Danish Support to Climate Technology Centre and Network 2020-2022

Key results:

- Environmentally sound technologies are developed, transferred and deployed for low-carbon and resilient development in developing countries.
- 25-30 countries per year will have received technology assistance at their request to help implement their NDCs through support
- Annually 450-500 stakeholders and institutions have obtained enhanced technical capacities to develop, transfer and deploy climate technologies

Justification for support:

Achieving the ambitions for climate mitigation and adaptation in developing countries is highly dependent on access to relevant technology and knowhow. The CTCN has been created specifically to support this crucial transpfer of technology.

The CTCN is a unique demand-driven, action-oriented initiative that mobilizes the private sector to deliver technology solutions & capacity development for developing countries. CTCN identifies and makes financial and technical resources available to support climate technology development and transfer in the following areas.

The CTCN work program aligns closely with Danish priorities and strategies including the strategy for development cooperation and humanitarian assistance and the Government strategy on long terms global climate action, that emphasize ambition, emission reductions, adaptation, and resilience, greening funding and engaging the private sector as cornerstones.

Major risks and challenges:

- COVID 19 pandemic continues and climate becomes a low priority for the country
- Limited capacity and potential lack of continuity of staff in the National Designated Entities

File No.	2020-24197			
Country	Multilateral/global			
Responsible Unit	Department for Green Diplomacy (GDI)			
Sector	Multisector			
Partner	Climate Technology Centre and Network			
DKK mill.	**2020**	**2021**	**2022**	**Tot.**
Commitment	28		-	28
Projected ann. disb.	8	10	10	28
Duration	2020-22			
Previous grants	2013: 30 mill. DKK, 2016: 11 mill. DKK			
Finance Act code	06.34.01.40			
Head of unit	Rasmus Abildgaard Kristensen			
Desk officer	Dorthea Damkjær			
Reviewed by CFO	YES: Christina Hedegaard Hyttel			

Relevant SDGs

No Poverty	No Hunger	Good Health, Wellbeing	Quality Education	Gender Equality	Clean Water, Sanitation
Affordable Clean Energy	Decent Jobs, Econ. Growth	Industry, Innovation, Infrastructure	Reduced Inequalities	Sustainable Cities, Communities	Responsible Consumption & Production
Climate Action	Life below Water	Life on Land	Peace & Justice, strong Inst.	Partnerships for Goals	

Strategic objectives:

The Climate Technology Centre and Network (CTCN) supports the implementation of the Paris Agreement and Sustainable Development Goals by promoting accelerated technology development and transfer, as well as strengthened policy and regulatory environments, at the request of developing countries. Targeted SDGs include energy, water, agriculture, and urban development.

Justification for choice of partner:

CTCN is the operational arm of the UNFCCC Technology Mechanism, and CTCN's work on climate change mitigation and adaptation in developing countries aligns with the Danish priorities of raising ambitions to meet the Paris Agreement and developing a green economy through private sector engagement and technology cooperation.

Summary:

The grant is provided as a core contribution to the implementation of the remaining 2 years of CTCN's work program 2019-2022. The funding will be used to finance technical support for the 5 core pillars of the UNFCC Technology Mechanism: innovation; implementation; collaboration and stakeholder involvement; enabling environment and capacity-building

Budget:

Output 1	3,94
Output 2	9,45
Output 3	4,20
Output 4	5,32
Output 5	2,24
Administrative costs (7% standard administrative fee plus 1% UN Coordination Levy)	2,01
Review	0,84
Total	**28,00**

Indhold

Abbreviations and acronyms

AOP	**Annual Operating Plan**
BAU	**business as usual**
CAEP	**NDC Partnership Climate Action Enhancement Package**
COP	**Conference of the Parties**
CTCN	**Climate Technology Centre and Network**
GCF	**Green Climate Fund**
GEF	**Global Environment Facility**
GHG	**greenhouse gas**
KMS	**knowledge management system**
LDC	**Least Developed Countries**
Mt CO2e	**metric tons of carbon dioxide equivalent**
NDA	**National Designated Authority**
NDC	**nationally determined contributions**
NDE	**National Designated Entities**
ODA	**overseas development assistance**
OECD	**Organization for Economic Cooperation and Development**
RAC	**refrigeration and air conditioning**
RD&D	**research, development & demonstration**
SIDS	**Small Island Developing States**
SB	**sessions of the UNFCCC subsidiary bodies**
SBI	**UNFCCC Subsidiary Body for Implementation**
SBSTA	**Subsidiary Body for Scientific and Technological Advice**
SDG	**Sustainable Development Goal**
TA	**technical assistance**
TEC	**Technology Executive Committee**
TEM	**technical expert meeting**
TEP	**technical examination process**
TNA	**technology needs assessment**
UNDP	**United Nations Development Programme**
UNEP	**United Nations Environment Programme**
UNIDO	**United Nations Industrial Development Organization**
UNFCCC	**United Nations Framework Convention on Climate Change**
WGC	**UNFCCC Women and Gender Constituency**
YOUNGO	**UNFCCC Youth Constituency**

1 Introduction

The CTCN is a unique demand-driven, action-oriented initiative that serves as a global trusted technology broker, coordinating the engagement of the private sector to deliver technology solutions and capacity development. Denmark has previously supported CTCN with 30 M DKK in 2013 and 11 M DKK in 2016. The latest funding agreement expired in 2018.

This project document provides the basis for a renewed Danish engagement with a contribution of 28 mio. DKK as core funding for implementation of activities under CTCN's work programme 2019-2022. The budget will support activities in 2021 and 2022.

The support of the Danish government will bolster the Centre's efforts to ensure that environmentally sound technologies are developed, transferred, and deployed for low-carbon and climate resilient development and to improve the technology capacity and job creation prospects for men and women to achieve the Sustainable Development Goals and Nationally Determined Contributions under the Paris Agreement. A draft project document has undergone an appraisal and the current document has integrated the recommendations of the appraisal.

2 Institutional context

The Climate Technology Centre and Network (CTCN), headquartered in UN City Copenhagen, is the implementation arm of the Technology Mechanism of the United Nations Framework Convention on Climate Change (UNFCCC). The CTCN promotes accelerated technology development and transfer, as well as strengthened policy and regulatory environments, at the request of developing countries.

The CTCN has served over 100 countries, providing targeted mitigation and adaptation interventions that enable countries to more quickly make progress in their transition to climate resilient, low carbon economies. With a small Secretariat, the CTCN accomplishes this by serving as a trusted broker, delivering requested technology, policy, regulatory, private sector, or finance solutions through a global network of technology experts. The CTCN is co-hosted by the UN Environment Programme and the United Nations Industrial Development Organization (UNIDO). Denmark provided a grant of 30 million DKK to the CTCN in 2013, and 11 million DKK in 2016. Other bilateral donors to the CTCN include Canada, the EU Commission, Finland, Ireland, Japan, Norway, the Republic of Korea, Spain, Sweden, and Switzerland. It is proposed that Denmark provides an additional grant of 28 million DKK to the CTCN as a contribution to ensure that the Centre can meet the growing demand for climate-related technology assistance from developing countries.

3 Strategic considerations and justification

3.1 Context for the programme and development engagements

The Climate Technology Centre and Network (CTCN) serves as a trusted technology partner, matching developing country needs for climate change-related technology equipment, methods, capacity development and policy advice with world-class expertise through a distributed model that includes a Global Network of over 500 technology experts from academia, civil society, finance, the private sector and research institutions, 160 national climate technology focal points, the technical resources of the UNEP and UNIDO, and a secretariat headquartered at UN City in Copenhagen.

The CTCN provides assistance for a full range of technology needs, including supporting technology innovation, markets, transfer, and upscaling as well as by strengthening enabling environments through policy, planning and regulatory guidance.

The CTCN implements its mission through three core services: 1) Providing technical assistance at the request of developing countries to accelerate the transfer of climate technologies; 2) Fostering collaboration and innovation among climate technology stakeholders via the Centre's network of regional and sectoral experts

from academia, the private sector, and public and research institutions; and 3) Strengthening climate change capabilities through knowledge sharing and capacity development. The three core services are described further below:

3.1.1 Technical assistance

The CTCN provides targeted technical assistance that helps developing countries to unlock transformational change in climate action and achieve their Nationally Determined Contributions, including through:
- Innovation support and facilitation of collaborative RD&D
- Development of decision-making tools and relevant information/data
- Technology identification and prioritization
- Feasibility of technology options & technology adaptation
- Sectoral roadmaps and strategies for NDC implementation
- Policy and regulatory guidance to create enabling environments
- Piloting and deployment of technologies
- Private sector engagement and market creation, and
- De-risking, upscaling, and financing.

These interventions come at the request of developing countries and are led at the country level by National Designated Entities (160 nationally selected technology focal points, usually based in national ministries of environment or energy). The CTCN provides bespoke assistance valued at a maximum of 250.000 USD per request. The average technical assistance costs 125.000 USD and is completed in 9-12 months. CTCN services are available to governments, civil society, and private sector institutions at the local, national and regional level.

