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**DRAFT**

**Enhanced engagement under the Indonesia-Denmark Energy  
Partnership Project (INDODEPP) 2021-25:**

**Holistic energy planning for local affordable decarbonisation in  
Indonesia**

**Additional interventions related to the Sustainable Island Initiative,  
phase 2**

**14. September 2021.**

## List of key abbreviations and selected terminology

ADB	Asian Development Bank
BAPPEDA	Badan Perencana Pembangunan Daerah (Indonesian regional body for planning and development)
BAPPENAS	Ministry of Development Planning of the Government of Indonesia
COP	Conference of the parties (under the UNFCCC)
Danida	Brand name for Danish international development cooperation, under the Ministry of Foreign Affairs of Denmark
DEA	Danish Energy Agency
DGE	Directorate General of Electricity, MEMR
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
EE	Energy Efficiency
EU	European Union
GHG	Green House Gas
GOI	Government of Indonesia
INDODEPP	Indonesia-Denmark Energy Partnership Project
IEA	International Energy Agency
IRENA	International Renewable Energy Agency
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
NDC	Nationally Determined Contribution (under the Paris Agreement on Climate Change)
NEC	National Energy Council of Indonesia
NGO	Non-Governmental Organization
OECD	Organisation for Economic Co-operation and Development
PD	Project Document
PLN	PT Perusahaan Listrik Negara (Indonesian State-Owned Electricity Utility)
RDE	Royal Danish Embassy in Indonesia (in some cases also referred to as the Embassy of Denmark (EDK))
SDG	Sustainable Development Goal
SII	Sustainable Island Initiative (SSC)
SSC	Strategic sector cooperation
TA	Technical assistance
TOC	Theory of Change
TOR	Terms of reference
UPR	The Danish Council for Development Policy
VRE	Variable renewable energy (in the Concept Note referred to as fluctuating renewable energy)

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## Holistic energy planning for local affordable de-carbonisation in Indonesia

### 1. Background

In recognition of the importance of a global transformation of energy systems, particularly in rapidly growing economies, there is a strong Danish political wish to assist partner countries in the transition to low carbon economies<sup>1</sup>. Indonesian partners highly appreciate the Danish experience gained during the transformation from an economy reliant on fossil fuels to increasing utilization of renewable energy resources. The Danish Energy Agency (DEA) has had substantial dialogue with the Indonesian partners on a continued and expanded local engagement in provinces. The Indonesian-Danish energy cooperation dates back to 2008, and since 2015 it has been supported through the Strategic Sector Cooperation Facility. The cooperation has in recent years been successful in cooperating with provinces and islands in Indonesia.

The ongoing Strategic Sector Cooperation for Sustainable Island Initiative (2019-2022/DDK 7 million) is a cooperation between the Danish Energy Agency and the Danish Environmental Protection Agency focusing on bioenergy and Waste-to-Energy solutions in the islands of Lombok and Riau Islands. The new commitment will continue, deepen and include 1-3 additional islands or provinces in the cooperation as a new component in the existing Indonesia-Denmark Energy Partnership Project (INDODEPP 2020-2025/DDK 60 million).

The new Sustainable Island Initiative is designed in line with the *overall objective* of INDODEPP which is to contribute to low carbon development by a) meeting national energy demand in a more sustainable way; reaching Indonesia's NDC goals by reducing GHG-emissions; fulfilling SDG7 and SDG13 targets; and achieving the 23% renewable energy goal in 2025.

The outputs of the sustainable Island Initiative will underpin the introduction of low carbon development in selected islands and regions and support the three *outcomes* of INDODEPP which is: Scenario-based long-term energy plans and regulation; Integration of renewable energy; Enhanced national strategy for energy efficiency. The new outcome will support this in a local perspective and add new thematic areas of decarbonization strategies, project solutions and socio-economic benefits.

The Sustainable Island initiative will harvest on the Danish long term cooperation with local governments in existing partnerships and build new partnerships feeding in the local experience to the cooperation at national level and at the same time translating the Indonesian government's climate and energy policy and goals into a local context. These efforts may support solid energy sector planning that can attract investments in local energy transition project, as has been the case in Lombok where pre-feasibility studies have spurred interest from developers. The Investment Fund for Developing Countries (IFU) and Indonesian partners are evaluating the possibility of applying Danida Sustainable Business Finance in e.g a bio-energy project.

