT, GEUS, DHI, COWI, Sweco, K2 and Hempel.
- Grundfos and Danfoss have a presence in Vietnam, and several Danish firms are involved in EE consulting.

Assessment of the development partner landscape:

Asian Development Bank

Municipal Waste-to-Energy (WTE) project (2018-2028 / 100 mill. USD (loan, non-sovereign): China Everbright International Limited aims to develop and invest in WTE projects with a combined capacity of up to 7,500 tons of MSW daily in Vietnam. Each WTE plant will treat MSW, recover waste heat for power generation and supply to the local grid, purify waste gas, and treat leachate.

Accelerating Clean Energy Transition in Southeast Asia: The knowledge and support technical assistance on integrated resource planning, regional power market development, interconnection project preparation, standards and labelling of high energy consuming appliances, BESS, and capacity building will support the countries of Southeast Asia (SEA) to transition to a cleaner energy future.

EU

The EU Sustainable Energy Transition Programme (SETP) consists of budget support of a maximum EUR 121,000,000 and four complementary support measures of up to EUR 21 million. The complementary support measures aim at strengthening institutional capacities and legal and technical frameworks; at supporting private sector activities and increasing overall awareness on the benefits of RE and EE. These four complementary projects are: i) The EU – Viet Nam Sustainable Energy Transition Facility (EVSET Facility); ii) Public Awareness Raising on RE and EE in Viet Nam (PAR3E). iii) Accelerating EE in Large Industries through Energy Management Systems, System Optimisation and Promotion and Adoption of EE in Small and Medium-sized Enterprises (IEEP); iv) Accelerating Innovative Start-ups for EE (AIS4EE) implemented by the Global Green Growth Institute (GGGI). The SETP continues to support the operation of the Vietnam Energy Partnership Group (VEPG) consisting of the Government of Vietnam and its international Development Partners. In the period of 2022-2027, VEPG will provide a platform to coordinate dialogue, concrete actions, and inputs to fulfil Vietnam's vision of its energy transition.

GIZ

Clean, Affordable and Secure Energy for Southeast Asia (CASE) (2020-2027, 4 mill. EUR): The project aims to support Southeast Asian partner countries in the transition to a future energy system that provides reliable and affordable energy to the people while increasing political ambition to comply with the Paris Agreement. Through a comprehensive approach, including public, private and research organisations, CASE contributes to shifting the narrative of the energy sector in Thailand, Indonesia, the Philippines and Vietnam towards an evidence-based energy transition.

UK Foreign, Commonwealth and Development Office

UK Partnering for Accelerated Climate Transitions (UK PACT) (2024-2027, 9 mill. GBP): UK PACT is a UK Government climate mitigation programme supporting partner countries in delivering their NDCs. Launched in 2018, it provides grants for capacity-building and expert deployment, focusing on climate policy, energy transition, mobility, nature-based solutions, and green finance. In Vietnam, it prioritises energy transition, low-carbon agriculture, forests, and green finance, and is developing a Vietnam Country Fund to support JETP implementation, grid management for renewables, and coal transition pathways.

ASEAN-UK Green Transition Fund (2024-2029, 30 mill. GBP): Supports ASEAN's green growth and climate resilience through capacity building, policy support, and technical assistance. The fund promotes a just transition in energy, environment, and finance, aligned with the Paris Agreement. Key outputs include reports, strategies, policy recommendations, and fostering public-private cooperation for knowledge exchange and social inclusion.

UNDP

The Climate Finance Network (CFN): UNDP supports Vietnam in mobilising and managing climate finance, focusing on policy frameworks, capacity building, and governance. It promotes energy transition and circular economy efforts aligned with Vietnam's NDC. The program includes assessing green hydrogen potential and modelling energy production, GHG emissions, and economic growth to recommend investments for meeting Vietnam's 2050 net-zero target.

OECD

Clean Energy Finance and Investment Mobilisation (CEFIM) is developing capacity building and peer-learning activities on clean energy finance and investment, carbon markets and broader green, sustainable finance issues. A cornerstone of the programme is the Clean Energy Finance and Investment Policy Review of Vietnam that provides a comprehensive overview of the current policy framework, highlighting progress and identifying untapped opportunities for strengthening policy interventions that can help scale up clean energy finance and investment.

World Bank

Vietnam Scaling Up Energy Efficiency Project (2019-2026): The objective is to improve EE in Vietnam's industrial sector. This project has two components. 1) The first component, Risk Sharing Facility (RSF), supports the establishment of the RSF, which will provide partial credit guarantees (RSF Guarantees) to participating financial institutions (PFIs) to cover potential defaults on loans (PFI Loans) provided by PFIs to industrial enterprises (IEs) and energy service companies (ESCOs) to finance eligible EE sub-projects (Sub-Projects). This component consists of two sub-parts. 2) Technical Assistance, will leverage the results of CPEE project on developing EE policies and industry voluntary agreements

Annex 2: Partner assessment

The Ministry of Industry and Trade is the main partner under VNDEPP, and its main partner agencies are presented in Table A2.1 below.

Note: This annex is a considerably shortened version of DEA's very detailed partner assessment from March 2025, which is a valuable DEA reference document that can be used in programme implementation, but which is too detailed for the present CPD.

Table A2.1: Summary of key partner features

Name of Partner	**Core business**	**Importance**	**Influence**	**Contribution**	**Capacity**	**Exit strategy**
	What is the main business, interest and goal of the partner?	*How important is the project/programme for the partner's activity-level (Low, medium high)?*	*How much influence does the partner have over the project programme (low, medium, high)?*	*What will be the partner's main contribution?*	*What are the main issues emerging from the assessment of the partner's capacity?*	*What is the strategy for exiting the partnership?*
Electricity Authority of Vietnam under MOIT	Competent authority for power system infrastructure (grid and generation), operation, and market management. Responsible for ensuring a secure, sustainable, efficient, and affordable electricity supply.	High. Limited development activities within EAV means DEPP and other donor organisations' work plays a key role in ensuring updated knowledge on technologies, modelling, and power market development. The quality of EAV's planning and policy advisory would suffer significantly without DEPP.	High through the management- and implementation set-up (incl. co-defining workplans and activities)	Ensure that attention of the support is approved at the highest level in the ministry through GtG collaboration. Contribution to definition and coordination of all activities, including sufficient in-kind staffing.	**Strength**: Strong mandate. EAV is responsible for the power system development. **Weakness**: Understaffed and underqualified, with weak competences on emerging technologies within renewable energy and/or beyond the power sector. Low interest in challenging existing framework and conditions, which support fossil power development. **Opportunities**: EAV builds the necessary knowledge and capacity to lead Vietnam's green transition in the power sector.	From the outset, the program implementation will prioritise sustainable knowledge transfer and adoption as a core component of all activities. This approach forms part of a structured plan for eventual exit and will contribute to the development of a comprehensive exit strategy to be evaluated during the MTR. Key criteria for a successful exit from specific areas of cooperation include

					Threats: The technical assistance and capacity development delivered throughout the programme are not sufficiently acquired by EAV, and/or not sufficiently applied to positively influence the power planning processes towards green transition goals.	demonstrated uptake and application of the knowledge and experience shared through the partnership.
Agency for Innovation, Green Transformation, and Industrial Promotion under MOIT (IGIP)	Performing the function of advising and assisting the Minister of Industry and Trade in the management of energy savings and efficiency, response to climate change, green growth and sustainable development according to the provisions of law. Responsible for coordination of Vietnamese participation in the JETP. Responsible for developing and implementing green transformation policies and programmes within the trade and industrial sectors.	Medium to high - Activities and projects under the program will feed directly into delivering on some of the organisational targets and responsibilities of IGIP, such as achieving the national EE targets and international climate targets committed to by Vietnam, through mechanisms for EE promotion and investment.	High - co-defining all the activities through constructive and trustful bilateral cooperation.	In-kind staff contribution to activities and projects. Provide strategic direction of the support through the GtG cooperation. Coordination of activities and where relevant to give inputs to specific technical/regulative materials. Provide contextual advice on the required approval processes of needed regulatory changes. Pursue the needed changes. Ensure that the projects and deliverables are relevant, creating added value to Vietnam and that	**Strength**: Direct access to the minister level; Coordinate development partners' support. **Weakness**: Constrained human resources and constrained technical capacities. **Opportunity**: Can contribute directly to an increased level of energy efficient industries and improved competitiveness. Can contribute to reducing energy intensity and CO2 emissions from industry in Vietnam. **Threat**: The programme, work activities and capacity developed in IGIP and other stakeholders within EE in the industry is not put into practice, due to lack of implementation of the needed legal changes to ensure financial, legal and structural sustainability of	As above.

				these, when relevant, are leveraged to the highest level in the Government of Vietnam.	initiatives. Priorities of the GoV makes EE in industry a low-priority policy area.	
National System and Market Operator (NSMO) under MOIT	To ensure the stable and reliable operation of the power system; managing electricity market transactions fairly and transparently. Meeting government goals related to power system development.	Highly important. Significant value is put on the Danish project. DEA and Energinet are often highlighted as key partners by NSMO.	In DEPP III and DEPP II NSMO has not been a direct partner institution, since they were a state-owned-enterprise under EVN, and thus not eligible to be a government-to-government partner. A Strategic Engagement Cooperation (SEC) was initiated to strengthen the system-operator partnership and knowledge exchange. Under VNDEPP, they can be a partner, together with EAV, as they have dissociated from EVN and became a government organisation under MOIT.	In-kind staff contribution to activities and projects.	**Strength:** Availability of technical capacity. **Weaknesses/Opportunity:** as a relatively new organisation, NSMO's financial stability and organisational structure are still under evolution. Moreover, NSMO needs to navigate new relationship dynamics with EVN and MOIT agencies. **Threat:** NSMO is undergoing significant change and becoming more integrated into the political system of Vietnam. This opens up for them to be a direct partner in VNDEPP, albeit still within the overall direction and oversight by EAV. The governance configuration can potentially slow down the progress of activities considering that expectations and priorities from different stakeholders would need to be aligned.	As above.

Annex 3: Results framework

Notes:

- VNDEPP is essentially a capacity strengthening programme in which technical support and knowledge transfer contribute to achieving enhanced national capabilities that in turn lead to programme outcomes and impact when national partners apply these capabilities. As an important pre-cursor to the results framework (RF) below, it should be noted that Outputs and Outcomes are formulated as the concrete results arising from DEA capacity strengthening support. Therefore, and to make the results framework more succinct, "capacity development" is generally not reflected in the wording of Outputs and Outcomes, but it is a general pre-cursor to this RF and the capacity development approach is reflected in Section 2.2., the narrative theory of change in Section 3.1, and further in the DEPP 2026 Framework Programme Document.
- While not required by the standard Danida template for results frameworks, indicative activity types/topic area clusters are listed under each output as this facilitates understanding of what is expected to lead to the outputs.
- Activities will be defined in annual workplans to be approved by the Steering Committee. Capacity development reporting at activity level will be part of annual workplan reporting.
- Baselines are defined for 2026. Baselines are informed by the results and achievements of DEPP III, which need to be considered in the development of work plans for VNDEPP in 2026. Mid-programme (2028) targets for outputs have also been reflected, and end year (2030) targets are indicated.
- The VNDEPP programme will be accountable for the achievement of the outputs, which are within its control. DEA will monitor and report on outputs in progress reporting. DEA will also monitor and report on the achievement of outcomes, which are within VNDEPP/DEA influence but not within DEA control and dependent upon the assumptions from outputs to outcomes in terms of partner action and use of outputs.
- VNDEPP distinguishes between key partners and other stakeholders who are not direct partners. Key partners are defined as the main responsible partner under the relevant outcome and are also responsible for providing the necessary input to the annual work programs and progress reports. Other stakeholders are defined as potential partners who might be actively engaged in a few or more activities, dependent on the work program. Other stakeholders are however not responsible for providing input to annual workplans and progress reports.
- During the programme, all outcomes are to some extent flexible to address/work with priority demands from primary partners to support their areas of interest which can change.
- The assumptions (summarised in Section 3.2) underpinning the theory of change are important for achieving the stated outcomes and impact and must be closely monitored.