3.1.2 A worldwide network:

In order to deliver timely mitigation and adaptation assistance to many countries, the CTCN leverages the expertise of the UN Environment Programme and UNIDO, along with a global network of **over 500 civil society, finance, private sector, and research institutions, as well as National Designated Entities from over 160 countries in the global South and North,** to provide customized technology solutions. The private sector comprises 48.8% of the Centre's Network.

In terms of private sector engagement, unlike many multilateral agencies who partner primarily with large companies, the CTCN collaborates with and contracts mostly small and medium-sized companies to provide its technical assistance and capacity development. Network member applications are thoroughly vetted by the CTCN, and the Centre utilizes the procurement services of UNIDO, as well as UNEP (via the United Nations Office at Nairobi), to contract its implementers from among the Network.

Network members benefit not only from the opportunity be contracted to deliver CTCN technical assistance and capacity development, but also from connecting with national decision makers, thought leaders and other Network members to expand partnership possibilities, learn about new markets, and gain greater visibility through the CTCN's global communication and knowledge sharing channels.

3.1.3 Knowledge sharing & capacity development:

The CTCN offers the **world's largest online source of climate technology information** (www.ctc-n.org), providing access to thousands of technology descriptions, case studies, national plans, publications, and webinars, searchable by sector and country. In addition, Network members can post their company's profile and information on products, services and other information. 2019 saw a 70% increase in visitors to the web portal over the previous year.

In addition, a broad range of capacity development workshops are organized to deliver practical training on adaptation and mitigation technologies, financing and enabling environments at three various levels:

1. Global Level: Through webinars and global events on specific topics on climate technologies. The webinars are often organized through the engagement of experts drawn from 550+ institutions which are members of the network of the Climate Technology Centre.

2. Regional level: Through the CTCN organized regional forums during periodic regional climate weeks, which provide opportunities for exchange of knowledge and best practices amongst the participants. By engaging a broad audience in regional forums and events, the CTCN provides opportunities for South-South-North knowledge sharing, new partnerships among diverse stakeholder groups, and building pipelines for technology requests. In addition, a 3-day thematic training programme is periodically organized targeting specific sub regions and thematic topics as per the request from multiple countries.

3. National Level: Most of the technical assistance provided by the CTCN includes capacity development components to support the overall technology assistance. The CTCN provides capacity development support to civil society, private sector and public sector institutions. 12 Least Developed Countries have also participated in CTCN Incubator Programs, a capacity development initiative tailored to the needs of each LDC.

3.2   *Adaptation and mitigation objectives:*

Approximately half of the Centre's requests are mitigation-related (52.6%), while 26.5% focus on adaptation, and 20.9% have a combined adaptation *and* mitigation focus. In terms of mitigation, energy efficiency and renewable energy comprise the overwhelming number of country requests, at 35.9% and 26.1% respectively. Among adaptation sectors, water and coastal zone management comprise the largest area of requests with 34.6.%, followed by agriculture (21.8%).

3.3   *Strong partnerships for technology support:*

The CTCN engages in various partnerships to support enhanced technical assistance delivery to the countries it serves.

- ***The Adaptation Fund:*** The Fund announced this year that it had selected the CTCN and UNDP to jointly manage a new $10 million USD pilot innovation programme. The programme will foster adaptation innovation in developing countries, and will target a broad range of potential recipients, including non-governmental organizations, community groups, young innovators, and the private sector.
- ***Green Climate Fund:*** The CTCN supported more than 20 countries in the formulation of Green Climate Fund Readiness proposals in 2019, 16 of which have been approved thus far.
- ***Global Environment Facility (GEF):*** The GEF selected the CTCN as one of nine organizations (out of more than 400 submissions) to implement its Challenge Program for Adaptation Innovation. The CTCN will assist urban planners in mid-size cities to build their capacity to produce and fund climate resilient urban plans. In particular, the project will build an understanding of possible financial tools and mechanisms for financing adaptation technologies and will build relationships between municipalities, the private sector, and national and international financial markets and infrastructure funds.
- ***NDC Partnership Climate Action Enhancement Package (CAEP):*** The CTCN is supporting seven countries through this mechanism. Some CAEP funds will be provided to the CTCN for technical assistance implementation, while the CTCN will co-finance, and in some cases completely finance, the remainder of individual technical assistance costs.

4 Cross-Cutting Issues: Gender and Youth

In 2019, the CTCN updated its Gender Policy and Action Plan to guide operations of its core services for the period 2019-2022. The implementation of the gender policy and action plan is overseen by the CTCN Knowledge, Gender and Communications Manager who works proactively to build the capacity of the CTCN Secretariat as well its Network implementers to incorporate gender mainstreaming into the CTCN work programme. The CTCN also strives to generate greater awareness of the important relationship between gender, climate change and technology among the broader climate change community.

The Centre collaborates with women's organizations from around the world to identify and share best practices and offer capacity development, publications and a Gender Hub on the CTCN web platform which provides over 700 gender and technology-related publications, tools and case studies. The CTCN also co-hosts a global Gender-Just Climate Solutions awards programme to highlight innovative climate change solutions with a strong gender dimension. Programme winners receive intensive mentoring on up scaling their initiatives through technology, finance, and advocacy. For example, the 2018 winner Bhungroo was empowered through the workshop to develop a new funding structure for dissemination of their water management technology through a franchise system. As a result, they have increased the reach of their technology four times since last year and now provide thousands of farmers across India with the ability to better manage their water supply. In December 2019, the UN Framework Convention on Climate Change Conference of Parties (COP25) recognized the CTCN for its leadership on gender and climate change action.

The CTCN has increasingly engaged young people in its technology work over the last few years, with the goals of both offering technology services to youth and also providing young people with a platform to share their insights and role in climate change technology development and use. In 2019, the Centre developed a joint workplan with the UNFCCC Youth Constituency, YOUNGO, which represents youth-led organizations, delegations and young individuals working on climate change. As part of this collaboration, YOUNGO and the CTCN organized a joint workshop at COP25: "When youth creates its own future: a focus on climate technologies".

5 Results and learnings from previous cooperation

The intended outcome of Denmark's funding for the CTCN from 2016-2018 was that the capacity and capabilities of developing countries to identify technology needs; prepare and implement technology projects and strategies to support action on mitigation and adaptation; and to enhance low emission and climate-resilient development was increased. The targets and achievements were as follows:

Year	Target	Achieved
2016	6 new country driven technology actions designed, implemented and scaled-up	9 new country driven technology actions designed, implemented and scaled-up
2017	17 new country driven technology actions designed, implemented and scaled-up	24 new country driven technology actions designed, implemented and scaled-up
2018	30 new country driven technology actions designed, implemented and scaled-up	59 new country driven technology actions designed, implemented and scaled-up
2019	N/A Danish funding completed	64 new country driven technology actions designed, implemented and scaled-up

Overall, the CTCN has delivered 189 technical assistance interventions in 101 developing countries over the past 6 years. In 2019, the CTCN saw assistance requests from countries increase by 250%. The Centre also received a record increase in multi-country requests. Such requests create opportunities for harmonized regional alignment of policies, regulatory environments, larger markets, and achieves economies of scale for the CTCN in terms of efficient delivery.

The CTCN has delivered on all 17 SDGs, with Climate action (13), Affordable and clean energy (7), Decent work and economic growth (8), Industry, innovation and infrastructure (9), Sustainable cities and communities (11), and Clean water and sanitation (6) being the top areas of engagement. The Centre has also directly contributed to the implementation of Nationally Determined Contributions of the countries it serves.

The CTCN successfully leveraged its original funding of 60 million USD to 922 million USD in projected additional investment in developing countries for implementation of climate technology projects. 90 million people are expected to benefit from the outcomes of CTCN technical assistance and it is estimated that 11,800,000 tonnes of CO_2 eq. will be reduced per year.

Examples of CTCN technology collaboration include the following:

Access to resilient housing and safe drinking water in Bangladesh

Access to safe drinking water and adequate shelter are necessary for basic survival. Yet in Bangladesh, saline water intrusion in coastal areas is increasing due to cyclones, floods, and sea level rise, while freshwater flow is gradually decreasing. As a result, a growing area of land is becoming saturated with saline water, and potable water is becoming scarce. Approximately 38 million people face displacement due to water scarcity and housing that is not able to withstand such extreme weather events. By working together with local stakeholders to consider the socioeconomic contexts, the CTCN identified the most promising and low-cost climate-resilient housing technology solutions for local conditions, as well as household level saline water purification technologies. Uptake of these technologies was supported by community-level training, identification of future pilot projects and securing funding from the government of South Korea to scale up of the project to other coastal communities. **This technical assistance contributed to:**

- **SDGs** 1 (No poverty), 5 (Gender equality), 6 (Clean water and sanitation), 10 (Reduced inequalities), and 13 (Climate action); and
- **Bangladesh's Nationally Determined Contribution** to develop climate resilient housing, and its recognition of water security as a key area in which to address the adverse impacts of climate change.