**Proces:** The project will be adjusted to the recommendations from the Programme Committee and appraised during October/November 2021 and presented to the Council for Development Policy in

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<sup>1</sup> The Indonesia – Denmark Energy Partnership Programme supports the implementation of the Danish Government's Global Climate Strategy (2020) and the Ministry of Foreign Affairs' Development strategy (2021)

November 2021 or January 2022. The appraisal will be conducted by ELK as a desk appraisal based on the INDODEPP appraisal's findings and recommendations in 202

## 2. Strategic consideration and justification

### 2.1 The project addresses significant development challenges in Indonesia

The project supports the Danish Government's Climate Act and the SDG priorities in the Strategy for Development Cooperation. The Danish government's goal of contributing to the Paris agreements and the target of limiting the global increase in temperatures to 1,5 Celcius degree is supported by development cooperation with growth economies, where the existing and projected increases in energy demand and green-house gas emissions (GHG) are highest, thereby ensuring that the Danish contribution will have the highest possible effect on global warming.

Indonesia is ranked as the sixth largest global GHG emitter due to the large emissions from forestry.<sup>2</sup> This includes pressures on tropical rainforests due to palm oil production. Before COVID 19, the country experienced annual growth rates of approximately 5% in the national economy and energy consumption, resulting in increased energy-related CO<sub>2</sub> emissions. In 2021, the growth rates of the economy seemed to be back-to-normal with a projected GDP-growth of 4.7% in 2021 and 5.1% in 2022. The ambition of the Indonesian government is to ensure affordable electricity for all and to stable energy supply for a growing middle-class in both urban and rural areas.<sup>3</sup> Major investments are needed in the energy system in order to meet the increased demand from consumers and industry. If the government continue to prioritise coal, oil and gas in the energy production it will have a significant impact on the global greenhouse gas emissions in years to come. During the preparation for COP26 there have been positive political signals from the Government of Indonesia (GoI), indicating an intention to have growth in energy demand covered by renewable energy after 2028. At the same time, parliament has speeded up the process of a new renewable energy bill. However, if the current challenges of handling variable renewable energy (VRE) is not overcome, the risk is that Indonesia could continue with well-known technologies of coal, natural gas and palm oil in order to maintain the security of energy supply, which will increase GHG-emissions significantly and lead to more deforestation and loss of biodiversity.

### 2.2 Links to the Indonesian government's policies and strategies for energy transition

In order to secure the VRE transition, both national and local partners request increased cooperation on how to make the green energy transition happen in reality.

At the COP26 the Indonesian Government is expected to pledge a commitment to meet net-zero emissions in 2060 - or sooner with international assistance. Ministry of Energy and Mineral Resources (MEMR) needs local governments to be capable of delivering on increased national climate targets. Commitment to decarbonisation at provincial level is still political challenging and a sensitive issue. The DEA cooperation has demonstrated that the use of evidence based energy scenarios and identification of a pipeline of green energy projects can overcome local government's resistance to introducing green energy solutions and to commit to the climate ambition

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<sup>2</sup> <https://www.wri.org/our-work/topics/indonesia>

<sup>3</sup> [Indonesia Economic Snapshot - OECD](#)

Local governments support to energy transition may even lead to local carbon-neutrality pledges. Such local decarbonisation pledges could serve as showcases in the climate diplomacy at the embassy. It would also be a vehicle for attracting soft loans and technical assistance to the involved provinces from e.g. the EU and Asia Development Bank (ADB) supporting coal-phase out and RE investments planned for in local energy transition plans.

Requests for RE investments in provinces are in general common, while the analysis of interconnectors, demand-side and integration of different energy sources are often missing. The Sustainable Island Initiative phase 1 is focusing on Waste to Energy (WtE) and bioenergy. It is proposed that an expanded phase 2 takes a more holistic approach and includes the whole energy sector. Focusing on best practice, least cost development and security of supply will pave the way for projects within wind, solar and e.g. cooling solutions to become a reality.

Lessons learned from the Sustainable Island Initiative have shown that local authorities are experiencing strong links between sectors, which make a broader sector coupling possible. In provinces officers from agencies of energy and environment work closely together with officers from authorities of forest, tourism, agriculture, planning etc. in order to interlink the efforts of e.g. promoting bioenergy projects or developing tourism.

Since 2008 the DEA has been engaged with the Indonesian energy authorities building a strong partnership with central government institutions and local governments in islands and provinces. The continuation of the Sustainable Island Initiative will build on existing partnership with Lombok and Riau Islands and deepen the engagement in new strategic areas within energy and climate. 1-3 new islands or provinces will invited to participate in the Danish cooperation. The new islands or provinces to the programme will have potential for larger expansions of renewable energy and the local government will have strong commitment to the cooperation with Denmark.

### 3. Description of the Sustainable Island Initiative, phase 2

Since 2008 the DEA has been engaged with the Indonesian energy authorities building a strong partnership with central government institutions and local governments in islands and provinces. The continuation of the Sustainable Island Initiative will build on existing partnership with Lombok and Riau Islands and deepen the engagement in new strategic areas within energy and climate. Up to three new islands or provinces will be invited to participate in the Danish cooperation. The new islands or provinces to the programme will all have potential for larger expansions of renewable energy and the local government will have strong commitment to the cooperation with Denmark.