Programme	Vietnam-Denmark Energy Partnership (VNDEPP) Programme
Programme Objective	Facilitate a just green energy transition in Vietnam, by enabling clean energy development and implementation of the long-term climate goals of a net-zero society by 2050.
Impact Indicators	➢ Increased share of renewable energy: increase in the share of renewable energy in the national electricity mix (%). ➢ Improved energy efficiency: energy savings from industrial energy efficiency measures (in GWh/year). ➢ Increased energy security: reduction in the frequency (SAIFI index) and duration (SAIDI index) of power outages.
Outcome 1	**A secure electricity system increasingly based on renewables is supported by data-driven planning, market-based mechanisms, and strengthened institutional capacity.**
Key partners and other important partners	Key partner: ➢ Electricity Authority of Vietnam under Ministry of Industry and Trade (MOIT) Other stakeholders, who are not direct partners include: ➢ Institute of Energy (IE) ➢ Universities (e.g. HUST, EPU), research institutes ➢ National System and Market Operator (NSMO)

		➢ Electricity of Vietnam (EVN)	
Outcome indicator 1		National energy planning and regulatory decisions on renewable energy development and integration are informed by institutionalized modelling approaches and analytical methodologies supported by the programme.	
Baseline	Year	2026	While energy analysis and modelling capabilities exist in Vietnam, there is considerable room for strengthening the landscape, particularly in applying models for policy-relevant, system-level analysis. EAV and other institutions face challenges in using data-driven tools for scenario-based planning, assessing power system flexibility, and developing suitable mechanisms that enable integration of higher shares of renewable energy. Regulatory frameworks and institutional coordination for power plant flexibility, RE project facilitation, and market incentives—remain underdeveloped or fragmented.[13]
Target	Year	2030	By 2030, EAV and relevant institutions base their energy policy recommendations, power system planning, and market advancement efforts on robust, data-driven analysis supported by a diverse modelling toolkit and approaches. Regulatory frameworks and market designs support power system flexibility and renewable power project implementation through clear coordination mechanisms, updated codes, and aligned national–provincial roles. This integrated approach enhances Vietnam's ability to operate a secure, renewable-based electricity system, enabling an inclusive and just energy transition.
Output 1.1		**Enhanced institutional and technical capacity for integrated long-term energy planning to support the research and development of coordinated policy, including considering possibilities of collaboration with academia and other knowledge institutions.**	
Indicative activity / topic areas		➢ Energy Outlook Report (EOR), with more regular policy analyses and implementation-near focus, including analyses on security of supply and electricity demand in each period, to provide input to the development of Power Development Plan 9 (PDP9). ➢ The EOR set-up can also be used to demonstrate the feasibility of other VNDEPP initiatives, e.g. EE-focused analyses and use modelling tools, such as Balmorel to study: power plant flexibility incentives, fuel switching, emission reduction, pollution reduction, assessment of the impact of data centres on electricity demand and security of electricity supply. ➢ The EOR analytical framework can provide the quantitative basis for further post-model analyses and studies on, socio-economic aspects of the green transition, including job creation, reduction of air pollution and other socio-economic aspects. ➢ Consider broadening energy modelling community to academia and other knowledge institutions, through training on energy models and long-term planning, and development of EOR and other policy analyses. ➢ Study on attracting investments for renewable power within the power development plan: research on strategies and policies to attract investment and accelerate the implementation of clean and renewable power projects. This may include a study on the financing landscape for renewable power projects in Vietnam and suitable mechanisms, as well as insights on how to create and manage clear price signals to stimulate demand for Vietnam's clean energy sector, and research and analysis on international experiences and applicability in the Vietnamese conditions. ➢ Updates of previously developed Technology Catalogues (TC), with the participatory and inclusive process of update and possible identification of new TCs increasingly driven by Vietnamese partners, and practical support from Danish partners. ➢ Assisting departments in EAV with the coordination and alignment of energy and power planning efforts (across sectors).	

[13] RISE indicator Electricity Sector Renewables Score 49 (Vietnam | RISE)

Output indicator 1.1		Increased application of national energy modelling and analytical tools by Vietnamese institutions in the development and implementation of Power Development Plans and energy policies towards net-zero pathway and meeting increased energy demand.[14]	
Baseline	Year	2026	EAV studies the feasibility of applying the principles, models and data foundation from the EORs to support the implementation of PDP.
Mid-term	Year	2028	Vietnamese partners take primary responsibility for the development of Technology Catalogues and apply VNDEPP-supported analytical approaches in ongoing planning processes, with support and quality assurance from DEA, inspired by the transparent and participatory process and methodology from Denmark.
Target	Year	2030	Demand-based policy analyses are a key tool for informing decision making for the preparation of the next PDP and policy development in Vietnam.
Output 1.2		**Implemented supporting activities to review institutional and regulatory frameworks at national and provincial levels for the effective, transparent and inclusive implementation of renewable power projects, thus enabling investments.**	
Indicative activity /topic areas		➢ Assessment of the relevance and adaptation of the Danish concept for a Renewable Energy Task Force vis-a-vis existing mechanisms in Vietnam for provincial level engagement, and preliminary analysis of barriers in the uptake and implementation of planned renewable power projects. ➢ Assessment of the feasibility of a "Task Force for Implementation of Planned Renewable Power Projects" in Vietnam ("RE Task Force" in short), through research and pilot with selected provinces building upon existing mechanisms, in order to address regulatory barriers and strengthen governance for RE uptake. ➢ Support relevant divisions at EAV and specifically the newly formed Vietnamese task force for offshore wind tenders in developing the regulatory framework for offshore wind, including sharing of Danish experiences and guidelines on tender framework and other relevant regulation, as well as analyses-based support to pilot development. ➢ Trainings and guidance for relevant divisions at EAV in the application of tools to assess the Levelized Cost of Electricity for renewable power projects including offshore wind, waste-to-energy and biomass projects, under different scenarios and assumptions, and application in the development and implementation of power plans. ➢ Develop study on energy waste management and recycling solutions, assessing not only technological solutions and regulatory elements, but also standards to improve the waste management and recycling of end-of-life waste from clean energy and renewable energy projects, such as solar panels, batteries, and wind power components, highlighting socio-economic aspects such as local environment, jobs and health.	
Output indicator 1.2		Supporting the development and implementation of regulatory and support mechanisms for renewable power, with demonstrated improvements in coordination between national and provincial levels.[15]	
Baseline	Year	2026	Current regulatory frameworks for renewable power development in Vietnam are insufficient to support the required RE uptake to achieve the targets set out in PDP8 revised, and the long-term net-zero ambition. Basic alignment and coordination between national and provincial levels is in place, albeit limited to monitoring purposes.
Mid-Term	Year	2028	Recommendations and guidelines have been submitted to EAV for a strengthened regulatory framework for offshore wind, including support to issuing of a tender framework. Analysis of implementation barriers is conducted and capacity development and facilitation of coordination between national and provincial levels are initiated.
Target	Year	2030	The comprehensive assessment of barriers for renewable power project implementation and the undertaken pilot initiatives to support capacity development

[14] Means of Verification: Case studies (e.g. "EAV used modelling tools to provide recommendations on PDP8 implementation, EAV input scenarios for the preparation of PDP 9"), Capacity assessments at baseline and endline, Policy tracking to show inputs from EAV and modelling community.

[15] Means of Verification: Number of regulatory instruments adopted and implemented, enabling RE deployment and inter-agency coordination at national and provincial levels.

			at provincial level result in the design and testing of appropriate support mechanisms to enhance renewable power uptake, in line with PDP targets.
Output 1.3		**Recommendations on policy and market-based incentives introduced to enhance power system flexibility.**	
Indicative activity /topic areas		➢ Based on DEPP III flexibility tests, demonstrate technical feasibility of increased flexible operation of thermal power plants in Vietnam through analytical assessment, economic evaluation, and, where appropriate, targeted validation activities[16]. ➢ Assess the economic implications of flexible operation of thermal power plants, including costs, benefits, and impacts on plant revenues, to inform future planning and the design of implementation frameworks[17]. ➢ Assess system-level flexibility needs under different renewable integration scenarios,. ➢ Feasibility assessment of ancillary services market development and support to the design of ancillary services market and relevant regulation. ➢ Research, review, evaluate, and propose the implementation of the forward electricity market. ➢ Capacity development, including workshops, on demand response; smart grids; competitive electricity market; forward market; and the renewable energy certificate (REC) market. ➢ Support to the development of grid code regulations for new technologies (including HVDC and PtX, as relevant). ➢ Provide analysis-driven policy advice on incentivising flexibility at plant level, demand level and at system level.	
Output indicator 1.3		Regulatory or market design proposals for enhancing system flexibility developed and submitted to relevant Vietnamese authorities.	
Baseline	Year	2026	Tests on 2 power plants to assess the technical feasibility of increasing plants' flexibility have been conducted and learnings are shared with relevant stakeholders at EAV and EVN. The potential system benefits of increased flexibility (both at plant and demand level) are not captured, and the economic feasibility and needed (market-based) incentives are not sufficiently explored.
Mid-Term	Year	2028	Continued cooperation with power plants to perform technical and economic assessments. Power plant operators are trained on power plant control loop optimisation, and plant flexibility issues and solutions. In-depth techno-economic analysis directed at the business case for flexibility in Vietnam from the point of view of power plant owners is conducted.
Target	Year	2030	Data-driven policy recommendations on incentivising flexibility at plant level, demand level and system level submitted and presented to EAV and other stakeholders, as input to the design, revision and operation of ancillary services market and wholesale/retail power markets.
Outcome 2		**Optimised technical and economic operation of the power grid, enabling higher integration of renewables and enhancing grid stability and security of supply.**	
Key partners and other important partners		<u>Key partners:</u> ➢ Electricity Authority of Vietnam (EAV) under Ministry of Industry and Trade (MOIT) ➢ National System and Market Operator (NSMO)	
Outcome indicator 2		NSMO operates under an established governance framework and applies advanced operational methodologies to manage increasing Variable Renewable Energy (VRE) integration without compromising system reliability.[18]	
Baseline	Year	2026	NSMO aims at establishing a stronger capacity on securing a stable and optimised operation of the grid with higher VRE share. NSMO has a need to enhance its capacity and experience with planning and operating power systems with high shares of variable renewable energy.

[16] Partly financed by ClimateWorks

[17] Partly financed by ClimateWorks

[18] Means of Verification: Evidence of application in official planning documents and operational procedures. Evidence of application of forecasting, balancing and flexibility tools and approaches in operational practice.