Green the refrigeration and cooling sector in Ghana

The refrigeration and air conditioning (RAC) sector holds an enormous mitigation potential in numerous countries. However, many countries face institutional, regulatory, and technological challenges in their efforts to transition to greener cooling systems. Ghana's hot climate, high population growth, rapid urbanization, widespread electrification, and expanding middle class increase the demand for cooling equipment significantly. Additionally, high leakage of synthetic refrigerants during use or at the end-of-life of equipment contributes considerably to greenhouse gas emissions. In 2014, the cooling sector in Ghana caused GHG emissions of ca. 3.66 Mt CO2eq – a figure that is projected to increase to almost 11 Mt CO2eq by 2030 under a business-as-usual scenario. Ghana's goal in the fight against climate change includes transitioning the refrigeration and cooling sector towards more climate friendly technologies.

Working with the Ghana Environmental Protection Agency, the CTCN laid the foundations for a transformational change towards sustainable cooling by providing the technology information and policy options. Refrigeration and cooling technology inventories, technology gap and policy analyses were conducted, and the findings from these served as a basis for the development of a country specific refrigeration and cooling sector roadmap.

Other African countries, such as Kenya, Namibia, and Mauritius, also engaged in similar CTCN collaboration. The CTCN gathered the participating countries together to support the regional exchange of experiences, alignment of policies to increase the market share of low global warming potential and energy efficient cooling appliances. 300 private sector representatives from among the four countries participated in the technical assistance.

The phase-out of fluorinated gases along with the increase in energy efficiency in the RAC sector facilitate the achievement of ambitious national determined contributions, which serve as the basis of global GHG savings. Advancement through this technical assistance is especially expected in climate change mitigation, in productive and sustainable employment in the RAC sector, as well as in inclusive and sustainable industrialization through innovative and environmentally sound RAC technologies. By implementing the proposed roadmap, Ghana will avoid 5.66 Mt CO2eq, which is about half of BAU emissions, by 2030. With guidance from the CTCN, Ghana has now submitted a proposal for approximately $ 42.5 million USD in funding to the Green Climate Fund to enable implementation of the roadmap. Ghana is also serving as an example to other countries in the region, and there is great potential to replicate this initiative as the number of refrigeration and cooling appliances is estimated to more than double in Africa by 2030.

Developing curriculums for innovative technology design in Botswana, Kenya, Malawi, Tanzania, and Uganda: Knowledge is often enhanced by sharing experiences across geographic and professional perspectives, a process that can lead to new models for developing solutions. In Tanzania, the CTCN collaborated with The Index Project (Denmark) to organize a training programme on design thinking for technology innovation. University professors and National Designated Entities from five African nations participated and were trained in teaching design for innovation curriculums. By providing tools to address local climate challenges, developing endogenous technology solutions, and strengthening links between academia and government, the training supported participating countries' national systems of innovation and led to the creation of three viable adaptation and mitigation technology prototypes. **This capacity development contributed to:**

- **SDGS** 4 (Quality education), 8 (Decent work and economic growth), 9 (Industry, innovation, and infrastructure), and 13 (Climate action);

- **The Nationally Determined Contributions of Botswana, Kenya, Malawi, Tanzania, & Uganda** to support systems of innovation, technology development and transfer

"I found the training during the design thinking workshop extremely useful for my work at Makerere University. Our goal is to increase access to modern types of energy for the East African region. The design for technology innovation training presented me with practical approaches and templates within a comprehensive guide that can be adapted to facilitate design thinking in our context. I currently use the guide to carry out similar trainings within our research and development network. I am thankful to CTCN, INDEX and the Uganda National Council for Science and Technology for the opportunity."

-Professor Mary Suzan Abbo, Centre for Research in Energy and Energy Conservation, Makerere University, Uganda

Danida Review in 2018

DANIDA undertook a review of the CTCN's operations in early 2018 at the request of the Ministry of Foreign Affairs Department for Multilateral Cooperation, Climate and Gender Equality, with the overall objective of providing the basis for decisions on future Danish cooperation with CTCN. The review found the CTCN to be relevant in the global context and with regard to Danish development cooperation priorities. The review also included a series of recommendations which have since been implemented by the CTCN, as follows:

2018 DANIDA Recommendation	Follow up by CTCN
1: CTCN should finalize and implement a realistic resource mobilization strategy with clear yearly targets for each service area.	The CTCN prepared and presented a Resource Mobilization Strategy to its Board in 2018. Since then, the strategy has been adjusted to align with current circumstances, and the CTCN intends to review and update the strategy in 2021.
2: CTCN should finalize the planned Work Programme 2018-2021 for endorsement by the Advisory Board	Following the COP agreement on a Technology Framework to support the Paris Agreement at COP24, the CTCN Advisory Board approved the CTCN's new Theory of Change and Programme of Work for 2019-2022, which is strongly aligned with the Technology Framework.
3: Development partners should carry out a joint/coordinated appraisal based on a new Draft Programme of Work 2018-2021	An appraisal will be conducted by the UNFCCC in late 2020, and initial discussions have begun regarding a joint appraisal by development partners in 2021.

4: CTCN should consider elaborating a more uniform and systematic annual report to the Advisory Board	The CTCN has presented an annual report to its Advisory Board for the last two years (2019 & 2020), demonstrating how it has met its Annual Operating Plan.
5: CTCN should further strengthen the good effort to prepare and make publicly available, the TA closure reports	The CTCN continues to publish its technical assistance closure reports, as well as sharing request and planning documents, budgets, implementers & deliverables.
6: CTCN should consider making representative reviews or tracer studies to assess outcome and impact of TA projects	In 2018, the CTCN began to conduct post-facto interviews on the outcomes of selected technical assistance interventions and continues to follow up with National Designated Entities in this regard.
7: CTCN should update its templates for TA project requests, response plans, closure reports, and NDE feedback	The CTCN has updated several TA-related templates to incorporate indicators from the update M&E framework and to create French and Spanish versions of the documents.
8: CTCN should more systematically report on results in all its three core service areas	The Centre undertook a comprehensive analysis of its M&E system in 2019, revising it and aligning the system to the objectives outlined in its Work Programme and the UNFCCC Technology Framework.
9: Future Danish support should be based on the new CTCN 2018-2021 Programme of Work as endorsed by the 12th meeting of the Advisory Board	The CTCN's work is guided by its endorsed 2019-2022 Programme of Work.

6   Brief summary of the context analysis

Climate change is considered one of the greatest threats to global development and stability in our time, with potentially dire impacts to food systems, livelihoods, and human safety. Indeed, according to the UNDP 2019 Human Development Report, climate change has the potential to trigger political instability, further entrench inequalities and drive back many of sustainable development's achievements attained in previous decades. Addressing climate change will not only avoid negative consequences, however. It also presents a huge opportunity to improve health, reduce inequalities, create growth in "green" jobs and improve economic competitiveness, while ensuring cleaner air and more secure supplies of energy and other vital resources. Likewise, incorporating gender and multi-generational considerations will result in more inclusive and sustainable outcomes which further improve equality.

Technologies are considered vital to building climate-resilient societies, transitioning to low-carbon economies, and bridging an ever-expanding reliance on modern technical know-how in order to compete in the global marketplace. An overwhelming number of developing countries' Nationally Determined Contributions indicate a requirement for technology support and capacity development in order to implement their commitments. Many of the necessary technologies exist already. The real challenge is to get them where they are needed, to adapt them and to scale up. To do this requires a global effort to coordinate the delivery of tools, skills, knowledge, and financing between those with specific needs and those that can fulfil them. Support for innovation and de-risking ambitious efforts will help to fill gaps and raise impact. A strong facilitation system, participation of the private sector, and trust are key factors for success.

The interlinkages between climate change and sustainable development are strong. The programme's aim is to support developing countries to implement their Nationally Determined Contributions and other key

climate change planning documents in order to meet global goals for low-carbon, climate resilient economies and sustainable development.

The number of world's population living in fragile and conflict affected countries is increasing due to a combination of factors, including threats posed by climate change. Programme activities that include a focus on gender equality, youth educational and employment generation and private sector development together with the primary climate change focus have the ability to contribute to increased resilience in countries.

Climate change and efforts to address it have the potential to affect women, men, and youth in different ways. For example, entrenched and systemic discrimination can make some women and girls more vulnerable to climate change with respect to health, food security, livelihoods and human mobility while excluding women and youth from climate action makes it less effective and can further exacerbate climate harms.

By encouraging implementation with adherence to human rights principles of participation, accountability, non-discrimination, and transparency, and supporting the meaningful and informed participation of women and youth in relevant decision-making processes and activities, the programme will ensure more inclusive, effective and impactful climate change and sustainable development outcomes.

The capacity of the public sector to plan and implement national climate change goals and commitments varies widely across developing countries but is a crucial factor in promoting and facilitating climate change action at the national and local level. The programme will provide support to developing countries to build institutional capacity to identify technology priorities, strengthen enabling environments, make informed decisions, and provide economic incentives in order to transition to a low-carbon and more climate resilient society.