The project is a capacity development project focusing on technical capacity assessment and capacity building in local government institutions in the energy sector. The current INDODEPP programme has analyzed the renewable energy potential in a regional perspective and the analysis indicates which provinces/islands could be relevant for the Danish cooperation. The capacity development's starting point will be the Danish system planning approach (Strategisk Energiplanlægning).

The following successful approaches in INDODEPP and the Sustainable Island Initiative phase 1 will be continued with a focus on.

- Intervention in provinces/ islands to bridge the gap between national planning and local projects

- Focus on pre-feasibility studies for RE solutions to increase project readiness
- Continue linking Indonesian partner islands to Danish peer role models of Bornholm and Samsø

The additional new elements in the Sustainable Island Initiative phase 2 are:

- Introduce long-term full decarbonisation strategies to enable islands/provinces to contribute to national targets and to increase investors' confidence in provincial transition plans.
- Provide project solutions in whole of energy systems, including all relevant RE sources and use for e.g. cooling, cooking and electrification of transport.
- In close collaboration with IRENA, make socio-economic assessments (jobs, pollution, etc.) in addition to project-economy assessments, as requested by local partners in order for them to commit to RE projects.

A tentative activity-list under the three new outputs is found in annex 2.

The approach in in the Sustainable Island initiative will focus on the interaction between public sector, private sector and civil society by strengthening: Community involvement to ensure local acceptance and familiarity; Stakeholder involvement to attract interest from developers and investors; Continued peer-to-peer sharing of experience from Samsø and Bornholm.<sup>4</sup>

Some of the main products of the Sustainable Island Initiative phase 2 are pre-feasibility studies for RE-projects and provincial decarbonization strategies and/or full RE transition plans. The development results are expected to improve national and local framework conditions and pave the way for potential investors. The focus on how to get from planning to project will be an essential part of bridging the gap between national plans and implementing the energy transition at local level.

#### 4. INDODEPP Theory of Change updated with Sustainable Island Initiative phase 2

The updated INDODEPP Theory of Change (ToC) that incorporates the new elements are attached in annex 1. The ToC is outlined in causalities below.

*If* DEA contributes to capacity development of strong local energy planning competencies based on the Danish planning tradition, which include stakeholder involvement, assessment of economy in transition and socio-economic benefits, *then*

Province governments are enabled to make local energy transition plans in cooperation with private sector and civil society, and *then*

Province governments can attract investors for energy projects and set local energy and climate targets, and *then*

Renewable energy projects can become a reality and be integrated in the energy systems, *and*

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<sup>4</sup> Bornholm and Samsø is already involved in SII phase 1 and their commitment to further cooperation will be investigated before.

Provinces can contribute to – or over-perform - Indonesia’s present national energy and climate targets, and *then*

Local showcases in provinces can pave the way for faster energy transition commitments at national level.

## 5. Updated result framework for INDODEPP for the additional activities

The existing result framework for INDODEPP consist of outcome three outcomes. The new additional activities are expected to contribute to a new outcome 4 with three outputs:

### Overview:

INDODEPP Objective	Outcomes	Outputs
<p>The project has contributed to: meeting Indonesia’s national energy demand in a more sustainable way; to its NDC goals; SDG7 and SDG13 targets; and, more specifically, to the achievement of the 23% renewable energy goal in 2025.</p>	1 Scenario-based long-term energy plans and regulation	1.1 Modelling capacity 1.2 Energy policy and planning 1.3 Regulation
	2 Integration of renewable energy	2.1 Wind power pilot tender 2.2 Energy forecasting and system operation 2.3 Least cost grid integration strategies and planning
	3 Enhanced national strategy for energy efficiency	3.1 Energy efficiency in buildings 3.2 Energy efficiency in industry and power plants
	4 Low carbon development in islands and provinces	4.1 Full decarbonisation strategies for energy 4.2 Project solutions in a sustainable energy system 4.3 Socio-economic analysis

The objective of INDODEPP will be further supported by local interventions on islands and/or in provinces. While the current INDODEPP supports just transition, providing lower cost of energy, jobs and less pollution the additional activities will do this in a local context. The outcome indicator is presented below.

Engagement Title		Outcome 4: Low carbon development in islands and provinces	
Outcome		Low carbon development in islands and provinces is accelerated leading to more RE projects and contributing to higher local energy and climate targets. The local showcases for green transition pave the way for more RE at national level supporting just transition, affordability of energy and socio-economic benefits.	
Outcome indicator		The islands/provinces adapt Danish experience on energy planning and set local targets for decarbonisation and energy transition. RE projects will be adopted by developers.	
Baseline	Year	2021	Provinces and islands request investment in RE solutions and better tools for energy planning, but the local governments are hesitant to commit to decarbonisation and/or massive RE-transition.
Mid-target		2023	Provinces/islands have mapped local RE potentials/projects and adapted some energy planning approaches from Danish experience. Some



			provinces/islands have made local plan/commitments towards decarbonisation of the energy sector and/or 100 pct. RE-development.
Target		2025	Provinces/islands have started implementation of RE projects. Some provinces/islands are following pathways to full decarbonisation and 100 pct. RE.