Target	Year	2030	NSMO has sufficient capacity and established an efficient governance structure to operate the power system with higher share of VRE, without compromising day-to-day operations, grid stability and security of supply[19].
Output 2.1		**Strengthened capacity at EAV and NSMO for operating the power system with higher shares of variable renewables, ensuring security of supply cost-effectively.**	
Indicative activity /topic areas		➢ Training and sharing of experiences on techno-economic analyses for the power system, including assessing system-level flexibility needs under different renewable integration scenarios ➢ Sharing of Danish and international experiences on operating the power system with high share of renewables, including operational strategies, protection schemes and stability issues. ➢ Assessment and optimisation of interconnectors, including HVDC links and cross-border connections. ➢ Support the implementation of ancillary services markets, including analysis on pricing and settlement mechanisms. ➢ Evaluate and analyse the impact of electrical vehicles (EVs) to power system at national and regional control level. ➢ Exchange knowledge on methods and tools for security of supply and resource adequacy assessment. ➢ Support the advancement of digitalisation, focusing on required infrastructure, data management, automation, and big data analytics, particularly in relation to control room operations and control room tools (e.g. advanced systems for SCADA/EMS). ➢ Analysis of data centres impact on the dynamic and static stability on the system; modelling and forecasting; and development of operational requirements for these load types. ➢ Conduct research and develop methodologies for load estimation and forecasting in the context of high penetration of distributed energy resources, particularly rooftop solar.	
Output indicator 2.1		Advanced operating practices and tools adopted by NSMO for grid management.	
Baseline	Year	2026	A good knowledge base on approaches and tools for cost-efficient power system operation has been established through close technical cooperation between NSMO and the Danish Transmission System Operator (TSO) Energinet. Testing and implementation of suitable solutions and practices for operating the system with higher shares of VRE are still underway.
Mid-Term	Year	2028	Progressively building upon knowledge exchange and projects, NSMO has acquired knowledge on the range of approaches and tools for optimised system operation with high share of RE, as well as identified viable structures for the ancillary services market development.
Target	Year	2030	NSMO has significantly strengthened its capacity to efficiently operate the power system, by means of applied approaches and tools for control room operation, management and monitoring of RE generation, and enhanced skills for analysis-based system adequacy assessment.[20]
Output 2.2		**Strengthened institutional and governance framework for NSMO operations.**	
Indicative activity /topic areas		➢ Clarification and adaptation of roles and responsibilities of the system operator in a liberalised and restructured energy sector, based on Danish and international experiences. ➢ Exploration of regional cooperation frameworks to enhance institutional efficiency and alignment across borders. ➢ Support to development of relevant regulation on power market	
Output indicator 2.2		Governance practices and/or institutional settings based on Denmark experience adopted by NSMO.	

[19] Means of Verification: average/marginal VRE curtailment level (%) and loss of load probability (LOLP).

[20] Means of Verification: Number of tools and/or approaches adopted, based on VNDEPP support and increase in nr. staff working on further development of tools for grid management (the latest demonstrating institutionalisation of grid management through investment in human resources).

Baseline	Year	2026	NSMO is a recently established institution to operate the power system and wholesale power market, formed and independently operating since 2024. As such, governance and organisational settings are still under evolution.
Mid-Term	Year	2028	NSMO has received guidance on governance, including organisational settings and financial structures, and possible solutions for its long-term sustainable development are explored at organizational level.
Target	Year	2030	Recommendations are provided for the establishment of an effective governance structure that supports NSMO's sustainable development and efficient operation of the power system, including interface with sector institutions such as the regulator.
Outcome 3		**Strengthened uptake of energy efficiency in the industrial sector through enhanced institutional capacity for implementing incentive schemes, leading to energy savings, improved industrial competitiveness, and adherence with national emission reduction targets**	
Key partners and other important partners		Key partner: ➢ Department of Innovation, Green Transformation and Industrial Promotion (IGIP)/ Ministry of Industry and Trade (MOIT) Other stakeholders, who are not direct partners include: ➢ Electric Power University (EPU) ➢ Energy Auditing Companies (EAC's) ➢ Industrial Enterprises (IE's) ➢ Financing Institutions (FI)	
Outcome indicator 3		Increase in energy efficiency investments in the industrial sector in Vietnam	
Baseline	Year	2026	EE incentives schemes are not fully implemented and institutionalised.
Target	Year	2030	Investments are enabled and accelerated to advance the implementation of energy efficiency measures in the industrial sector and support its transition towards sustainable energy and GHG emission reduction[21].
Output 3.1		**A technical framework for an energy efficiency incentive scheme is fully developed and institutionalised, as a basis for IGIP to provide support to EE investments in industry.**	
Indicative activity /topic areas		➢ Inputs to the development of an incentive scheme, as part of the design of the National EE fund. Support the development of criteria and basis for evaluating applications for EE investment support, including under a permanent incentive scheme targeting the industrial sector. ➢ Support the development of approaches and guidelines for planning energy efficient design of new industrial facilities. ➢ Support training and capacity development for fund management teams on EE project operation and evaluation. ➢ Enhance the capacity of consulting units (e.g. EAC) and enterprises in evaluating EE projects.	
Output indicator 3.1		The technical support mechanism is adopted and institutionalised, with defined funding mechanisms and operational guidelines in place supported by VNDEPP.	
Baseline	Year	2026	The Energy Efficiency Law has been published in 2025 and introduces the incentive scheme and establishment of an EE fund.
Mid-term	Year	2028	Guiding and decision documents are in place to enable Vietnamese authorities to implement the incentive scheme.
Target	Year	2030	The incentive scheme is fully implemented by the Vietnamese authorities and widely adopted by industrial enterprises in Vietnam, as a trusted and effective mechanism to drive EE investments.
Output 3.2		**Strengthened institutional, technical and analytical capacities for the promotion and implementation of EE measures and emission reductions in Vietnam's industrial sector.**	

[21] Means of Verification: annual energy savings (and GHG emission reductions) for relevant industrial sub-sectors, as a result of EE project investments.

Indicative activity /topic areas		➢ Support to institutionalising knowledge (including technical guidelines, project development templates and frameworks, monitoring and verification tools) through e.g. trainings on energy efficiency in the industrial sector and good governance in a technical Energy Efficiency Centre of Excellence (EECoE). ➢ Support to strengthening of analytical capacities in assessing EE policy measures and in developing high-quality decision papers and materials of relevance to decision and policy makers in Vietnam, such as assessment of technical and economic EE potentials, and assessment of impacts of targeted policy mechanisms, among others. ➢ Support the development of reliable and high-quality data and analysis on energy efficiency opportunities in industries in Vietnam, by e.g. utilising the MRV-approach developed as part of the VAS and strengthening the data collection and management framework for energy consumption and energy efficiency data. ➢ Support capacity development and implementation of solutions to enhance the capabilities of enterprises and management agencies in the industry and trade sector to participate in the carbon market, monitor GHG emissions, reduce carbon footprints in the industrial sectors affected by the Carbon Border Adjustment Mechanism (CBAM) and contribute to sustainable development in Vietnam's industrial sector.	
Output indicator 3.2		Institutional mechanisms (e.g. technical guidelines, training programs, policy support tools, and data systems) developed and operationalised to support the implementation of energy efficiency projects and emission reductions in industries.	
Baseline	Year	2026	The approaches towards energy efficiency and emission reductions in industries developed under DEPP III have been integrated into a Vietnamese institution. However, capacity building activities that enhance the capabilities of enterprises and management agencies in the industry sector to participate in the carbon market, monitor GHG emissions, and reduce carbon footprints in industrial sectors affected by CBAM have not yet been implemented within the framework of DEPP III.
Mid-term	Year	2028	Vietnamese institutions are capable[22] to drive and sustain energy efficiency and emission reduction in the industry sector through the established institutional setup. As such, activities related to the development of technical guidelines, capacity building and dissemination on carbon market and emission reduction have been organised, targeting relevant enterprises and management agencies in the industry sector.
Target	Year	2030	The institutional setup for energy efficiency and emission reductions is operationalised under the leadership of Vietnamese authorities, based on a comprehensive package delivered by VNDEPP including technical content, tools, and a recommended governance framework. Moreover, capacity building activities (technical guidelines, trainings, knowledge dissemination) have been developed and implemented for enterprises and management agencies participating in the carbon market and within MOIT's mandated trade and industry sectors[23].

[23] Means of Verification: Vietnam institutions undertaking trainings independently for example (e.g. at least 2 trainings provided to relevant stakeholders for EE in industry, independently delivered with minimal support from DEPP26).

Annex 4: Risk management

Contextual risks[24]:					
Risk Factor[25]	**Likelihood**[26]	**Impact**[27]	**Risk response**	**Residual risk**	**Background to assessment**
CR1: Risk of political instability	Very unlikely	Major	The Green Strategic Partnership between Vietnam and Denmark is considered robust, stable and well-anchored in key national ministries and the Embassy of Denmark keeps abreast of political developments at the highest levels.	Major	Vietnam is a one-party state with a long record of political stability. The Communist Party of Vietnam (CPV) maintains tight control over state and society, and its legitimacy is closely tied to economic performance and political order. Political instability – e.g., political unrest, leadership collapse – is not expected under current conditions.
CR2: Risk of policy shifts – lack of consensus on the green energy transition. Vested interests in the political economy working for continued reliance on coal and natural gas, working against the green energy transition.	Unlikely	Major	VNDEPP will align programme activities with national climate and energy strategies and maintain close policy dialogue and flexibility in implementation. VNDEPP is a partnership with the government institutions who have the mandate and the power to regulate the electricity sector and who implement the Government's ambitious energy transition and climate action agenda while working to increase the percentage of renewable energy (RE) in the energy mix.	Major	Policy continuity has generally held in Vietnam. Policy shift is unlikely given current policies, international trends, and economic realities. The government's focus is more likely to remain on balancing energy security, economic growth, and sustainability, with renewables continuing to play a growing role. The political economy in the sector has its drivers but also opponents of transformational change. The revised PDP8 still operates with significant levels of fossil fuels in power generation, while planning for an increasingly RE-based power supply.

[24] This category covers the range of potential adverse outcomes that may arise in a particular context, including the risk of harm beyond the immediate context or the country's borders and may include governance failure (e.g. the failure of effective public financial management or law enforcement); competition for resources; natural hazards; and pre-existing socio-political tensions. (Danida Guideline to Risk Matrix 2018).

[25] To illustrate the linkages between assumptions and risks, contextual risks are numbered CR1, CR2, etc; programmatic risks are numbered PR1, PR2, etc.; institutional risks are numbered IR1, IR2, etc. These numbers are then used in the table under the risk matrix, which makes the connection between assumptions and risk analysis:

[26] Danida classification categories are: very unlikely, unlikely, likely, almost certain (see link).

[27] Danida classification categories are: insignificant, minor, major, significant (see link).