Overall, the proposed programme is closely aligned to Denmark's interests and areas of expertise and offers considerable opportunity for Danish companies and organizations to engage in climate change and technology work in developing countries.

The analysis demonstrates that there a wide range of stakeholders interested in or potentially positively affected by the programme. Among the stakeholders, the Climate Technology Centre & Network offers the best overall prospect for partnership, given their considerable experience, global adaptation and mitigation focus, efficient multi-stakeholder technology broker implementation model, strong oversight and engagement of 3 key UN agencies, and ability to provide bespoke assistance to developing countries in overcoming technology, capacity, and financial access challenges in order to unlock more transformational climate outcomes and NDC implementation.

6.1   *Strategic objectives*
The strategic objective is to ensure that the aim of the Paris Agreement's Technology Framework is achieved by supporting accelerated, diversified and scaled-up transfer of environmentally sound technologies for climate change mitigation and adaptation in response to developing country requests and in line with their climate change and sustainable development priorities.

6.2   *Considerations about Danish strengths, interest, and opportunities for engaging Danish public, private and civil society actors.*
This project aligns closely with Danish priorities and strategies including the strategy for development cooperation and humanitarian assistance and the Government strategy on long terms global climate action, that emphasize ambition, emission reductions, adaptation, and resilience, greening funding and engaging the private sector as cornerstones. It is aligned with Danish strengths and interests, given that it is highly engaged

on both mitigation and adaptation assistance in developing countries, particularly in the areas of energy, water, and agriculture. The technical assistance and capacity development contributes directly to the efforts of partner countries to fulfil and raise ambition on the implementation of their Nationally Determined Contributions to the Paris Agreement. The programme facilitates innovation in technology development as well strengthening technology collaboration between academic, civil society, private and public sector. This includes strengthening enabling environments to support technology development, markets, and transfer.

The CTCN's Network model also creates numerous and substantive opportunities for Danish public, private and civil society actors to engage in the following ways:

- Access to tendering prospects for delivery of CTCN technical assistance services. Danish companies and organizations, such as Danfoss, Danish Energy Management, Ecology Management, Grue + Hornstrup, KenTec, Niras, Quercus Group, Ramboll, The Index Project, UNEP DHI Partnership Centre on Water and Environment, and the UNEP-DTU Partnership have developed knowledge resources, led workshops and/or provided technical assistance as part of the CTCN's global Network. In total, Danish companies and institutions have been contracted to provide services amounting to over 24.538.363 DKK and delivered technology assistance in 23 countries.
- Networking opportunities with national decision makers, global thought leaders, companies and organizations to expand partnership opportunities and learn about emerging activities and areas of practice in key sectors.
- Opportunities to increase synergies between Danish bilateral programmes and multilateral engagement and CTCN engagement notably at country level.
- Ability to broaden organization's or company's visibility through CTCN communications channels and events. For example, the CTCN hosts a highly visited web platform where Danish companies and institutions can share information on relevant services, products, and case studies. Several countries, such as Sweden and Japan, have already created automatic links to the CTCN site from their own green tech platforms in order to promote clean tech SMEs. This presents a similar opportunity to State of Green and other relevant Danish associations. The CTCN also offers to promote new government and private sector publications, case studies, and events through its extensive social media channels, as well as the opportunity to produce collaborative webinars on the CTCN web platform.

7   Adherence to the aid effectiveness agenda

In terms of developing country priorities in the context of climate change, one area where similarities in Nationally Determined Contributions are particularly evident is the call for technology transfer and capacity development. The majority (74%) of developing country NDCs identify the need for technology transfer as a means of international cooperation to help meet their targets.

The project adheres to the aid effectiveness agenda in that technical assistance is provided at the request of developing countries for adaptation or mitigation support in alignment with national climate change plans, policies, or commitments. The work will be carried out by the Climate Technology Centre and Network, the technology implementation arm of the UNFCCC which is co-hosted by the UN Environment Programme and the UN Industrial Development Organization.

Justification of programme design based on the five quality criteria; relevance, impact, effectiveness, efficiency, and sustainability:

- *Relevance:* The selected programme is fully aligned with the above listed Danish strategies as well as the goals of the Danish Climate Envelope. Its aim is to assist developing countries to transition to a low carbon and climate resilient economy; better adapt to climate change; and implement their Nationally Determined Contributions.

- **Impact:** The CTCN is serving 100+ developing countries at their request. The Centre has successfully leveraged its original funding of 60 million USD to 922 million dollars in additional investment for implementation of climate technologies in developing countries with 90 million anticipated beneficiaries. Its environmental impact is estimated to be 11,800,000 expected tonnes of CO_2 eq. education per year.
- **Effectiveness:** The CTCN serves as a trusted broker to developing countries by mobilizing a global network of technology, finance, policy, private sector and capacity development experts (including multilateral organizations such as the GCF, GEF, Adaptation Fund, & NDC Partnership) to help countries identify challenges, prioritize needs, and expedite tailored combinations of services to deliver technology, policy, regulatory, finance and/or capacity related solutions so that countries can move more quickly forward in terms of meeting their climate change and development goals. Energy, water and agriculture are key areas of demand in terms of the requests the CTCN receives from developing countries and are therefore the primary sectors of assistance for the Centre. The CTCN provides technology assistance for a full range of developing country needs, including supporting technology innovation, markets, transfer, and upscaling as well as by strengthening enabling environments through policy, planning and regulatory guidance.
- **Efficiency:** The CTCN, operated by a small Secretariat based in Copenhagen, utilizes multilateral partnerships and a global network of technology expert institutions to efficiently respond to a broad range of climate technology needs across more than 100 countries. The CTCN provides assistance of up to 250.000 USD. On average each technical assistance intervention is valued at 125.000 USD and is completed in 9-12 months.
- **Sustainability:** The CTCN, as the implementation arm of the Technology Mechanism, is a core component of the UN Framework Convention on Climate Change. It is hosted by the UN Environment Programme and UNIDO.

8   Theory of change and key assumptions

The Theory of Change is based on the CTCN Programme of Work 2019-2022 and is organized to align CTCN activities to feed into the 5 themes of the Paris Agreement's Technology Framework, through delivery of the CTCN's three key service areas (technical assistance, capacity development and knowledge sharing, and networking). The CTCN's programme of work is based upon the following theory of change:

1. Transfer and deployment of new and existing technologies in developing countries for implementation of Nationally Determined contributions and National Adaptation Plans implementation **will lead to**,
2. Climate change resilient development and reduction of greenhouse gas emissions in developing countries, **resulting in,**
3. Transformational changes envisioned in Article 10, paragraph 1 of Paris Agreement

The diagram on the following page displays the CTCN's Theory of Change in greater detail and should be read from right to left to identify the long-term goals and impacts, and then work back from these towards the outcomes that must be in place for the goals to occur, and finally to the outputs and activities that together lead to these outcomes.