## 6. Brief analyses of the partners

### 6.1 Existing partners to continue in Sustainable Island Initiative, phase 2

The National Energy Council of Indonesia (NEC) under Ministry of Energy and Mineral Resources has been a key-partner to DEA since the first Sector Strategic Cooperation in 2016. The Secretariat of the National Energy Council is working on national energy plans, such as the Indonesia Energy Outlook. NEC is also responsible for provincial energy planning and will be the national partner in the Sustainable Island Initiative phase 2. Though, NEC has provided limited allocation of resources to national modelling activities during the past few years, their commitment to the Danish engagement with provincial energy planning is strong. NEC is facilitating contacts to provincial governments and has an interest in local energy plans being developed in support of national energy plans.

The local electricity company (PLN)<sup>5</sup> and local energy authorities (Dinas ESDM) are other partners to the programme. Ministry of Energy and Mineral Resources has been the main partner in the Danish cooperation. The joint approach of DEA and the Danish Environmental Protection Agency has facilitated cooperation with the Indonesian Ministry of Environment and Ministry of Planning. It is the intention to draw Ministry of Planning even closer into the cooperation as they refer directly to Governors, while local electricity companies and local energy authorities refer to the regional authorities for planning and development.

Other partners to the Sustainable Island Initiative will be local civil-society, NGO's and relevant universities for example the well-established collaboration between Aalborg University and West Nusa Tenggara (the province covering Lombok).

### 6.2 New partner provinces/islands

In the *Sustainable Island Initiative* phase 2 it is planned to start cooperation with up to three new islands/provinces. Potential partner are: Province of North Sulawesi, Province of South Sulawesi, Province of South Kalimantan and City of Pontianak. Further screenings in these provinces and other islands/provinces will however be needed in the inception phase. An important criteria for selection will be that the province/island has a considerable size where it is meaningful to match successful integration of RE with the demand side. The overall objective of INDODEPP is to support a higher national percentage of RE and increase the contribution to Indonesia's climate goals, hence priority will be given to energy systems with some volume, being larger than sparsely connected villages on remote islands. Other donors are supporting the energy transition on very small islands e.g. UK's MENTARI-program.

<sup>5</sup> A Long-Term-Advisor (LTA) has been embedded in PLN Head Quarter by 1<sup>st</sup> August 2021 to assist with RE procurement and auction as well as successful RE integration. The LTA will be embedded for at least 2 years.

## 7. Overall budget at outcome-level

The additional budget for the new outcome of INDODEPP is listed below. Implementation will start in mid-2022 when the current SSC Sustainable Island Initiative project expires. From 2023 a reserve for unallocated funds have been added in the budget. Unallocated funds is to be prioritized according to the current demand and political agenda in the partner institutions and in order to continue cooperation with the Danish Environmental Protection Agency.

### Additional budget for Sustainable Island Initiative 2

Budget by year (mDKK)	2022	2023	2024	2025	Total	%
DEA Staff resources	0,5	1,3	1,3	1,3	<b>4,3</b>	29%
DEA travel, hotel, per diem	0,1	0,2	0,2	0,2	<b>0,7</b>	5%
Consultants	1,0	1,8	1,5	1,8	<b>6,1</b>	41%
Workshops, study tours etc.	0,0	0,2	0,2	0,2	<b>0,6</b>	4%
Unallocated	0,0	1,1	1,1	1,1	<b>3,3</b>	22%
<b>Total</b>	<b>1,6</b>	<b>4,6</b>	<b>4,3</b>	<b>4,6</b>	<b>15,0</b>	100%

### New total budget (INDODEPP+SI12) :

Budget by year (mDKK)	2021	2022	2023	2024	2025	Total	%
Outcome 1	2,2	2,8	2,8	2,8	2,8	<b>13,5</b>	18%
Outcome 2	2,6	3,1	2,5	2,5	2,5	<b>13,2</b>	18%
Outcome 3	1,8	2,3	2,2	2,2	2,2	<b>10,8</b>	14%
Outcome 4	0,0	1,6	3,5	3,2	3,5	<b>11,71</b>	16%
Indo-DEPP Programme Management	0,5	0,5	0,5	0,5	0,5	<b>2,4</b>	3%
Long term advisers	1,8	2,8	2,8	2,8	2,8	<b>13,0</b>	17%
Analysis and review	0,0	0,0	1,0	0,0	0,0	<b>1,0</b>	1%
Contingencies	1,0	1,0	1,0	1,0	1,0	<b>5,0</b>	7%
Unallocated	0,1	0,2	1,3	1,3	1,4	<b>4,3</b>	6%
<b>Total</b>	<b>10,0</b>	<b>14,4</b>	<b>17,6</b>	<b>16,3</b>	<b>16,7</b>	<b>75,0</b>	100%

## 8. Management and reporting

Management and reporting of the proposed additional activities follow the overall structure of INDODEPP.