CR3: Social resistance to RE deployment	Likely	Significant	VNDEPP will integrate Danish experience in green transition by embedding public consultation, rights to appeal, and sustainable local development into its approach. It will raise awareness and share knowledge on transition risks to support policy frameworks that address these challenges, including sharing experiences on the task force coordinating the transition at local level and sustainably implementing green projects. This includes fair consultations, stakeholder engagement, environmental and social impact assessments, and cost-efficient energy strategies. Denmark's expertise in re-skilling also will help reduce livelihood risks and boosts local support for renewable energy.	Major	Vietnam has experienced resistance from local communities, including fishing communities, during the development of renewable energy projects, especially large-scale wind and solar farms. For example, in Bạc Liêu, a province in the Mekong Delta, the development of nearshore wind farms has led to significant challenges for local fishermen. In general, the scale and scope of measures required to transform Vietnam's energy sector carry risks of social resistance, mainly due to land and natural resource conflicts and potential negative impacts on livelihoods and employment, including for those currently working in the coal industry. Vietnam's carbon-dependent economy remains significant and indirectly supports some of the country's poorest communities. However, it should be noted that the current expansion of green energy primarily aims to increase total power generation capacity, rather than immediately replace coal-based energy, although fossil phase-out forms part of the long-term strategy for the energy sector.
CR4: Ineffective national-provincial level, inter-ministerial and inter-agency coordination, also resulting from the ongoing decentralisation of mandates from the national to the provincial level and the merger of provinces. This process can carry risks in terms of (at least temporary)	Likely	Significant	As an external catalyst, support through modelling and planning increases transparency in the information used in decision making. Through strong anchoring with key national level authorities and engagement at provincial level, VNDEPP contributes to improved clarity and coordination between national and sub-national levels.	Major	Ineffective coordination and information sharing between ministries and other stakeholders.

insufficient capacity at local level and poor coordination with the national level.					
CR5: Risk of climate-induced energy insecurity and shift in political priorities in the energy sector	Likely	Significant	The programme will contribute to a least-cost approach to make a long-term plan for the transition from a fossil-based energy system to renewable energy. In the short term, the programme focuses on integration of renewable energy, allowing RE to be absorbed in the existing power system, which needs more flexibility on both generation and consumption side.	Major	The electricity demand is expected to rapidly increase in the coming decades, while the extreme weather conditions will affect the energy security caused by rising temperatures, heat waves and droughts. Hydro power is the most important renewable energy source in Vietnam today with 73% of all renewable power coming from hydropower and a total generation of 81 TWh in 2023. Recently, the country has faced electricity shortages and planned blackouts because of extreme heat, droughts, and hydropower plants reaching dangerously low water levels, for example, in industrial parks in northern provinces where large global manufacturers have facilities. As a result, the government has instituted rolling blackouts - sometimes unannounced - across the country, particularly in the north. This is happening while the country's abundant natural endowments of wind and sunlight remain underutilised.
CR6: Continued government subsidies to keep low electricity prices possibly resulting in disincentives for energy efficiency (EE) measures and partly slow down RE deployment.	Almost certain	Major	Support the development of a transparent and ambitious regulatory and institutional framework for cost-effective implementation of RE and EE policies, strategies and plans. Share experience and develop incentives schemes. Work for synergy with Danish multilateral cooperation in EE and subsidy reform.	Major	Vietnam's electricity prices are kept low by government subsidies, which is also an element of social policy. While sustained subsidies to a largely fossil-based generation support an incentive for a continuation of existing energy mix, the effect of low electricity prices on the energy transition requires further study, e.g. low electricity prices

					might favour cheaper RE generation (solar) instead of expensive options (natural gas). Moreover, low electricity prices support the electrification of end-uses, a key pillar of the energy transition. Denmark also supports subsidy reform and EE through multilateral cooperation including with IEA, IISD, and OECD.
Programmatic Risks[28]:					
Risk Factor	**Likelihood**	**Impact**	**Risk response**	**Residual risk**	**Background to assessment**
PR1: Change of responsibilities in power system planning and power market development	Unlikely	Major	The main response is to strengthen EAV's technically capacities, while at the same time work with multiple relevant stakeholders within (but also beyond) MOIT. EAV is central to power system planning and the market reform process, because of its authority to grant trading licences, transmission licences, and import and export licences.	Major	Vietnam's government is under restructuring, with recent merging of ministry and agencies (including those under MOIT). A possible continuation of this trend in the upcoming future carries the risk of reassignment or outsourcing of key responsibilities at EAV and IGIP to other or newly created entities. It is however deemed an unlikely development.
PR2: Limited absorption capacity derived from lack of resources and managerial capacity in national partner institutions/shortages of staff.	Likely	Major	The programme will deliver targeted technical assistance, training, and long-term institutional partnerships gradually handing over responsibilities.	Major	There are limited human resources in national partner institutions (for example, the modelling team in EAV is only 1 staff), and this is compounded by staff turnover, including of staff trained through the programme.

[28] This category covers include two kinds of risk: (1) the potential for a programme to fail to achieve its objectives; and (2) the potential for the programme to cause harm in the external environment. With regard to (1), the risk factors for programme failure include many of the contextual risks outlined above, as well as institutional and political factors. But there are many other reasons for potential programme failure, including inadequate understanding of the context or flawed assessment of what needs to be done; management and operational failures; and failures of planning and co-ordination. Risk is also associated with new or innovative programme approaches (although there may also be risk in failing to innovate). (Danida Guideline to Risk Matrix 2018). The categorisation of likelihood, impacts, and residual risk is also consistent with Danida guidelines.

PR3: Insufficient ownership of VNDEPP programme and results at partners and other stakeholders in Vietnam	Unlikely	Major	The programme will anchor activities in national strategies, co-develop work plans, ensure regular consultation and local visibility of outputs.	Major	VNDEPP has built strong, trusted relationships with key institutions but continued co-creation and visibility are needed to maintain buy-in.
PR4: Limited access to finance to support EE investments	Likely	Major	The risk is mitigated by the energy audits that provide validated guidance on the most cost-effective measures and the establishment of the Centre of Excellence to engage third party stakeholders (e.g. financing, equipment, solution suppliers) in assisting enterprises with implementation of proposed EE measures. The establishment of an EE fund also works towards mitigating this risk, where other development partners are engaged and the programme will support the institutional set-up.	Minor	Limited access to finance for investments in energy efficiency is a well-known barrier in Vietnam.
PR5: Market players do not respond to the energy sector policy and incentives as expected, leading to, among others, low levels of investments in RE and EE.	Unlikely	Major	The main response is to provide support to sector-led policy initiatives aimed at reforming the sector. Moreover, based on Danish experiences, VNDEPP will support the establishing of transparent and reliable regulatory frameworks for RE and EE, as well as facilitate platforms for market dialogue – both sending clear market signals to potential investors.	Minor	Linked to assumptions in the theory of change
PR6: Challenges in mobilising the relevant departments under MOIT within the agreed outputs, leading to lack of ownership and progress.	Likely	Significant	Dialogue every 6 months with partners to allow for early planning of resources and involvement of all relevant departments needed for the programme advancement at Implementation Group meetings.	Major	Missing confirmation of relevant departments who have the mandate in relation to local planning and development of renewable power projects.
PR7: Insufficient willingness or ability to share available data can affect the quality of the technical assistance provided.	Likely	Significant	Demonstrate the importance of data availability and quality for efficient and effective partnership and sustainable results, e.g. through the example of Technology Catalogues. Use provisions in implementing agreements to ensure partner obligations on data availability.	Major	Willingness or ability to share available data across institutions and with external partners is often an issue in Vietnam. However, although the lack of specific data may reduce the perceived legitimacy of results, the underlying analytical foundation and key findings obtained by using plausible data and ranges would likely remain generally valid.

PR8: Lack of institutionalisation of capacity development and unclear financial setup for CoE	Likely	Significant	VNDEPP will approach capacity development holistically with the long-term objective of ensuring sustainable uptake of the knowledge, tools and practices on e.g. EE in industry, energy planning and regulatory frameworks for RE, for instance through the Training-of-Trainer approach and broadening of the resource base accessing capacity development activities. VNDEPP plans to establish a Centre of Excellence (CoE) for EE anchored and operated by a Vietnamese institution, and the programme will closely engage with the CoE to ensure feasibility and make adjustments to the design and governance, as needed. VNDEPP will also engage with EPU, IGIP and other development partners, as relevant, to support the identification of financing modalities for the operational budget of the CoE.	Major	Insufficient human resources and basic capacities allocated at Vietnamese institutions to support the green energy transition, as well as staff turnover, are one of the key challenges to ensure sustainability of capacity development. Local consultants and experts have been partly supplying local knowledge and expertise (in DEPP III) and have such developed further capacity (e.g. on energy modelling with Balmorel, and on energy audits in the industrial sector).
PR9: Delayed approval of VNDEPP programme due to parallel approval process in the Vietnamese authorities	Almost certain	Significant	DEA, Embassy and MOIT will be closely coordinating during the finalization phase towards VNDEPP approval, in order to streamline the approval process from both sides. In particular, DEA will coordinate with the Embassy to provide MOIT with a final revised version of the Country Programme Document, as well as draft Work Programme (2026-27) and tentative 5-year implementation plan, in order to prepare the Vietnam project document towards MOIT approval. A partner agreement between MOIT and Danish MCEU is also being prepared, with the aim of providing the framework and mark the start of the new cooperation phase - and possibly accelerating the approval process from the Vietnamese side.	Minor	The implementation of VNDEPP programme activities requires the approval from both Danish and Vietnamese authorities. The approval process in Vietnam can only be initiated once all the documentation has been finalized and approved from the Danish side (expected by end March 2026). As such, the timeline does not provide sufficient time for the programme to effectively start on 1st May, 2026, hence creating a risk for a delay in the implementation of the programme activities during 2026.
Institutional risks[29]**:**					

[29] This category includes "internal" risk from the perspective of the donor or its implementing partners. It includes the range of ways in which an organisation and its staff or stakeholders may be adversely affected by interventions, e.g. damage to a donor's reputation if it fails to achieve its objectives, or from financial/fiduciary failure (Danida Guideline to Risk Matrix, 2018).

Risk Factor	Likelihood	Impact	Risk response	Residual risk	Background to assessment
IR1: The programme could risk duplicating existing activities and/or fail to build synergies with other initiatives in the highly dynamic country context.	Unlikely	Minor	Continued careful identification of other relevant bilateral donor and multilateral development partner support. Through the Embassy and supported at operational level through LTAs and DEA, Denmark participates actively in sector coordination working groups (e.g. VEPG), including with other EU member countries. Ensure synergy with Denmark's multilateral cooperation, including with IEA, IRENA, IISD, OECD. Continue focus on JETP albeit at scaled-down level.	Minor	Mapping of donors (Annex 1) shows that there is a potential overlap, but this can be managed.
IR2: Any unintended use of resources or misconduct could reflect negatively on the partnership.	Very unlikely	Significant	There will be no direct fund transfers to partner institutions. The Programme will follow DEA financial and contracting procedures, and the risk of direct corruption is considered unlikely.	Minor	Any fraud or misconduct associated with the Programme would have major consequences for partner institutions.
IR3: Any risk that the programme could fail to deliver its outcomes would reflect negatively DEA, MOEP, and the MFA.	Unlikely	Significant	DEA and the Embassy also engage in dialogue with top management, the political level and other development partners/donors in order to facilitate consensus and solutions based on the technical assistance contributions. The theory of change and results framework indicators are designed with realistic and measurable targets. The Steering Committee serves as accountability mechanism for monitoring progress and results.	Minor	This programme is strategic and high-profiled.