Drivers and Assumptions: The Theory of Change outlines key processes that affect change along the sequential pathways of the Technology Framework. The contributing factors that the CTCN has a certain level of control over or can indirectly influence, are called 'drivers'; they are noted as arrows with descriptive text between outputs, outcomes and impacts.
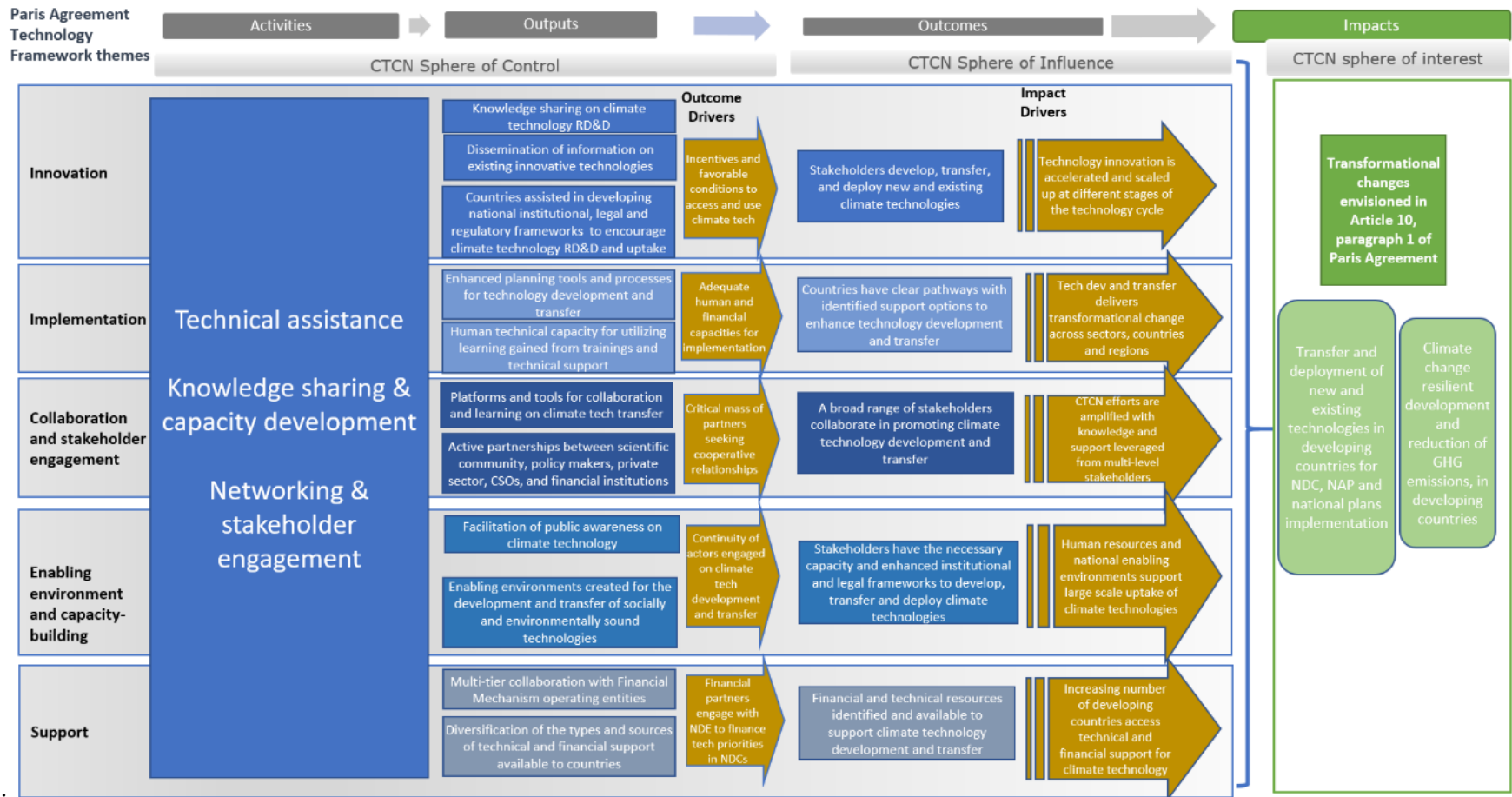
Diagram 1: CTCN Theory of Change

The influence of external stakeholders and actors on the drivers is critical to ensure that the outcomes achieve the expected impacts. They outline factors such as the level of engagement with countries; human and other resources needed for large-scale action; the influence of multiple stakeholders; transformational change across sectors, regions and countries; and finally, research, development and demonstration (RD&D) and innovation upscale. The main assumptions are as follows:

- The CTCN secures reliable funding to undertake its operations
- Sufficient human capacity among CTCN, NDE, other stakeholders to undertake the programme of work
- Private sector engagement on RD&D and climate tech transfer
- International and national level political will for RD&D and incentives supporting technology transfer
- The UNFCCC remains a key body for facilitating and supporting global climate change technology development, transfer, and deployment

The main risk factors include:

- COVID 19 pandemic continues and climate becomes a low priority for the country (medium likelihood)
- NDEs unable to fulfil their roles due to lack of capacities and shift in institutional priorities to bodies under financial mechanism (medium likelihood)
- UNFCCC COP28 will modify mandate of the CTCN (low likelihood)
- Government will introduce policies that change development priorities (low likelihood)
- CTCN outputs which create enabling environment for technology scale up are reversed due to change in national political affiliations (low likelihood)

For a full list of potential risk factors, please see Annex 5 Risk Management Matrix.

9 Project Objective and summary of results framework

The objective of the development cooperation among the parties is to ensure that the aim of the Paris Agreement's Technology Framework is achieved by supporting accelerated, diversified and scaled-up transfer of environmentally sound technologies for climate change mitigation and adaptation in response to developing country requests and in line with their climate change and sustainable development priorities. Danish funding is ear-marked to ODA eligible countries.

For DANIDA's reporting purposes, the following key outcomes (directly aligned to the Paris Agreement's Technology Framework) have been selected to document progress:

- Innovation: Intended stakeholders develop, transfer, and deploy new and existing climate technologies
- Implementation: Countries have clear pathways with identified support options to enhance technology development and transfer
- Collaboration & stakeholder engagement: A broad range of stakeholders collaborate in promoting climate technology development and transfer
- Enabling environment & capacity development: Stakeholders have the necessary capacity and enhanced institutional and legal frameworks to develop, transfer and deploy climate technologies

- Support: Financial and technical resources identified and available to support climate technology development and transfer.

The CTCN will deliver these outcomes through its three core service areas, namely technical assistance, capacity development & knowledge sharing, and networking activities. Upon receiving a request for assistance from a developing country's National Designated Entity, the Centre coordinates the development of a proposed plan to respond to the stated need, and then mobilises its Network members to deliver the requested technology, policy, regulatory, private sector, or finance solutions (or combination thereof).

The Results Framework (Annex 3) was developed based upon the CTCN's Theory of Change, CTCN Work Programme 2019-2022 and the related monitoring and evaluation system, which was thoroughly analysed and updated in 2019. Some of the key indicators included in the Results Framework are:

- Anticipated metric tons of CO_2 equivalent (tCO2e) emissions reduced or avoided as a result of CTCN technical assistance (disaggregated by annual and life of project)
- Anticipated number of direct and indirect beneficiaries as a result of CTCN technical assistance (disaggregated by mitigation, adaptation, and both)
- Number of technologies identified, transferred, or deployed as a result of CTCN support

The CTCN will report annually on its progress to the MFA at a date agreed upon in advance, including the Results Framework as well as qualitative and substantive data from its work.

The responsible MFA Unit will base the actual support on progress attained in the implementation of the engagement as described in the documentation. Progress will be measured through the Climate Technology Centre & Network's monitoring framework, which was updated in 2019 in order to further demonstrate the results of the CTCN's work to donors, the UNFCCC Conference of Parties and the developing countries that the Centre serves.

10 Inputs/budget

The Danish government contribution for this programme is 28.000.000 DKK. This amount will complement approximately 137.032.315 DKK in funding which has already been secured from other bilateral and multilateral donors. Other bilateral donors are EU, Japan, Sweden, South Korea and Austria. (See annex 4 for budget breakdown and overview of other donor contributions.)

The budget includes 7% for administrative costs according to the standard Danida rules for projects. In addition, and pursuant to paragraph 10(a) of United Nations General Assembly Resolution 72/279 of 31 May 2018, the government of Denmark agrees that an amount corresponding to 1% of the Contribution to UNEP shall be paid to fund the United Nations Resident Coordinator System.

The budget further includes DKK 0.84 M DKK for review and monitoring, which will only be transferred to UNEP in case a decision is made to make a joint donor review under UNEP management.

11 Institutional and Management arrangement

The Climate Technology Centre and Network is part of the United Nations Framework Convention on Climate Change Technology Mechanism (Diagram 1). Within this mechanism, the CTCN is considered the

implementation arm providing technical assistance, capacity development and knowledge sharing at the request of developing countries, while its sister, the Technology Executive Committee, reviews and provides recommendations on technology-related policies. The CTCN coordinates directly with National Designated Entities, national focal points for climate technology selected by each countries' government, to solicit and manage requests for assistance. It also ensures its accountability to the UNFCCC Conference of Parties through the oversight of the CTCN Advisory Board.

Diagram 1. The UNFCCC Technology Mechanism

In addition, the CTCN is hosted by the UN Environment Programme and the UN Industrial Development Programme, which are responsible for the Centre's operations, staffing and financial management. The CTCN's Secretariat is based in UN City Copenhagen, with additional support and technical staff based in various UNEP and UNIDO offices.