**The INDODEPP Advisory Group** is overseeing implementation of the programme and consists of MFA and the Danish Ministry of Climate, Energy and Utilities and with DEA as secretary. The Advisory Group meets on a bi-annually basis, or when required, to discuss programme progress and solicit lessons learnt. The Advisory Group approves final programming for unallocated funds. The Advisory Group supports the Danish embassy in its policy dialogue on energy and climate change agenda with relevant Indonesian authorities.

**The country steering committee of INDODEPP** is co-chaired by the Director General of Ministry of Energy and Mineral Resources and the Danish Ambassador to Indonesia. The steering committee members include representatives from each engagement partner of INDODEPP. The Sustainable Island Initiative is represented by the National Energy Council and DEA. The steering committee meets bi-annually to approve annual work plans, the annual progress report and serves as a forum for policy dialogue.

**The Implementation Group for the Sustainable Island initiative** will coordinate and manage daily implementation of the annual work programme. The members are representatives from selected provinces/islands, DEA, Long Term Advisor and Energy Sector Counsellor. The Implementation Group meets twice a year and have the responsibility to: i) Monitor programme progress at output level and iii) ensure cross fertilisation within and between engagements of INDODEPP. The Implementation Group reports to the Steering Committee.

DEA will report on progress, results and financial management to the MFA once a year in accordance with the aid Management Guidelines. Annual reporting and mid-year reporting will be submitted to the Advisory Group.

## 9. Risk analysis

The risk analysis the proposed additional activities complements the overall risk assessment for INDODEPP, which is available in annex 4. The main national partner engaged in the additional funding is National Energy Council of Indonesia, under the Ministry of Energy and Natural resources . NEC have expressed interest in a closer engagement from DEA in islands/provinces. Previously engagements in provinces have been largely successful and NEC has reaffirmed its wish to engage with Denmark in a government-to-government modality. Nevertheless there are both contextual, programmatic and institutional risks, which need to be carefully examined and reflected upon as part of the programme.

- ***The commitment from the local partners in provinces/islands remains essential for success.*** Sudden changes in priorities at local level can happen. Frequent contact and visits to provinces make the cooperation less sensitive and adaptable to changes in local priorities. During phase 2 it is planned to have more local presence and more frequent dialogue making the cooperation less vulnerable to changes in priorities. If a partner does not allocate sufficient resources for the cooperation, DEA will cease the cooperation with that island/province and use the resources for increased cooperation in another island/province with more commitment. The risk is considered to be medium.
- ***Activities under the INDODEPP program requires a committed national partner;*** The Sustainable Island Initiative will continue to require good cooperation with the NEC Secretariat to ensure contacts at provincial level and facilitation of the cooperation. If the cooperation with the NEC Secretariat should fail – however not a very likely scenario – it must be considered if other departments in Ministry of Energy and Mineral Resources or Ministry of National Development Planning should be approached as potential main-partner in the Sustainable Island Initiative phase 2. The risk is considered to be low.
- ***The political risk of replacing national resources such as coal, gas and palm oil with fossil fuel-free RE technologies persist.*** Currently the political long-term trend is that government will prioritize RE as a solution for creating more green jobs. Latest example on the green trend is the president's speech at national Independence Day 17<sup>th</sup> August 2021 in which he stated that green economy and RE are an important part of Indonesia's green economy ambitions. The political-economy of strong economic interests tied to the coal production remains to pose a risk for and in-depth green transition of the energy sector . This risk cannot be entirely mitigated in the project, but cost-efficient scenarios will