As mentioned in Section 3.2, assumptions relate to factors that are not (fully) within the control of DEA in implementing VNDEPP, but which underpin the theory of change (ToC). As also mentioned in Chapter 7, assumptions and risks factors are connected. Risks can be seen as the factors that might have given rise to failure of assumptions. The table below makes the specific connection between assumptions and risk analysis:

:

Assumptions	Where covered in the risk analysis

➢ Vietnam government's sustained political ambition towards the 2050 net-zero targets and policy initiatives related to decarbonisation of the energy sector.	CR1, CR2
➢ Climate-diplomacy relations that support Vietnam in addressing both climate action and a just energy transition, including community consultations.	CR2, CR3
➢ MOIT continued commitment to exchange on context-specific conditions (including on the power and energy system, socio-economic and environmental impacts of renewable energy, among others), as necessary assumptions for providing technical assistance in energy modelling and planning.	PR6, PR7
➢ Additionality and synergy ensured in a dynamic field with many actors and international development partners.	IR1
➢ The partnership develops in a way that strategically supports transformational change aligned to Vietnam's Power Development Plans in its current and future editions, as well as other key strategic plans (including updated NDCs) and legislative pillars for the development of the energy system (e.g. Electricity Law and Energy Efficiency Law).	PR1, PR2, PR3
➢ The mobilisation of financial resources for EE investments is enabled by a strong institutional set-up with the required human resource capacities.	PR4, PR8
➢ MOIT and other partners engage effectively throughout the programme and value peer-to-peer exchanges of good practice and paths to avoid.	PR2, PR3
➢ Country-level programme governance and management mechanisms (Steering Committee/Implementation Groups) meet regularly as foreseen and are effective in monitoring progress and results and in providing strategic guidance to implementation, including ensuring continued alignment to Vietnam's priority needs and with emphasis on assumptions and risk factors, as well as capacity development results for sustainable outcomes.	PR6
➢ Renewable energy remains an enabler to meet future energy demand in Vietnam, including the electrification and digitalisation of society, while providing access to reliable energy to populations including low-income groups.	CR2, CR3, CR6
➢ The cooperation contributes effectively to enabling investments, where required, to complement institutional strengthening.	PR5, CR6

Annex 5: Budget details

Table A5.1: Summary budget allocations at output level

All numbers in DKK.

Outcomes	Outputs (shortened titles)		2026	2027	2028	2029	2030	Sub-total
1: A secure electricity system increasingly based on renewables is supported by data-driven planning, market-based mechanisms, and strengthened institutional capacity.	**1.1:** Enhanced institutional and technical capacity for integrated long-term energy planning	DEA staff	829,555	1,244,332	1,244,332	1,244,332	1,244,332	5,806,884
		Consultants	222,000	1,221,000	1,221,000	740,000	296,000	3,700,000
		Other Costs	28,399	156,196	156,196	94,664	37,866	473,321
		Subtotal	1,079,954	2,621,528	2,621,528	2,078,996	1,578,198	**9,980,204**
	1.2: Implemented supporting activities for the implementation of RE power projects	DEA staff	455,893	683,839	683,839	683,839	683,839	3,191,249
		Consultants	114,000	627,000	627,000	380,000	152,000	1,900,000
		Other Costs	33,000	181,500	181,500	110,000	44,000	550,000
		Subtotal	602,893	1,492,339	1,492,339	1,173,839	879,839	**5,641,249**
	1.3: Recommendations on policy and market-based incentives to enhance system flexibility	DEA staff	521,897	782,846	782,846	782,846	782,846	3,653,281
		Consultants	117,000	643,500	643,500	390,000	156,000	1,950,000
		Other Costs	24,000	132,000	132,000	80,000	32,000	400,000
		Subtotal	662,897	1,558,346	1,558,346	1,252,846	970,846	**6,003,281**
							Outcome 1 Subtotal:	**21,624,734**
2: Optimised technical and economic operation of the power grid, enabling higher integration of renewables and enhancing grid stability and security of supply.	**2.1:** Strengthened capacity for operating the power system with higher shares of variable renewables	DEA staff	304,004	456,006	456,006	456,006	456,006	2,128,028
		Consultants	273,000	1,501,500	1,501,500	910,000	364,000	4,550,000
		Other Costs	33,000	181,500	181,500	110,000	44,000	550,000
		Subtotal	610,004	2,139,006	2,139,006	1,476,006	864,006	**7,228,028**
	2.2: Strengthened institutional and governance framework for NSMO operations.	DEA staff	248,065	372,097	372,097	372,097	372,097	1,736,454
		Consultants	135,000	742,500	742,500	450,000	180,000	2,250,000
		Other Costs	-	-	-	-	-	-
		Subtotal	383,065	1,114,597	1,114,597	822,097	552,097	**3,986,454**
							Outcome 2 Subtotal:	**11,214,481**
3: Strengthened uptake of energy efficiency in the	**3.1:** Technical framework for an EE incentive scheme	DEA staff	668,627	1,002,941	1,002,941	1,002,941	1,002,941	4,680,392
		Consultants	150,000	825,000	825,000	500,000	200,000	2,500,000
		Other Costs	24,000	132,000	132,000	80,000	32,000	400,000

industrial sector through enhanced institutional capacity for implementing incentive schemes		Subtotal	842,627	1,959,941	1,959,941	1,582,941	1,234,941	**7,580,392**
	3.2: Strengthened institutional, technical and analytical capacities for promotion and implementation of EE measures and emission reductions in Vietnam's industrial sector	DEA staff	668,627	1,002,941	1,002,941	1,002,941	1,002,941	4,680,392
		Consultants	150,000	825,000	825,000	500,000	200,000	2,500,000
		Other Costs	24,000	132,000	132,000	80,000	32,000	400,000
		Subtotal	842,627	1,959,941	1,959,941	1,582,941	1,234,941	**7,580,392**
							Outcome 3 Subtotal:	**15,160,785**
LTA: Outcome 1			750,000	1,500,000	1,500,000	1,500,000	750,000	6,000,000
LTA: Outcome 2			-	-	750,000	1,500,000	750,000	3,000,000
LTA: Outcome 3			750,000	1,500,000	750,000	-	-	3,000,000
							LTA Subtotal:	**12,000,000**

Sub-totals per year:	6,524,068	15,845,699	15,845,699	12,969,667	8,814,868	
					Grand total	**60,000,000**

Annex 6: List of supplementary materials

#	Document/information	Internet link if available
1.	Danish Embassy. Case study of Results of LCEE - Scaling solutions: Kim Lan Ceramic Village's transition to gas ovens. 2025	
2.	DEA Global Cooperation on Vietnam - website	(link)
3.	DEA Memorandum on the Multidimensional Concept of Poverty and the Human Rights-Based Approach in the Danish Energy Agency's Government to Government Cooperation	
4.	DEA Political Economy Analysis in a Global Cooperation context	
5.	DEA Integrated Approach to Exit Strategies	
6.	Denmark's new Development Cooperation Strategy (2025) "A Changing World - Partnerships in Development	(link)
7.	Danida Guidelines – Bilateral Cooperation	(link)
8.	Review Report, MFA MTR of DEPP III, March 2024	
9.	Vietnam Energy Outlook Report - Pathways to Net-Zero. Danish Energy Agency. 2024	(link)
10.	Multi-dimensional Review of Viet Nam - Towards An Integrated, Transparent and Sustainable Economy	
11.	Vietnam Power Development Plan 8 - Revised	
12.	Decision 515.QD.BCT Mandate of Electricity Department EAV 28.02.2025	
13.	Decree 40-2025-ND-CP organisation of Ministry of Industry and Trade	
14.	Vietnam Electricity Law No. 61/2024/QH15	
15.	Vietnam Energy Efficiency and Conservation Law No. 77/2025/QH15	
16.	IPSS-DEA (2025) Green Transition Governance in the Energy Sector in Vietnam	
17.	The Energy Progress Report 2024 (by World Bank ESMAP; IEA; IRENA, WHO and United Nations Statistics Division)	(link)
18.	World Bank ESMAP RISE indicators Vietnam	(link)
19.	Vietnam energy data, International Energy Agency (IEA)	(link)
20.	IEA (2024): Achieving a Net Zero Electricity Sector in Viet Nam: Exploring Decarbonisation Pathways	(link)
21.	World Bank. 2022. From the Last Mile to the Next Mile – 2022 Vietnam Poverty & Equity Assessment. Washington, DC: World Bank. License: Creative Commons Attribution CC BY 3.0 IGO	(link)
22.	WHO (2024). Viet Nam – Air pollution	(*link*)
23.	DICF. Pollution-Vietnam	(*link*)
24.	Nguyen, T. T., Nguyen, T. T., Hoang, V. N., Wilson, C., & Managi, S. (2019). Energy transition, poverty and inequality in Vietnam. Energy Policy	(link)
25.	Viet Nam News (2025). Many rural areas suffer severe air pollution	(link)
26.	World Bank. Gabrial Demombynes. Why is ethnic minority poverty persistent in Vietnam? (2013).	(link)
27.	World Bank Group. 2022. Vietnam Country Climate and Development Report.	(link)
28.	World Bank. April 2023. Poverty and Equity Brief, Vietnam	(link)
29.	Multidimensional poverty in Viet Nam - Reducing poverty in all its dimensions to ensure a good quality life for all. UNDP, 2023. Poverty reduction in comparative perspective: Lessons for Viet Nam from international experience & Ministry of Labour, Invalids and Social Affairs of Vietnam (2018)	(link)
30.	Freedom House, Vietnam (2024)	(link)
31.	Ira Irina Dorband, Michael Jakob, Jan Christoph Steckel (2020). Unraveling the political economy of coal: Insights from Vietnam	(link)
32.	OECD. Clean Energy Finance and Investment Policy Review of Viet Nam (2021)	(link)
33.	OECD (2021) Viet Nam Country Page CEFIM website	
34.	OECD (2022). Review of the Corporate Governance of State-Owned Enterprises in Viet Nam	(link)
35.	Just Energy Transition Partnership – Resource Mobilization Plan in Vietnam (2023).	(link)

36.	Vietnam News. Several violations found in solar power planning that caused overloads in power grid: Gov't Inspectorate	(link)
37.	U.S International Trade Administration: Power Generation, Transmission, and Distribution	(link)
38.	Mekong Region Land Governance. Land Law revision in Vietnam: prospects and challenges (2024)	(link)
39.	Florian Wengel, Christoph Nedopil, and Ulrich Volz (2023): "Sunrise and sunset – Accelerating coal phase -down and green energy expansion in Vietnam A political economy analysis", Green Finance & Development Center, FISF Fudan University, Shanghai, China and Centre for Sustainable Finance, SOAS University of London, London.	
40.	OHCHR. Universal Periodic Review - Viet Nam (2024)	(link)
41.	UNFPA. Vietnam - Youth Development	(link)
42.	UN. Voluntary National Review - 2023	(link)
43.	Vietnam's Just Energy Transition: Whose Justice? – The Diplomat	
44.	Impacts of climate change in Vietnam. Ministry of Natural Resources and Environment, Department for Climate Change. 2021	(link)
45.	Climate Tracker. Vietnam - Policies and actions	(link)
46.	Huong, H.T.L.; Quang, V.D.D.; Nga, T.T.T. Responding to Climate Change at Provincial Level in Viet Nam. VN J. Hydrometeorol. 2020, 6, 11-25.	(link)
47.	Netherlands Commission for Environmental Assessment. Viet Nam EIA profile. September 2022.	
48.	The 2023 Corruption Perceptions Index (CPI)	(link)
49.	The Diplomat. The Declining Influence of the National Assembly in Vietnam's 'New Era' (2025).	(link)

Annex 7: Plan for communication of results

Communicating key events, significant results and/or positive effects of the programme will happen on an ongoing basis and in close coordination between DEA, MCEU, and MFA. The execution of this external communication plan is contingent upon the availability and appropriate use of DEA and MCEU communication channels. Implementation will be aligned with the priorities and requirements of the wider organization, ensuring that communication activities are coordinated, consistent, and supportive of overall organizational objectives. Adjustments to the plan may be made as necessary to reflect evolving needs, resources, or strategic direction