 The organigram (Diagram 2 on the next page) describes the CTCN leadership and staff structure. The regional managers work closely with each country's National Designated Entity and partner organisations to deliver technical assistance, capacity development and networking opportunities. The Knowledge, Gender & Communications Manager is responsible for the Centre's cross-cutting activities and ensures that lessons learned and knowledge sharing opportunities are transmitted globally. The Centre relies upon the technical and administrative expertise of staff from both of its host institutions, together with the ability to hire short term consultants as needed, to enable the CTCN to effectively deliver upon its mandate. The Climate Technology Centre mobilizes its global Network to provide specific expertise in response to countries' requests for support. The full Climate Technology Centre and its Network will be engaged in implementing the work funded by the Danish government. In terms of the management of the partnership between the Government of Denmark and the CTCN, this will be overseen on the Centre's side by the CTCN Director, Dr. Rose Mwebaza, and supported by the Knowledge, Gender & Communications Manager, Ms. Karina Larsen, and Finance Specialist, Ms. Nima Joshi. Other CTCN colleagues can be called upon to provide additional input as needed. The means of dialogue include email, phone/online meetings, and in-person meetings.
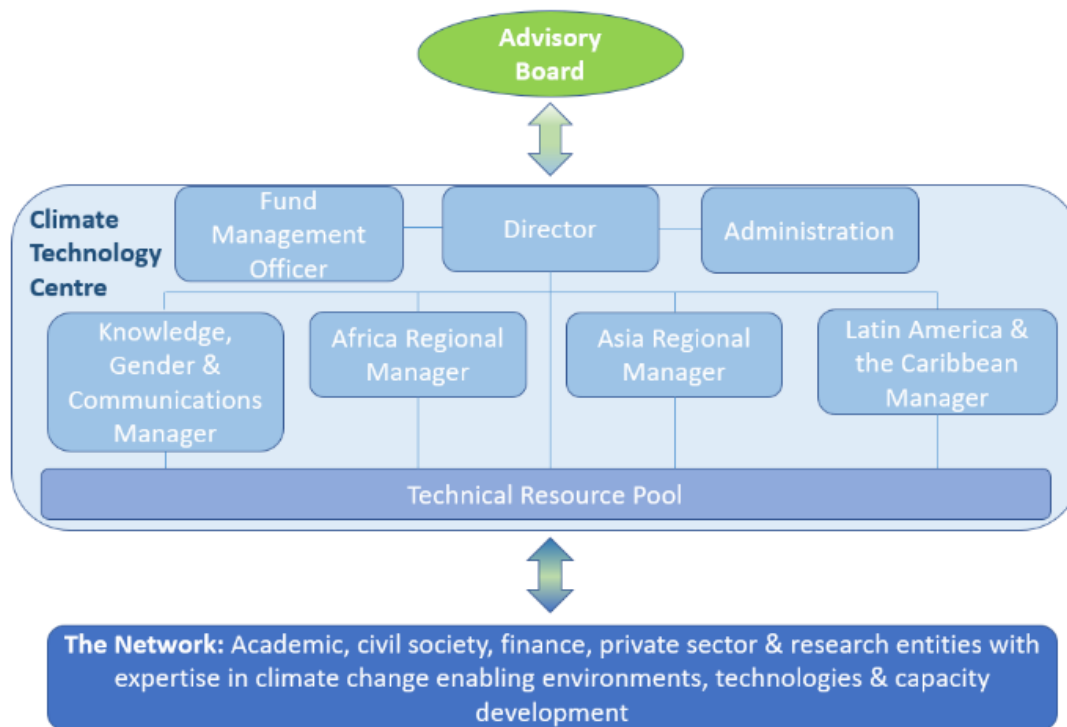
Diagram 2. The CTCN's organigram

In addition, an annual meeting between the MFA's Department for Green Diplomacy (GDI) office and CTCN leadership in order to discuss progress and . The meeting will be held in connection with the spring meeting of the Advisory Board in March/April , where reporting from the previous year must be available.

Furthermore, CTCN must provide Danida with the annual workplans (as approved by the Advisory Board on the autumn session) as well as an updated Results Framework based on the annual plan and with updated indicators for the year as relevant. This documentation must be made available to Danida by the end of the previous year.

Anti-corruption measures

The overall governance and management of the CTCN is structured according to decisions made by the UNFCCC Conference of the Parties (COP) and are detailed in a Memorandum of Understanding[1] (MoU) between the COP and the United Nations Environment Programme, as leader of the CTCN's Consortium, regarding the hosting of the Climate Technology Centre. UNEP hosts the Centre as a dedicated entity within UNEP consistent with UNEP regulations, rules, procedures, UNEP Governing Council decisions, and the provisions of the host agreement. As such, administrative, reporting, and contractual aspects are managed by UNEP.

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1 Decision 14/CP.18, Annex I

In addition, the CTCN is accountable to the UNFCCC Conference of the Parties through the CTCN's Advisory Board. The Advisory Board meets twice per year and provides direction on the CTCN's fulfilment of the COP's guidance. The Board is composed of government representatives from developed and developing countries, as well representatives of financial institutions under the UNFCCC, and representatives from official UNFCCC business, research, and non-governmental constituencies. Among the roles and responsibilities specified in the Advisory Board's Terms of Reference, the Board determines the CTCN's operational modalities, provides overall guidance, and reviews and approves substantive and financial reports, annual operating plans, and budgets on a yearly basis. All such reports are also made publicly available on the CTCN's website, www.ctc-n.org.

The CTCN does not conduct fund transfers to partner countries and hence, anti-corruption measures in the partner countries are focused on the process of tendering, award, or execution of contracts with local consultants. Procurement of goods and services is conducted via the procurement systems of UNEP and UNIDO and are subject to the guidelines and regulations of these two organizations. Attention is given to detecting that no offer, payment, consideration or benefit of any kind, which could be regarded as an illegal or corrupt practice, are made, promised, sought or accepted - neither directly nor indirectly - as an inducement or reward in relation to activities funded under the CTCN in the partner countries. Any such practice will be grounds for the immediate cancellation of the engagement or parts of it, and additional action, civil and/or criminal, as may be appropriate. Similarly, the same measures shall be exercised towards CTCN in any tendering, award, or execution of contracts with local and international consultants.

Communicating results
The CTCN employs a Knowledge & Communications Manager and communications specialist to conduct the Centre's communications, outreach and knowledge sharing activities. The CTCN utilizes its own website, events, annual Progress Report, reporting to the COP, videos, and social media channels to generate awareness of the Centre's services, ensure visibility and transparency, communicate the results of its work to the countries it serves, its development partners, and host institutions. In addition, the CTCN utilizes the communications platforms of its host agencies, the UN Environment Programme and UNIDO, as well as that of the UNFCCC to further disseminate its communications.

12 Financial Management, planning and reporting
Management of the contribution and expenditures shall be governed by the regulations, rules, and directives of the UN Environment Programme. UNEP shall ensure that the contribution is recorded in the accounts of UNEP and reported together with all other funds to the CTCN Trust Fund.

The CTCN is mandated to serve countries classified as Non-Annex I countries by the UN Framework Convention on Climate Change. This classification includes a few countries that are not represented on the OECD Development Assistance Committee's list of overseas development assistance recipients. The CTCN therefore commits to ensure that no Danish funds will be utilised in the delivery of assistance to non-ODA countries and will document this in its reporting to the Ministry of Foreign Affairs.

During November of each year, the status of progress, including the substantive and financial reports, for the previous year will be provided to the MFA. Within six months after the date of completion or termination of

the Agreement, a final report summarizing activities and impact of activities as well as financial data will be delivered.

The MFA will receive annual audited accounts for the Danish grant from UNEP. The audited accounts must specify both payments and expenditures of the Danish grant. Expenditures must be specified with at least the same degree of detail as in the budget.

Upon completion of the grant any unspent funds must be returned to DANIDA. Interest accrued on the Danish grant will not be calculated separately and thus not returned to the MFA, rather CTCN will strive to ensure that disbursement requests to the MFA match liquidity needs for activities in the best possible manner.

The responsible MFA unit shall have the right to carry out any technical or financial mission that is considered necessary to monitor the implementation of the programme. After the termination of the programme support, the Denmark (responsible institution) reserves the right to carry out evaluation in accordance with this article.

13 Risk Management

The contextual risk for this programme is that the UNFCCC COP28 will modify the mandate of the CTCN. The likelihood for this is low. The CTCN is the main implementation body of the UNFCCC and the CTCN Secretariat is closely monitoring the climate negotiations on technology. The CTCN has developed a robust monitoring and evaluation system which enumerates the positive impact of CTCN assistance to the countries in line with the COP mandate.

The main programmatic risk is that the COVID 19 pandemic continues and climate becomes a low priority for given countries. The CTCN has conducted the analysis of the impact of COVID-19 on the delivery of its services and is adopting alternate ways of adapting and continuing work through extensive use of digital technologies.

Institutional risks are related to the capacity of the National Designated Entities (NDEs). In terms of responding to this risk, the CTCN consistently provides capacity building and knowledge sharing for NDEs and works with the bodies of the UNFCCC Financial Mechanism to maintain a close coordination among relevant focal points at the national level regarding relevant initiatives such as GCF implementation, NDCs, National Adaptation Plans, GEF implementation, etc.

Please see the detailed risk matrix in the annex.

Annex 1: Context Analysis

CTCN Programme: Strengthened NDC Implementation through technology, enabling environment, and capacity building support

1. Overall development challenges, opportunities, and risks

Briefly summarise the key conclusions from the analyses consulted and their implications for the programme regarding each of the following points:
Climate change and gaps in technology access & skills have the potential to drive back previous development and equality achievements if not addressed adequately. Rapid technological progress is paving the way for green solutions, as seen with the falling cost of renewable energy to competitive levels, but these advances will not occur fast enough on their own. The magnitude of the response must match its scale and valuable opportunities exist to accelerate progress by leveraging interlinkages across key development goals. The programme will utilise the established framework of the Sustainable Development Goals and the Paris Agreement to assist developing countries in meeting their climate change commitments.