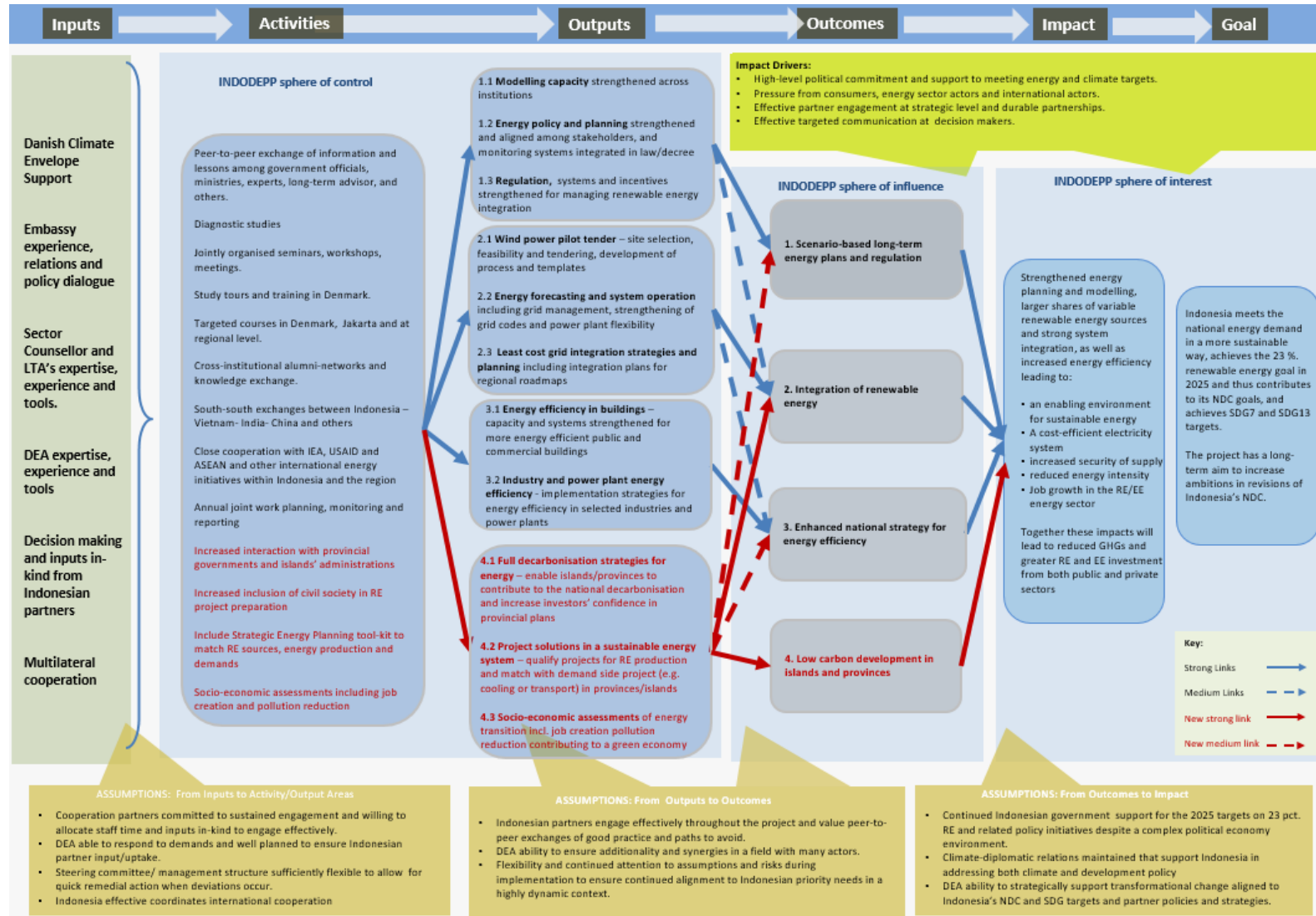
continue to show less competitiveness for coal and gas<sup>6</sup>. Even if economic rational solutions of green energy production may be hampered by political concerns the capacity development in energy planning and economic optimization for green development will be anchored in local authorities. The risk is considered medium.

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<sup>6</sup> Denmark and other like-minded countries use climate diplomacy to advocate for the phasing-out of fossil-fuels (coal, oil and gas).

# Annex 1: Updated ToC with new SII phase 2 component



## Annex 2: Tentative activity-list for new outputs

### Output 4.1: Full decarbonisation strategies for energy

- Resource mapping of RE resources and energy needs, including export or alternate usage of “surplus” RE to improve utilization of RE.
- Power system modelling and optimisation to decrease costs when increasing the share of RE.
- Modelling of supply and demand-side for electricity, cooling, cooking, transport, etc. to secure sustainable energy solutions.
- Making long-term scenarios for achieving full decarbonisation of island/province earlier or in pace with national decarbonisation targets to improve policy decisions.
- Capacity development/training of local civil servants (courses in energy planning and modelling).
- Supporting local decision-makers in converting scenarios into strategies and policies to attract investments.

### Output 4.2: Project solutions in a sustainable energy system

- Making consolidated and customized catalogue (with inspiration from the Danish ‘Virkemiddelkatalog’) for each province/island for energy production solutions and demand-side projects based on local conditions.
- Making local customized pre-feasibility studies of selected RE electricity production projects.
- Making local customized pre-feasibility studies for selected energy demand; which may be energy efficient cooling, alternate energy sources for cooking or different fuel/transport solutions e.g. charging hubs for electric two wheelers.
- Identifying projects with short and medium term potential in the province/island; making a short-list for both supply-side and demand-side projects.
- Investigating energy project finance options through international organisations and/or Danish financial institutions and create guidelines/catalogue of requirements and project options.
- Involving the private sector, as knowledge from developers may be included in pre-feasibility studies and results of pre-feasibility studies can be presented for selected business fora.