What? (the message)	**When?** (the timing)	**How?** (the mechanism)	**Audience(s)**	**Responsible**
VNDEPP programme information, selected results targets and results updates against targets.	When DEPP 2026 approved - and updated regularly/ annually	Danida Open Aid	The Danish resource base and taxpayers.	MFA(MYNSEK)
Key messages from VNDEPP results, achievements and effects communicated through relevant channels and/or communication products.	Update on DEA website when VNDEPP is approved and updates as relevant. Other key messages as relevant during implementation.	Danish Energy Agency website. MCEU website. Social media.	Danish resource base and Danish taxpayers. International development partners.	DEA MCEU
Fact sheet/small brochure on VNDEPP in Vietnamese, as relevant. Key messages from VNDEPP and information on VNDEPP-related key events in the national language.	Fact sheet to be released immediately when VNDEPP is approved and later updated as relevant.	Fact sheet/small brochure on VNDEPP in national language and English on Embassy website.	Country national partners and professional community.	Embassy of Denmark in Vietnam
Key messages on VNDEPP results and achievements, including "impact stories", as relevant.	During VNDEPP implementation.	MFA/Danida website and newsletters based on DEA's reports. State of Green. Social media.	The Danish resource base, international partners.	MFA (MYNSEK)
Key messages on VNDEPP results and achievements.	As relevant during implementation.	Websites, social media etc. of key national partner institutions.	National partners and stakeholders.	National partners

Annex 8: Process action plan

Action/deliverable	Target date	Responsible
Danida Programme Committee Meeting on early draft Framework Programme Document (FPD)/concept note for DEPP 2026	8 April 2025	MFA(KLIMA)
Country formulation mission and consultations with national partners on virtual platforms and in connection with other DEA technical missions, including via brief consultation notes	9-13 June 2025, 2nd-3rd quarters 2025 and again, as relevant, after appraisal	DEA
Full DEPP 2026 document package (FPD with 5 country programme documents (CPDs30)) to appraisal team	24 October 2025	DEA with MFA (KLIMA), MCEU and formulation consultants
Appraisal of proposed DEPP 2026	24 October 2025 - 2 February 2026	MFA (LEARNING) with appraisal consultants
Meeting in the MFA External Technical Panel on DEPP 2026	19 February 2026	MFA (LEARNING)
Submission of DEPP 2026 FPD and CPDs for final verification by MFA /LEARNING)	9 March 2026	MFA (KLIMA)
Final verification of DEPP 2026 FPD and CPDs	11 March 2026	MFA (LEARNING)
Approval of DEPP 2026 by the Danish Minister for Foreign Affairs	tbd	Minister for Foreign Affairs
Approval of the DEPP 2026 grant by Finance Committee of the Danish Parliament	tbd	Danish Parliament
DEPP26 implementation	1 May 2026 – December 2030	DEA
Meetings of the VNDEPP implementation groups	At least every quarter	DEA
Meetings of the VNDEPP Steering Committee	Annually and in written	Embassy, MOIT, DEA

[30] For CNDEPP (China), INDODEPPII (Indonesia), MXDEPP (Mexico), SADEPP (South Africa), and VNDEPP (Vietnam).

	procedure between annual meetings, as required.	
DEA GC internal meetings on assessment of assumptions and risks	Quarterly	DEA
Meetings of the DEPP Programme Advisory Group (PAG) to consider progress and issues as inputs to the Strategic Advisory Group (SAG) for any decisions required	Annually	DEA, MFA (MYNSEK & KLIMA), MCEU
Mid-term Review of DEPP 2026 including VNDEPP	2028	MFA (LÆRING)
Final reporting on DEPP 2026	Early 2031	DEA
Financial closure	Mid-2031	MFA

Annex 9: Job profiles for long-term advisors

Terms of Reference Long-Term Energy Advisor (LTA), Ministry of Industry and Trade (MOIT)

Background in short:
Vietnam has a population of approximately 100.4 million with a density of 300 people/km^2. Vietnam is the 33rd largest economy in the world (by GDP), with an annual GDP growth rate of 6.2% (2024) and a GDP per capita at 4622.5 USD 2,564. In Vietnam, 3.4% of the population lives below the national poverty line (2023).

Based on IEA data, CO_2 emissions from fuel combustion amounted to 287 Mt in 2022 in Vietnam, accounting for 0.8% of total global emissions in 2022. Vietnam stands at a pivotal moment in shaping its energy future. Historically, the country's economic growth has been fuelled by fossil energy consumption, with coal still accounting for nearly half of its electricity generation today. This reliance contributes to high carbon emissions and severe air pollution, posing both environmental and public health challenges.

Recognising the global and local benefits of lowered carbon emissions and pollution abatement, Vietnam has put in place strategies and policies to advance green growth. The Government is aware of the need to lower the environmental footprint of the country's growth, to effectively mitigate and adapt to climate change, and that addressing these challenges also present opportunities to contribute to growth. Vietnam announced its net-zero emissions target by 2050 at COP26 in Glasgow (2021). Moreover, Vietnam has strengthened its 2030 commitments through the Just Energy Transition Partnership (JETP). With some of Southeast Asia's best wind and solar resources, Vietnam has great potential for renewable energy, but technical, regulatory, and institutional barriers still need to be addressed. The recently revised Law on Energy Efficiency promotes a stronger focus on realising the potential for energy efficiency in Vietnam.

The programme in short:
The Vietnam-Denmark Energy Partnership Programme (DEPP) is a government-to-government cooperation implemented by the Ministry of Industry and Trade of Vietnam (MOIT) and the Danish Energy Agency (DEA), respectively. The focus of the demand-driven cooperation is capacity development and technical assistance within the energy sector, in alignment with Danish core competencies.

The energy partnership started with a first phase in the period 2013-2017 and a second phase in 2018-2020. The ongoing phase, DEPP III (2020-2026), is organised around three Development Engagements:

- Outcome 1: Scenario-based long-term energy planning and offshore wind regulation
- Outcome 2: Integration of Renewable Energy
- Outcome 3: Energy Efficiency in industry

MOIT is the governmental agency responsible for state management of industry and trade, including electricity, renewable energy, energy efficiency, oil and gas, greenhouse gas emission management for the industry sector to implement the Nationally Determined Contributions (NDCs), according to the Paris Agreement and the commitment to net-zero by 2050.

The three Development Engagements are anchored at organisations operating under MOIT, namely the Electricity Authority of Vietnam (EAV) for Outcome 1 and 2, and the Department of Innovation, Green Transformation, and Industrial Promotion (IGIP) for Outcome 3. The National Power System and Market Operator Company (NSMO) is another relevant partner, partly under Outcome 2 and under a Strategic Engagement Cooperation (SEC) project, the latter implemented by Energinet. One long-term advisor (LTA) is placed at EAV supporting Outcome 1 and 2, while another LTA operates at MOIT to implement Outcome 3.

For further background, partners' mandates are elaborated briefly below:

The Electricity Authority of Vietnam (EAV) under the Ministry of Industry and Trade of Vietnam (MOIT): EAV was established under the Decree 40/2025/ND-CP dated 26 February 2025 by, merging

the Electricity and Renewable Energy Authority (EREA) and the Electricity Regulatory Authority of Vietnam (ERAV). Operating under the Ministry of Industry and Trade, the EAV advises and assists the Minister in state management and law enforcement in the electricity sector. Its mandate includes electricity development planning, regulation and licensing, system operation, legal and policy framework development, and international cooperation. The EAV aims to ensure the effective development and regulation of Vietnam's electricity sector, with key targets focusing on sustainable development, market development, regulatory framework establishment, system reliability, and international integration.

National Power System and Market Operator Company (NSMO) under MOIT: NSMO is responsible for operating and maintaining the stability of the Vietnamese power system and operating the Vietnamese wholesale electricity market (VWEM). NSMO's responsibilities are like that of "Energinet Elsystemansvar". NSMO plays a key role in operating the Vietnamese power system and has very qualified staff who are eager to collaborate and learn from international experiences. NSMO also plays an important role as advisers to Vietnam's political system, as any concerns NSMO may have for the security of supply is taken very seriously by Vietnamese leaders.

Department of Innovation, Green Transformation, and Industrial Promotion (IGIP) under MOIT: IGIP, formerly known as the Department of Energy Efficiency and Sustainable Development (EESD), operates under the Ministry of Industry and Trade (MOIT) in Vietnam. IGIP advises and assists the Minister in state management concerning scientific research and innovation, application and technology transfer, product quality and technical standards, energy efficiency and savings, climate change, green growth, sustainable development, industrial promotion and decarbonisation of the energy sector. Its responsibilities include drafting laws and legal documents, formulating strategies and policies, developing technical and economic standards, and overseeing the implementation of regulations and programs. IGIP also plays a crucial role in energy management, greenhouse gas emissions guidelines, and sustainable development initiatives. Additionally, it focuses on communication, training, and awareness programs to enhance capacity in energy efficiency and related areas. IGIP is tasked with additional duties as assigned by MOIT, making it a comprehensive partner in advancing sustainable energy practices and policies in Vietnam.

Requirements and expectations from the relevant parties

The role of the of the Long-Term Energy Advisor (LTA) will be primarily to assist MOIT, DEA and the Embassy of Denmark (EDK) with the implementation of the interventions of the programme activities related to energy efficiency in industry, and climate change issues under MOIT's mandate (Development Engagement 3), and to document and communicate results related hereto. The LTA is the focal point for Danish knowledge and technical advice and responsible for coordination among the partner organisations from Vietnamese and Danish side. Other tasks include the communication and dissemination of programme activities and results at various events, workshops and seminars hosted by the MOIT, DEA and EDK, as well as other stakeholders.

The partner organisations (including MOIT, DEA and EDK) are responsible for implementation of programme activities:

- MOIT will allocate sufficient resources to host the LTA, i.e. providing a work station within the partner institution, relevant materials, information and data for supporting capacity building and allocation of in-kind of hours of partner staff to collaborate with the expert.
- The DEA team will, among other tasks, provide technical assistance for programme activities, be responsible for international consultant coordination, as well as budget and accounting. The DEA team will be a direct link to the Danish Government approach and allow for access of relevant materials, information and data for supporting the work of the LTA.
- The EDK will allocate in-kind hours of staff to support with the LTA on on-boarding, networking, event planning and implementation of activities.
- The LTA will refer and report to the focal point assigned by the Director of the Project Management Unit (PMU) for international projects within Energy Efficiency under the Department of Innovation, Green Transformation, and Industrial Promotion (IGIP), to the Senior Programme Manager at the

Embassy of Denmark and to the Country Manager of the Danish Energy Agency. S/he will be in a team with local consultants and MOIT staff, who work within DEPP III.

- The LTA should expect to contribute to the development of the next phase of the energy programme (DEPP26), as needed. The development process for DEPP26 is ongoing and led by Danish Ministry of Foreign Affairs, to which the LTA's technical insight and expertise can be requested to provide input to the content and scope.

Expected composition of the selection committee
Applicants for the position will be selected for interview by the Danish Energy Agency and the Embassy of Denmark in Hanoi, in collaboration with IGIP/MOIT, who will also be represented at the job interview. The Danish Energy Agency will lead the process of appointment by conducting interviews with the selected candidates, as well as lead the final interview. The final interview panel consists of: the Danish Energy Agency, Royal Danish Embassy in Hanoi and representatives from MOIT.

The position

Title: Senior Adviser

Place of service:
Ministry of Trade and Industry (MOIT) at the Department of Innovation, Green Transformation, and Industrial Promotion (IGIP), Hanoi, Vietnam

Terms of employment:
Contract period: 2 years, pending approval of DEPP26 programme.

Attractive remuneration package. Contribution to a pension scheme, health insurance and reimbursement of school fees. House/flat rent covered. Salary level to be agreed upon during recruitment, based on skills and previous experience.