- **General development challenges including poverty, equality/inequality, national development plan/poverty reduction strategy, humanitarian assessment.**

Four years since the adoption of the Sustainable Development Goals, the 2019 SDG Report notes progress in some areas, such as on extreme poverty reduction, widespread immunization, decrease in child mortality rates and an increase in people's access to electricity. Just as the gap in these basic living standards is narrowing globally, a new generation of global inequalities fuelled by the effects of climate change and lack of technologies and related skills could trigger a backslide on previous SDG achievements if left unchecked. The climate crisis is already hitting the poorest hardest, while technological advances such as artificial intelligence and access to green technologies threaten to leave behind entire groups of people. These issues may also serve to further entrench gender inequalities as well as the ability of young people in developing countries to attain stable and supportive livelihoods. However, valuable opportunities exist to accelerate SDG progress by leveraging interlinkages across key development goals. For example, reducing greenhouse gas emissions can create new jobs, build more liveable cities, and improve health and prosperity for all.

- **Development in key economic indicators: GDP, economic growth, employment, domestic resource mobilisation, etc.**

Over the past two decades, the number of poor people in the world has been halved as the number of poor countries has declined. In 2001, 65 countries were classified as low-income countries by the World Bank. By 2015, this number had declined to 31. In these same countries, the unemployment rate was 5.5% in 2019. However, COVID-19 has created an abrupt impact on the world's economies. Among emerging market and developing economies, real gross domestic product growth in April 2020 was -1, down from 3.7 in 2019.

- **Status and progress in relation to SDGs, in particular those that are special priorities for Denmark.**

Affordable and clean energy (7)
Access to electricity in the poorest countries has begun to accelerate, energy efficiency continues to improve, and renewable energy is making gains in the electricity sector. Despite this progress, some 800 million people remain without electricity while access to clean cooking fuels and technologies need dedicated attention. In addition, if Sustainable Development Goals 7, 13 and related Goals are to be met, much higher levels of ambition are required with regard to renewable energy, including transportation and heating.

Climate Action (13)

With rising greenhouse gas emissions, climate change is occurring at rates much faster than anticipated and its effects are clearly felt worldwide. While there are positive steps in terms of climate finance flows and the development of nationally determined contributions, far more ambitious plans and accelerated action are needed on mitigation and adaptation. Access to technologies and strengthened capacities need to be scaled up at a much faster rate, particularly for least developed countries and small island developing States.

Goal No. 5 (gender equality)

While some indicators of gender equality are progressing, such as a significant decline in the prevalence of female genital mutilation and early marriage, the overall numbers continue to be high. Moreover, insufficient progress on structural issues at the root of gender inequality, such as legal discrimination, unfair social norms and attitudes, decision-making and low levels of political participation, are undermining the ability to achieve Sustainable Development Goal 5.

- **Political economy, including drivers of change (political, institutional, economic) (e.g. political will, CSO space, role of opposition, level of donor funding to government expenses, level of corruption, foreign investment, remittances, role of diaspora, youth, gender, discovery of natural resources or impact of climate change etc.)**

Economy: In general, governments, especially in developing countries, are trying to balance today's pressing needs with long term planning and risks. The COVID-19 pandemic is inflicting high and rising human costs worldwide, and the necessary protection measures are severely impacting economic activity. As a result of the pandemic, the global economy is projected to contract sharply by −3 percent in 2020. In a baseline scenario, which assumes that the pandemic fades in the second half of 2020 and containment efforts can be gradually unwound, the global economy is projected to grow by 5.8% in 2021 as economic activity normalizes, helped by policy support.

Sustainable development: At the same time, 2020 ushers in the ten-year countdown to deliver on the Sustainable Development Goals (SDGs) and is a crucial year for ensuring that policies, financing, and ambition align to reach the Goals by 2030. To be sure, the world has made substantial strides: The extreme poverty rate has fallen below 8%, the lowest recorded level in human history. For the first time since the start of the SDGs, the number of people in extreme poverty in Africa is decreasing. India, once a global hot spot for poverty, is now on track to end extreme poverty. Children around the world are living longer and healthier lives. The mortality rate in children under five has nearly halved over the last twenty years and more children than ever are receiving an education, getting necessary vaccinations, and drinking clean water. More people have access to electricity and nearly three-quarters of the world has essential health services. Despite these achievements, there are several important challenges ahead.

Climate change: Climate change is considered the defining crisis of our time and is happening even more quickly than anticipated. Rising temperatures are fuelling environmental degradation, natural disasters, weather extremes, food and water insecurity, economic disruption, and conflict. In addition, a growing global movement of young people impatient for change is pushing climate protection to the forefront global awareness. The 2015 Paris Agreement on climate change calls for holding warming well below two degrees Celsius, and for efforts to limit the increase even further, to 1.5 degrees. But if global emissions are not drastically diminished, temperatures could rise to above three degrees Celsius by 2100, causing further irreversible damage to global ecosystems.

Inequality: Inequality is at the heart of many of the gravest issues facing the world, including development, climate, and peace. It affects people and structures across societies and borders and threatens to thwart hard-fought development gains. A recent United Nations report shows that 20% of development progress was lost in recent years due to the unequal distribution of education, health, and living standards. Likewise, the World Economic Forum has calculated that it will still take women almost 100 years to reach gender equality. Exclusionary practices in security, justice, and politics are at the heart of many violent conflicts today. Indeed, it is

seen as a key factor in the rise of current protests around the globe. The 2019 Human Development Report stresses that inequality will be impacted by both climate change and technology in the near future, and therefore approaches to these issues must take into consideration issues of equality.

Technology: Technological advances can support and accelerate achievement of each of the 17 Sustainable Development Goals, from ending extreme poverty to combating climate change, promoting sustainable farming and decent work, and achieving universal literacy. But technologies can also threaten privacy, erode security, and fuel inequality if access to technology access and requisite skills are lacking.

Shifting Demographics: The world's population is expected to increase by two billion people, from 7.7 billion at present to 9.7 billion in 2050. In terms of migration, while the percentage of international migrants has remained around 3 per cent of the global population over the past two decades, their number has increased by more than half since 2000. At the same time, the number of people forced to flee their homes has risen sharply due to conflicts and could increase further due to climate change and environmental degradation.

Corruption: In terms of corruption, the 2019 Corruption Perceptions Index shows more than two-thirds of countries, along with many of the world's most advanced economies, are stagnating or showing signs of backsliding in their anti-corruption efforts.

List the key documentation and sources used for the analysis:
- Human Development Report 2019 http://hdr.undp.org/sites/default/files/hdr2019.pdf
- International Monetary Fund World Economic Outlook (April 2020) https://www.imf.org/external/datamapper/NGDP_RPCH@WEO/ADVEC/WEOWORLD/OEMDC
- The World Bank https://data.worldbank.org/indicator/SL.UEM.TOTL.ZS
- Sustainable Energy for All (SE4ALL) database from the SE4ALL http://data.worldbank.org/data-catalog/world-development-indicators
- EMDAT (2020): OFDA/CRED International Disaster Database, Université catholique de Louvain – Brussels – Belgium http://www.emdat.be/
- The 2030 Agenda file:///C:/Users/karina.larsen/Downloads/The%20World%202030%20%20Denmarks%20strategy%20for%20development%20cooperation%20and%20humanitarian%20action%20(2).pdf
- The Impact of Technologies https://www.un.org/en/un75/impact-digital-technologies
- 2019 SDG Report https://www.un.org/sustainabledevelopment/progress-report/
- United Nations Statistics Division https://unstats.un.org/sdgs/indicators/database/
- World Bank Country and lending Groups https://datahelpdesk.worldbank.org/knowledgebase/articles/906519
- World Economic Outlook, April 2020: The Great Lockdown https://www.imf.org/en/Publications/WEO
- UN Issue Brief: Inequality – Bridging the Divide https://www.un.org/en/un75/inequality-bridging-divide
- Corruption Perception Index 2019: https://images.transparencycdn.org/images/2019_CPI_Report_EN_200331_141425.pdf

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Are additional studies / analytic work needed? How and when will it be done?

List additional studies that will be carried out as part of the preparation phase, including studies that will be carried out jointly with others or by partners / other donors.

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2. Fragility, conflict, migration, and resilience

Briefly summarise the key conclusions and implications for the programme of the analysis of the below points:

The number of world's population living in fragile and conflict affected countries is increasing due to a combination of factors, including threats posed by climate change. Programme activities that include a focus on gender equality, youth educational and employment

generation and private sector development together with the primary climate change focus have the ability to contribute to increased resilience in countries.

- **Situation with regards to peace and stability based on conflict analysis and fragility assessments highlighting key drivers of conflict and fragility, protection and resilience, organised transnational crime, and illicit money flows and how conflict and fragility affect inclusive private sector development and women and youth**

In 2030, it is expected that 60% of the world's poor people will live in fragile and conflict-affected countries. Although wars between countries have been declining, violence within states is on
the increase. Over the last two decades, civil conflicts have more than doubled, increasing from 30 in 2001 to 70 in 2016. Such conflicts are concentrated in poor countries with a toxic combination of fragile institutions, inequality, discrimination, and social conflict. These factors, together with others such as the intensity of natural disasters, food crises, increasing threats posed by climate change, terrorism, and record numbers of displaced persons, are shaping a new international landscape. These challenges can place developing countries' hard-won development progress under pressure.