### Output 4.3: Socio-economic assessments

- Socio-economic assessments of the de-carbonisation scenarios in output 4.1.
- Validation of external benefits of the identified projects in output 4.2. The socio-economic parameters for the planning level are applied to socio-economic assessments for the potential projects.
- Cooperation with international organisations such as IRENA and GGGI about local job creation effects etc.
- Cooperation with Bornholm, Samsø and other Danish state-of-the-art municipalities on local ownership and lessons learned from green transition to showcase specific examples. Study trips to Denmark included in the activity.

- Workshops with NGO's and other civil society to present findings of socio-economic analysis and to create awareness of the green transition and its importance. This will contribute to public acceptance of RE projects.

### Annex 3: New INDODEPP budget including Sustainable Island Initiative , phase 2

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**Total budget on output-level:**

Outcome	Output	Outline Budget (mDKK)								% within each outcome
		TA			Long term Advisers	Analysis and reviews	Totals		Totals %	
		DEA	Workshops, study tours, etc.	Consultants						
1 Scenario-based long-term energy plans and regulation	1.1 Modelling capacity	2,41	0,30	1,40	2,10		6,22	19,81	26%	31%
	1.2 Energy policy and planning	3,19	0,30	1,40	2,10		7,00			35%
	1.3 Regulation	3,19	0,30	1,00	2,10		6,60			33%
2 Integration of renewable energy	2.1 Wind power pilot tender	2,20	0,30	2,20	2,10		6,80	19,52	26%	35%
	2.2 Energy forecasting and system operation	2,41	0,30	1,90	2,10		6,72			34%
	2.3 Least cost grid integration strategies and planning	2,20	0,30	1,40	2,10		6,00			31%
3 Enhanced national strategy for energy efficiency	3.1 Energy efficiency in buildings	2,41	0,30	1,03			3,75	10,82	14%	35%
	3.2 Industry and power plant energy efficiency	3,37	0,30	3,40			7,07			65%
4 Low carbon development in islands and provinces	4.1 Full decarbonisation strategies	1,60	0,20	2,10			3,90	11,71	16%	33%
	4.2 Project solutions in a sustainable energy system	1,53	0,20	2,10			3,83			33%
	4.3 Socioeconomic analysis	1,88	0,20	1,90			3,98			34%
Cross cutting	Programme management	2,45	0,00	0,00			2,45	2,45	3%	
	Recruitment costs				0,40		0,40	0,40	1%	
	Reviews					1,00	1,00	1,00	1%	
	Contingencies						5,00	5,00	7%	
	Unallocated funds						4,30	4,30	6%	
<b>Total</b>		<b>28,84</b>	<b>3,04</b>	<b>19,83</b>	<b>13,00</b>	<b>1,00</b>	<b>75,0</b>	<b>75,00</b>	<b>100%</b>	



**Budget details and explanations:**

<b>Budget by year (mDKK)</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>Total</b>	<b>%</b>	<b>Notes</b>
DEA Staff resources	3,4	4,8	5,6	5,6	5,6	<b>25,0</b>	33%	1
DEA travel, hotel, per diem	0,5	0,8	0,9	0,9	0,9	<b>3,9</b>	5%	2
Consultants	2,6	4,3	4,4	4,1	4,4	<b>19,8</b>	26%	3
Workshops, study tours etc.	0,5	0,5	0,7	0,7	0,7	<b>3,0</b>	4%	4
Long term advisers	1,8	2,8	2,8	2,8	2,8	<b>13,0</b>	17%	5
Analysis and review	0,0	0,0	1,0	0,0	0,0	<b>1,0</b>	1%	6
Contingencies	1,0	1,0	1,0	1,0	1,0	<b>5,0</b>	7%	7
Unallocated	0,1	0,2	1,3	1,3	1,4	<b>4,3</b>	6%	8
<b>Total</b>	<b>10,0</b>	<b>14,4</b>	<b>17,6</b>	<b>16,3</b>	<b>16,7</b>	<b>75,0</b>	<b>100%</b>	

<b>Notes:</b>	
1	In accordance with expected use on outputs
2	Estimated costs 'Travel expenses' based on experience from former alike projects
3	In accordance with expected use on outputs
4	Based on experience from study tour and workshop costs in former SSC programme. Workshops and study tours is expected to go across outputs and therefore combine the budgets in relevant matter. 2 study tours is expected per year and 3 local workshops a year. Some tasks will be handled by consultants and therefore be included in the consultant budget.
5	Based on costs from former DEPP programmes
6	Price for one MTR
7	The outputs cover all general areas of activities in the programme. This is a buffer for output-activities their might show to have a greater request or unforeseen expenses not expected
8	Unallocated in order to be flexible across the program doing its 5 year period.