For more details, please refer to Danida's Staff Regulations – Advisers on Long-term Assignments:

https://um.dk/om-os/stillinger/raadgiverstillinger-finansieret-af-danida/bilaterale-raadgivere

Area of responsibility/tasks
The main responsibility of the LTA will be to serve 1) as an in-house expert on energy efficiency in industry to build capacity in MOIT/IGIP and other relevant stakeholders (including auditing companies and enterprises, among others); support and advise MOIT/IGIP upon request in the implementation of the revised Energy Efficiency Law and other relevant regulation, related to energy efficiency, GHG mitigation and climate change policy; 2) as technical advisor in other programme activities within the Energy Partnership Program between Vietnam and Denmark.

As lead advisor to the capacity development for energy efficiency in industry, the Long-Term Advisor is expected to:

- Provide technical assistance and develop capacity in MOIT/IGIP and other relevant stakeholders on energy efficiency in industry, and in particular on the implementation of the regulatory framework for energy efficiency, including the voluntary agreement scheme, development of EE technical guidelines and trainings, and establishment of a Centre of Excellence for energy efficiency in industry, in close cooperation with Danish Energy Agency experts as well as other international and local experts.
- Contribute to strengthening the capacity of MOIT/IGIP in setting up the regulatory structure that will govern the energy efficiency in industry in a cost-efficient way.
- Support and advise MOIT/IGIP in the implementation of EE regulation and targets, and relevant issues related to emission mitigation, climate change policy, such as carbon market mechanisms, monitoring and reporting, among others, when requested.
- Identify technical needs at MOIT/IGIP and facilitate technical assistance from the DEA team in Denmark.

- Support the implementation of relevant activities on energy efficiency, such as: development of energy efficiency strategy and plans, recommendations for future activities withing DEPPIII and DEPP26 cooperation between Vietnam and Denmark.
- Effectively coordinate the activities of both international and domestic experts to ensure that DEPP III and DEPP26 deliver all outputs with the highest quality in accordance with the annual work plan and the overall programme plan.
- Review and provide comments and recommendations to all technical reports and deliverables from all outputs on energy efficiency, ensuring follow-up and high quality to the final versions, and ensure the quality of consultants' reports, ensuring that they meet the standards and requirements of the DEPP Program before being submitted to DEA, EDK, and IGIP.
- Review international legal documents and institutional system set-ups related to energy efficiency, climate change mitigation, and systems for Monitoring, Reporting and Verification (MRV) and provide recommendations, suggestions and advisory to the national and provincial levels for the implementation of the EE legal framework.

As advisor for the Energy Partnership Programme, the Long-Term Adviser is also expected to:

- Facilitate close coordination and communication between the partner organisations, including status meetings and reporting about short-term progress and plans.
- Preparation and participation in programme missions to Vietnam and study tours to Denmark.
- Communicate programme activities and results including stakeholder consultation and dissemination at energy sector events.
- Provide high quality technical advisory assistance to MOIT/IGIP in implementing and managing technical inputs, formulating policies, regulations and guidelines required for the project.
- Providing support on drafting of ToRs for technical assistance and other inputs, selection of consultants, follow-up on consultants work progress and commenting on their deliverables.
- Guide and supervise (including timelines, quality and appropriateness of the technical support) local and international consultants hired for different outputs, to ensure maximum synergy between consultants working for different components.
- Provide input to Work Programme development and progress report drafting.
- Planning and preparation of programme workshops and events, including delivery of presentations in the workshops, events.
- Support the development of innovative financing solutions for energy efficiency projects in the industry sector.
- Keep updated on energy sector development and establish a personal network with development partners, civil society organisations and private sector.
- Provide input to policy dialogues relevant for the partners and the entire Energy Partnership Programme, as requested incl. preparation of policy briefs or background notes as required.
- Support the programme secondary strategic objectives by actively explore possibilities for the engagement of Vietnamese and Danish private sector actors, Vietnamese civil society, multilateral agencies (such as IRENA, OECD and IEA) and academia in programme activities, as well as increasing programme policy outreach, e.g. to the relevant Vietnamese governments bodies.
- Support the monitoring and evaluation of DEPP, in collaboration with DEA, the Danish Embassy, IGIP and other experts.
- Prepare reports and advice/recommendations based on request of IGIP and/or DEA.

Success criteria

- Successfully capacitated MOIT and IGIP in best practices within energy efficiency in industry and ability to support the uptake of EE investments in the industrial sector.
- Strengthened institutional, technical and analytical capacities at IGIP and other relevant stakeholders, for the promotion and implementation of EE measures in Vietnam's industrial sector.

- Expedient delivery of technical inputs required for the completion of programme activities related to energy efficiency in industry in cooperation with the DEA, along with contribution and provision of recommendations for all technical reports of outputs on energy efficiency in industry.
- Provided strategic policy and technical advice of high quality and relevance in areas where the bilateral partnership programme is active.
- Provided high quality input on identification and recruitment of appropriate international and national consultants.
- Successfully coordinated with the Danish Embassy in Vietnam, relevant Vietnamese partners and stakeholders, and DEA.
- Successfully documented and communicated results of programme activities and link to the GHG mitigation, climate change policies and Vietnam's COP26 commitment.
- Successfully engaged proactively with a wide range of actors across government, business and organisational sectors to ensure ownership, legitimacy and effectiveness of programme activities.

Profile/Qualifications

Requirements and expectations concerning the formal qualifications of the candidate:

- Solid knowledge of international and Danish energy policy, energy efficiency in industry, climate change mitigation, MRV systems, and carbon markets is requirement.
- A master level degree or corresponding qualifications in energy/environmental management, economics, political science, engineering and/or subjects relevant to energy efficiency, and climate change mitigation could be relevant.
- Extensive experience working with one or more related fields, such as: development of the EE-regulatory framework and benchmarking; development of incentive schemes for EE activities in industry sector; EE technology catalogues, setting up the regulatory structure to govern the energy efficiency in industry in a cost-efficient way, including. energy audits and energy management systems; establishing a Centre of excellence for energy efficiency in industry; development of climate change policies related to MRV system development, climate change mitigation and carbon markets; regulation and GHG reduction mechanisms for the industrial sector.
- Project management and coordination experience, and experience from delivery of technical assistance, exchange visits and technical secondments.
- Strong skills and experience in coordination and collaboration with stakeholders are required to ensure quality and compliance with work progress requirements.
- Experience working with incentive schemes for EE activities in industry sector and funding mechanisms will be an advantage.
- Experience from developing countries, preferably Vietnam, will be an advantage.
- Knowledge of the energy efficiency technology providers for the industry sector is an advantage.
- Fluency in English, written and spoken, is required. Fluency in Danish is an advantage.
- Good written and verbal communication skills.

Requirements and expectations concerning the personal qualifications of the candidate:

- Openness towards and understanding of different cultures and capacity to work in different cultural settings.
- Inter-personal skills with a high level of initiative and diplomacy.
- Ability to work as part of an interdisciplinary team with relations to different ministries and stakeholders.
- Proactive and flexible attitude, adaptability, social sensitivity, with respect for other cultures.
- Capacity to manage and facilitate working processes involving parties at different levels.
- Medical certificate showing that you are fit for mission.

Recruitment procedures

How to apply: You apply via http://www.ens.dk/job. Use the "Search for the position" function on the job posting. Your motivated application with CV, diploma incl. grade overview and any other appendices must be entered no later than 15th September, 2025. Documents must be in English.

Deadline for applications: 15th September, 2025 at 16.00 CEST

Interviews: week 38-39

Expected commencement: 5th November 2025

The Danish Energy Agency will be handling the recruitment process. When you apply, you accept that your information and documents will be exchanged between the Ministry of Foreign Affairs and the Danish Energy Agency. Candidates will be contacted by the Danish Energy Agency if in consideration for the position. For further information about the position please contact Ulrik Eversbusch (+45 41 53 26 46) or Giada Venturini (+45 33 92 76 11). Read more about how the Danish Energy Agency handle personal data: https://ens.dk/om-os/energistyrelsens-behandling-af-personoplysninger

Terms of Reference Long-Term Energy Advisor (LTA), Ministry of Industry and Trade (MOIT)

Background in short:

Vietnam has a population of approximately 100.4 million with a density of 300 people/km^2. Vietnam is the 33rd largest economy in the world (by GDP), with an annual GDP growth rate of 6.2% (2024) and a GDP per capita at 4622.5 USD 2,564. In Vietnam, 3.4% of the population lives below the national poverty line (2023).

Based on IEA data, CO_2 emissions from fuel combustion amounted to 287 Mt in 2022 in Vietnam, accounting for 0.8% of total global emissions in 2022. Vietnam stands at a pivotal moment in shaping its energy future. Historically, the country's economic growth has been fuelled by fossil energy consumption, with coal still accounting for nearly half of its electricity generation today. This reliance contributes to high carbon emissions and severe air pollution, posing both environmental and public health challenges.

Recognising the global and local benefits of lowered carbon emissions and pollution abatement, Vietnam has put in place strategies and policies to advance green growth. The Government is aware of the need to lower the environmental footprint of the country's growth, to effectively mitigate and adapt to climate change, and that addressing these challenges also present opportunities to contribute to growth. Vietnam announced its net-zero emissions target by 2050 at COP26 in Glasgow (2021). Moreover, Vietnam has strengthened its 2030 commitments through the Just Energy Transition Partnership (JETP). With some of Southeast Asia's best wind and solar resources, Vietnam has great potential for renewable energy, but technical, regulatory, and institutional barriers still need to be addressed. The recently revised Law on Energy Efficiency promotes a stronger focus on realising the potential for energy efficiency in Vietnam.

The programme in short:

The Vietnam-Denmark Energy Partnership Programme (DEPP) is a government-to-government cooperation implemented by the Ministry of Industry and Trade of Vietnam (MOIT) and the Danish Energy Agency (DEA), respectively. The focus of the demand-driven cooperation is capacity development and technical assistance within the energy sector, in alignment with Danish core competencies.

The energy partnership started with a first phase in the period 2013-2017 and a second phase in 2018-2020. The ongoing phase, DEPP III will conclude in April 2026. A new phase of cooperation, VNDEPP will start in May 2026 until December 2030. VNDEPP will be organised around three main outcomes:

- Outcome 1: A secure and renewable-integrated electricity system is increasingly supported by data-driven planning, market-based mechanisms, and strengthened institutional capacity
- Outcome 2: Optimised technical and economic operation of the power grid, enabling higher integration of renewables and enhancing grid stability.
- Outcome 3: Investments enabled to advance implementation of EE measures in the industrial sector and support its transition towards sustainable energy and GHG emission reduction.

MOIT is the governmental agency responsible for state management of industry and trade, including electricity, renewable energy, energy efficiency, oil and gas, greenhouse gas emission management for the industry sector to implement the Nationally Determined Contributions (NDCs), according to the Paris Agreement and the commitment to net-zero by 2050.

The three Outcomes are anchored at organisations operating under MOIT, namely the Electricity Authority of Vietnam (EAV) for Outcome 1, the National Power System and Market Operator Company (NSMO) for Outcome 2, and the Department of Innovation, Green Transformation, and Industrial Promotion (IGIP) for Outcome 3. One long-term advisor (LTA) will be placed at EAV supporting mainly Outcome 1 (and partly Outcome 2), while another LTA operates at MOIT to implement Outcome 3.

For further background, partners' mandates are elaborated briefly below:

The Electricity Authority of Vietnam (EAV) under the Ministry of Industry and Trade of Vietnam (MOIT): EAV was established under the Decree 40/2025/ND-CP dated 26 February 2025 by, merging the Electricity and Renewable Energy Authority (EREA) and the Electricity Regulatory Authority of Vietnam (ERAV). Operating under the Ministry of Industry and Trade, the EAV advises and assists the Minister in state management and law enforcement in the electricity sector. Its mandate includes electricity development planning, regulation and licensing, system operation, legal and policy framework development, and international cooperation. The EAV aims to ensure the effective development and regulation of Vietnam's electricity sector, with key targets focusing on sustainable development, market development, regulatory framework establishment, system reliability, and international integration.

National Power System and Market Operator Company (NSMO) under MOIT: NSMO is responsible for operating and maintaining the stability of the Vietnamese power system and operating the Vietnamese wholesale electricity market (VWEM). NSMO's responsibilities are like that of "Energinet Elsystemansvar". NSMO plays a key role in operating the Vietnamese power system and has very qualified staff who are eager to collaborate and learn from international experiences. NSMO also plays an important role as advisers to Vietnam's political system, as any concerns NSMO may have for the security of supply is taken very seriously by Vietnamese leaders.

Department of Innovation, Green Transformation, and Industrial Promotion (IGIP) under MOIT: IGIP, formerly known as the Department of Energy Efficiency and Sustainable Development (EESD), operates under the Ministry of Industry and Trade (MOIT) in Vietnam. IGIP advises and assists the Minister in state management concerning scientific research and innovation, application and technology transfer, product quality and technical standards, energy efficiency and savings, climate change, green growth, sustainable development, industrial promotion and decarbonisation of the energy sector. Its responsibilities include drafting laws and legal documents, formulating strategies and policies, developing technical and economic standards, and overseeing the implementation of regulations and programs. IGIP also plays a crucial role in energy management, greenhouse gas emissions guidelines, and sustainable development initiatives. Additionally, it focuses on communication, training, and awareness programs to enhance capacity in energy efficiency and related areas. IGIP is tasked with additional duties as assigned by MOIT, making it a comprehensive partner in advancing sustainable energy practices and policies in Vietnam.

Requirements and expectations from the relevant parties

The role of the of the Long-Term Energy Advisor (LTA) will be primarily to assist MOIT, DEA and the Embassy of Denmark (EDK) with the implementation of the interventions of the programme activities related to long-term energy planning and renewable energy regulation and integration (Outcome 1) and to document and communicate results related hereto. The LTA is the focal point for Danish knowledge and technical advice and responsible for coordination among the partner organisations from Vietnamese and Danish side. Other tasks include the communication and dissemination of programme activities and results at various events, workshops and seminars hosted by the MOIT, DEA and EDK, as well as other stakeholders.

The partner organisations (including MOIT, DEA and EDK) are responsible for implementation of programme activities:

- MOIT will allocate sufficient resources to host the LTA, i.e. providing a work station within the partner institution, relevant materials, information and data for supporting capacity building and allocation of in-kind of hours of partner staff to collaborate with the expert.
- The DEA team will, among other tasks, provide technical assistance for programme activities, be responsible for international consultant coordination, as well as budget and accounting. The DEA team will be a direct link to the Danish Government approach and allow for access of relevant materials, information and data for supporting the work of the LTA.
- The EDK will allocate in-kind hours of staff to support with the LTA on on-boarding, networking, event planning and implementation of activities.
- The LTA will refer and report to the Deputy Director responsible for energy planning and RE integration at the Electricity Authority of Vietnam (EAV) under MOIT, to the Senior Programme

Manager at the Embassy of Denmark and to the Country Manager of the Danish Energy Agency. S/he will be in a team with local consultants and MOIT staff, who work within DEPP III.

Expected composition of the selection committee

Applicants for the position will be selected for interview by the Danish Energy Agency and the Embassy of Denmark in Hanoi, in collaboration with EAV/MOIT, who will also be represented at the job interview. The Danish Energy Agency will lead the process of appointment by conducting interviews with the selected candidates, as well as lead the final interview. The final interview panel consists of: the Danish Energy Agency, Royal Danish Embassy in Hanoi and representatives from MOIT.

The position

Title:

Senior Adviser (N1)

Place of service:

Ministry of Trade and Industry (MOIT) at the Electricity Authority of Vietnam (EAV), Hanoi, Vietnam

Terms of employment:

Contract period: 3 years

Attractive remuneration package. Contribution to a pension scheme, health insurance and reimbursement of school fees. House/flat rent covered.

For more details, please refer to Danida's Staff Regulations – Advisers on Long-term Assignments:

https://um.dk/da/om-os/stillinger/raadgiverstillinger-finansieret-af-danida/bilaterale-raadgivere/

Area of responsibility/tasks

The main responsibility of the LTA will be to serve 1) as an in-house expert on long-term energy planning and renewable energy integration in the power system to build capacity in MOIT/EAV and other relevant stakeholders (including NSMO and other relevant national authorities); 2) to support and advise MOIT/EAV upon request in the implementation of relevant RE regulation; 3) as technical advisor in other programme activities within the Energy Partnership Program between Vietnam and Denmark.

As lead advisor to the capacity development on long-term energy planning, RE integration and regulatory frameworks, the Long-Term Advisor is expected to:

- Provide technical assistance and develop capacity in MOIT/EAV and other relevant stakeholders, in close cooperation with Danish Energy Agency experts as well as other international and local experts on following macro-topics: long-term energy planning, and in particular on the strengthening of the existing analytical framework and data foundation used for energy system modelling; on the implementation of the regulatory framework for renewable energy, including offshore wind; on technical integration of renewable energy in the power system with focus on power plant and system flexibility, as well as demand response.
- Provide input to analyses and reports developed within the programme, as well as official government planning exercises, plans and strategies, and provision of quality assurance.
- Contribute to capacity development on operation and development of relevant models for energy sector analysis, as well as capacity development on data collection, documentation and consultation among stakeholders.

- Contribute to capacity development based on Danish experiences with regards to technical and market regulation of stakeholders (e.g. TSO, DSOs, system and market operators, retailers, generators and consumers) in the electricity sector.
- Contribute to capacity development based on Danish experiences in increasing the ability to integrate variable renewable energy, including increased flexibility from generation and demand.
- Contribute to capacity development based on Danish experiences in power system operation and development of technical regulations with the overall purpose of increasing the ability of the system to integrate more variable renewable energy.
- Identify technical needs at MOIT/EAV and facilitate technical assistance from the DEA team in Denmark.
- Support the implementation of relevant activities on long-term energy planning and RE integration, such as: development of RE strategy and plans, recommendations for future activities within the energy cooperation between Vietnam and Denmark.
- In collaboration with local experts, review and provide comments and recommendations to all technical reports and deliverables from relevant programme outputs, ensuring follow-up and high quality to the final versions.

As advisor for the Energy Partnership Programme, the Long-Term Advisor is also expected to:

- Facilitate close coordination and communication between the partner organisations, including status meetings and reporting about short-term progress and plans.
- Preparation and participation in programme missions to Vietnam and study tours to Denmark.
- Communicate programme activities and results including stakeholder consultation and dissemination at energy sector events.
- Provide high quality technical advisory assistance to MOIT/IGIP in implementing and managing technical inputs, formulating policies, regulations and guidelines required for the project.
- Providing support on drafting of Terms of Reference (ToRs) for technical assistance and other inputs, selection of consultants, follow-up on consultants work progress and commenting on their deliverables.
- Guide and supervise (including timelines, quality and appropriateness of the technical support) local and international consultants hired for different outputs, to ensure maximum synergy between consultants working for different components.
- Provide input to Work Programme development and progress report drafting.
- Planning and preparation of programme workshops and events, including delivery of presentations in workshops and events.
- Keep updated on energy sector development and establish a personal network with development partners, civil society organisations and private sector.
- Provide input to policy dialogues relevant for the partners and the entire Energy Partnership Programme, as requested incl. preparation of policy briefs or background notes as required.
- Support the programme secondary strategic objectives by actively explore possibilities for the engagement of Vietnamese and Danish private sector actors, Vietnamese civil society, multilateral agencies (such as IRENA, OECD and IEA) and academia in programme activities, as well as increasing programme policy outreach e.g. to the Vietnamese National Assembly.
- Support the monitoring and evaluation of DEPP, in collaboration with DEA, the Danish Embassy, EAV and other experts.
- Prepare reports and advice/recommendations based on request of EAV and/or DEA.

Success criteria

- Successfully capacitated MOIT in best practices within long-term energy planning and modelling, integration of renewable energy, and RE regulatory frameworks and ability to develop and communicate results as concrete policy inputs.

- Strengthened institutional, technical and analytical capacities at EAV and other relevant stakeholders, for the implementation of RE targets and strategies as set out in Vietnam's national plans.
- Expedient delivery of technical inputs required for the completion of programme activities related to energy planning and RE integration in cooperation with the DEA, along with contribution and provision of recommendations for all relevant technical reports.
- Provided strategic policy and technical advice of high quality and relevance in areas where the bilateral partnership programme is active.
- Provided high quality input on identification and recruitment of appropriate international and national consultants.
- Successfully coordinated with the Danish Embassy in Vietnam, relevant Vietnamese partners and stakeholders, and DEA.
- Successfully documented and communicated results of programme activities and link to the GHG mitigation, climate change policies and Vietnam's COP26 commitment.
- Successfully engaged proactively with a wide range of actors across government, business and organisational sectors to ensure ownership, legitimacy and effectiveness of programme activities.
- Successfully develop best practice solutions together with partner organisations with maximum relevance of value for MOIT.

Profile/Qualifications

Requirements and expectations concerning the formal qualifications of the candidate

- Solid knowledge of Danish energy policy and renewable energy regulation is a requirement.
- A master level degree or corresponding qualifications in energy/environmental management, economics, political science, engineering and/or subjects relevant to energy planning and renewable energy integration could be relevant.
- Extensive experience working with one or more related fields, such as: energy data collection and statistics, energy system modelling, measures for integration of renewable energy, power system operation, electricity market development, regulation of the energy sector incl. offshore wind energy.
- Project management and coordination experience, and experience from delivery of technical assistance, exchange visits and technical secondments.
- Experience from developing countries, preferably Vietnam, will be an advantage.
- Knowledge of the renewable energy technology providers is an advantage.
- Fluency in English, written and spoken, is required. Fluency in Danish or Vietnamese is an advantage.
- Good written and verbal communication skills.

Requirements and expectations concerning the personal qualifications of the candidate:

- Openness towards and understanding of different cultures and capacity to work in different cultural settings.
- Inter-personal skills with a high level of initiative and diplomacy.
- Ability to work as part of an interdisciplinary team with relations to different ministries and stakeholders.
- Proactive and flexible attitude, adaptability, social sensitivity, with respect for other cultures.
- Capacity to manage and facilitate working processes involving parties at different levels
- Medical certificate showing that you are fit for mission

Recruitment procedures

How to apply: You apply via http://www.ens.dk/job. Use the "Search for the position" function on the job posting. Your motivated application with CV, diploma incl. grade overview and any other appendices must be entered no later than -----. Documents must be in English.

Deadline for applications:

Interviews:

Expected commencement:

The Danish Energy Agency will be handling the recruitment process. When you apply, you accept that your information and documents will be exchanged between the Ministry of Foreign Affairs and the Danish Energy Agency. Candidates will be contacted by the Danish Energy Agency if in consideration for the position. For further information about the position please contact Ulrik Eversbusch (+45 41 53 26 46) or Giada Venturini (+45 33 92 76 11). Read more about how the Danish Energy Agency handle personal data: https://ens.dk/om-os/energistyrelsens-behandling-af-personoplysninger

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