## Annex 4: Risk management matrix for INDODEPP including Sustainable Island Initiative, phase 2

### Contextual risks<sup>7</sup>:

Risk Factor	Likelihood	Impact	Risk response	Residual risk	Background to assessment
The Covid-19 pandemic causes economic crisis, changes of national focus and potentially political and social tensions	likely	medium	The project is designed to be flexible, to adjust the activities annually aligned with partners' annual plans while keeping the outcome indicators. The activities are to be planned based on close monitoring of situation.	medium	The negative impact of the pandemic until mid-2021 is higher than anticipated and the recovery is not possible to forecast. This can impact the available resources of the partners to be allocated to the project as well as the focus in achieving NDC and RE targets.
Vested interests in the political economy including the coal and palm oil industry can work against the green energy transition	likely	high	The INDODEPP project design has taken into account these interests and described in the context analysis and INDODEPP is a partnership with those government institutions that have the mandate and the power to regulate the electricity sector	medium	The political economy in the sector, as always, has its drivers and opponents of transformational change
Presidential and parliament (and possibly regional elections) in 2024 could cause political and social tensions	likely	high	The project is designed to ensure that important indicators to be achieved, or at least secured by 2023. The project	medium	Since the current president is in his second term, he cannot run for election in 2024. . New government and new composition in

<sup>7</sup> 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).

			is flexible to work with provinces where governor or mayor is prioritizing the cooperation.		the parliament may introduce new policies after 2024.
Government subsidies and internal financial interests and perverse incentives, as well as PLN's economic viability and mandate of supplying cheap electricity can work against the green energy transition.	likely	high	PLN has made a clear commitment to work as a partner in INDODEPP and support its RE and EE focus	medium	

#### Programmatic Risks<sup>8</sup>:

Risk Factor	Likelihood	Impact	Risk response	Residual risk	Background to assessment
Any changes of priority given to the cooperation from partner organisations	Unlikely	Major	To sign the Implementation Agreement with the partner to ensure that the project is registered under MoF until 2025. Thus, it can be used as reference for new officials of partners.	Minor	Changing of the government after 2024 elections will change the minister and officials which could change focus.
Lack of willingness to share the available data can affect	Likely	Major	To put contributions of	Medium	.

<sup>8</sup> 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.

the quality of the technical assistance provided.			each party in the Implementation Agreement, including obligation to share data and information with all relevant partners,		
Limited absorption capacity and lack of staff retention in key positions across partners institutions	Likely	Medium	Solid energy sector administration is central for conducting sector regulation. It is necessary to engage in a true partnership, where the Indonesian partners are actively involved and reserve the required resources for capacity building. The DEA will ensure stronger commitment from partner organisations to let participants in courses use their learning in their job. Strengthen alumni-network across institutions.	Minor	The partnership is based on the assumption that it is a mutual cooperation where resources for knowledge transfer is available. There have been examples of participants in modelling courses having been moved to other tasks than modelling in their organisations.

**Institutional risks<sup>9</sup>:**

Risk Factor	Likelihood	Impact	Risk response	Residual risk	Background to assessment
The project could duplicate	Likely	Major	Careful identification of other relevant	Medium	Clean energy development is a

<sup>9</sup> 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).

existing activities and/or fails to recognise interfaces and synergies with other initiatives due to many donor activities in the sector.			bilateral donor and multilateral development partners support. Denmark participate active in EU's and UKs COP26 donor-coordination within energy and environment and coordinates actively with other non-EU donors.		crowded field in Indonesia. Denmark is a small development partner, but the unique value added of authority-to-authority cooperation is a key feature of the project and this particular set-up is something very few other development partners provide. The only partner in Indonesia, which have almost same approach for energy is IEA, with whom Denmark coordinate directly.
The project could fail to deliver its outcomes, which will reflect negatively on DEA, MEMR, and the MFA.	Unlikely	Major	The theory of change and results framework indicators will be designed with realistic and measurable targets.	Minor	This project is strategic and high-profiled.

## Annex 5: Project Action Plan (PAP)

### Process Action Plan for additional support under INDODEPP

Step	Activity	Date
1	Kick-off meeting for the formulation between MFA GDK and ELK, RDE in Jakarta, MCEU and DEA	13-aug
2	Ongoing formulation and dialogue with partners	Ultimo august - medio September
3	Submission of document to the Danida Programme Committee and as well as desk-appraisal	14-sep
4	Meeting in Danida Programme Committee	04-okt
5	End of desk appraisal	01-nov
6	Submission of documents to UPR	08-nov
7	Meeting in UPR (TBC)	25-nov
8	Approval by the Minister (TBC)	dec-21
9	Approval by partners	First half of 2022