Key drivers of conflict and fragility:
Major causes of conflict and instability include political, economic, and social inequalities; extreme poverty; economic stagnation; poor government services; high unemployment; environmental degradation; and individual (economic) incentives to fight. Inequitable and non-transparent distribution of economic benefits, such as revenue from extractive industries, can also fuel conflict.

Factors which improve resilience and stability: To reduce the likelihood of conflict, it is essential to promote inclusive development; reduce inequalities between groups; protect natural resources, tackle unemployment; and, via national and international control over illicit trade, reduce private incentives for conflict. Gender equality also plays a prominent role in ensuring stability, as empirical data shows:

- o Gender equality is the best indicator for ensuring peace, over and above other parameters such as the country's level of democracy, wealth or religious or ethnic composition.
- o Countries with laws which discriminate against women (on issues such as marriage, custody, divorce or inheritance) are more likely to suffer from conflict or instability.
- o When women participate actively in the peace process, peace is more sustainable.
- o There is a positive correlation between the influencing capacity of women in peace agreements and the probability that such agreements will be reached and implemented.

- **How conflict and fragility affect inclusive private sector development and women and youth**

In countries plagued by violence and conflict, security risks and instability as well as lack of infrastructure, access to finance, and workforce skills can stunt private sector-led growth and job creation. Fragile and conflict-affected countries on average exhibit lower economic growth and higher rates of people in extreme poverty. Their economies are more concentrated in extractive industries and agriculture with high shares of informal employment. Many jobs are informal, typified by subsistence farming, family hiring, and self-employment in micro and small enterprises in urban areas. To overcome these challenges to inclusive growth and jobs requires strategies and interventions that sequence and prioritize support for private sector development. For example, human capital and infrastructure development, especially in the areas of electricity, transport, and water, are areas with strong linkages to private sector development.

Gender inequality, conflict and fragility are key challenges to sustainable development, and they are inextricably linked: women's active participation in conflict resolution contributes to peace and resilience, while unequal gender relations can drive conflict and violence. In terms of the impacts of conflict, women and youth are disproportionately affected. They are actively targeted as a tactic of war to humiliate, terrorize, punish, or forcibly displace them. Women

and girls are also disproportionately exposed to sexual violence during conflict. And, as more men die, more women and families are left destitute.

In fragile contexts, fundamental human needs continue to go unsatisfied. Young women are unsafe and exploited, children are malnourished and not able to attend school, and communities are divided and insecure. A major factor contributing to young people's vulnerability is also unemployment. In the absence of thriving businesses and decent jobs, young men and women are forced to work for

poverty wages. Vulnerable youth are more likely to be susceptible to violence, and to increase instability and irregular migration if the millions of young people entering the labour market every year cannot see a future for themselves.

- **Identifying on-going stabilisation/development and resilience efforts and the potential for establishing partnerships and alliances with national, regional, and other international partners in order to maximise effects of the engagements.**

On-going efforts of the Danish government include Somalia, Uganda, Niger, Mali and Ethiopia along with Syria and its neighbouring countries and support for the Peace and Stabilisation Fund and youth initiatives, particularly in Africa.

- **Issues and concerns of relevance to Danish interest in the area of security and migration.**

Humanitarian efforts should be accompanied by more long-term development cooperation, and prioritise efforts to improve children's education during protracted conflicts. Efforts to stem the rise of radicalisation and violent extremism in fragile states is also a priority. The Danish government also engages the private sector, encourages job creation and sustainable growth in developing countries.

- **Identify where Denmark has comparative advantages that may lead to more effective and efficient programming and better results including where Denmark may contribute with deployment of specific expertise and capacities.**

In the context of fragility, conflict, migration and resilience, Denmark maintains competitive advantages in the areas of gender equality, climate change, support for youth and private sector enagagement. Denmark is also among the world's leading humanitarian donors on a per capita basis.

- **Considerations regarding the humanitarian situation, migration, refugee and displacement issues, including the need to integrate humanitarian-development linkages and long term strategies;**

Drivers of migration include economic, demographic factors and environmental factors, and social and political dynamics. People may migrate to access better economic, employment and educational opportunities. Some migrate due to lack of access to fundamental human rights such as health, food or basic education, and due to discrimination, poverty or separation from family. They may move in response to crisis (both natural and human-made) and, increasingly, in response to environmental change.

Economic opportunities, demographics, poverty, and food insecurity are prime influencers in the migration decision-making process and interact to a greater or lesser degree to drive migration. A large number of countries identified as 'climate vulnerable' tend to experience high rates of emigration as well, so it is critical to consider existing environment and climate-related evidence when analyzing current migration patterns and estimating future flows. For example, in Africa, droughts and floods have led to increased reliance on migration as an adaptation measure. Over the past 20 years more than 10 million people in the region have been displaced due to environmental degradation and desertification.

- **Relevant issues and considerations related to radicalisation and violent extremism and the potential for Danish engagement to prevent and counter violent extremism (P/CVE)**

According to the UN, disarming the process of radicalization must begin with human rights and the rule of law, with dialogue across all boundary lines, by empowering all young women

and men, and by starting as early as possible. Two interlinked challenges must be addressed in the process: 1) the rise of violent extremism, using a development and peacebuilding approach firmly grounded within human rights principles, and 2) the need to govern increasingly diverse and multi-cultural societies, which requires attention to institutions, political and religious ideologies and people and promotion of human rights-based approaches. Efforts at preventing violent extremism are ultimately about strengthening cohesion in society as well as helping local actors reinforce their resilience to conflict and division. Priorities for engagement include:

1) education, skills development and employment facilitation
2) empowerment of youth
3) strategic communications, the Internet and social media; and
4) gender equality and empowering women.

List the key documentation and sources used for the analysis:

- The World 2030 Denmark's strategy for development cooperation and humanitarian action
- Root causes of violent conflict in developing countries https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1122271/
- The private sector in fragile and conflict-affected states, World Bank Group https://ieg.worldbankgroup.org/ieg-insights-private-sector-fragile-and-conflict-affected-states
- Hudson (2012). What Sex Means for World Peace
- Bowen, Hudson, Nielsen (2015). State Fragility and Structural Gender Inequality in Family Law: An Empirical Investigation.
- 8 Krause, J. Krause, W & Bränfors, P. (2018). Women's Participation in Peace Negotiations and the Durability of Peace 19 Paffenholz et al. (2016). Making Women Count
- Preventing Violent Extremism, UNESCO
- United Nations Joint Framework Initiative on Children, Youth and Climate Change, 2010, http://bit.ly/1FBQsfy
- A. Geddes, W. Neil Adger, N. W. Arnell, R. Black, and D. SG Thomas, 'Migration, environmental change, and the 'challenges of governance', Environment and Planning C: Government and Policy 30, no. 6 (2012), pp. 951-967
- 9 Emily Wilkinson, Lisa Schipper, Catherine Simonet, and Zaneta Kubik, 'Climate change, migration and the 2030 Agenda for Sustainable Development' (Overseas Development Institute: London, 2016); V20 Ministerial Communiqué 2nd Ministerial Dialogue of the Vulnerable Twenty (V20) Group (14 April 2016 – Washington)
- DAC International Network on Conflict and Fragility (INCAF): http://www.oecd.org/dac/governance-peace/conflictfragilityandresilience/
- World Bank - Fragility, Conflict and Violence: http://www.worldbank.org/en/topic/fragilityconflictviolence

Are additional studies / analytic work needed? How and when will it be done?

List additional studies that will be carried out as part of the preparation phase, including studies that will be carried out jointly with others or by partners / other donors.

3. Assessment of human rights situation (HRBA) and gender[2]

Briefly summarise the key conclusions and implications for the programme of the analysis of the below points:

Climate change and efforts to address it have the potential to affect women, men, and youth in different ways. For example, entrenched and systemic discrimination can make some

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[2] The purpose of the analysis is to facilitate and strengthen the application of the Human Rights Based Approach, and integrate gender in Danish development cooperation. The analysis should identify the main human rights issues in respect of social and economic rights, cultural rights, and civil and political rights. Gender is an integral part of all three categories.

women and girls more vulnerable to climate change with respect to health, food security, livelihoods and human mobility, while excluding women and youth from climate action makes it less effective and can further exacerbate climate harms.

By encouraging implementation with adherence to human rights principles of participation, accountability, non-discrimination, and transparency, and supporting the meaningful and informed participation of women and youth in relevant decision-making processes and activities, the programme will ensure more inclusive, effective and impactful climate change and sustainable development outcomes.

Human Right Standards (international, regional, and national legislation)
- **Identify the level of achievement of key human rights standards for the context you are working in.**

In the context of climate change, the Paris Agreement is the overarching global framework that outlines the climate change goals and obligations of member countries. Concluded at COP21 (2015), the Paris Agreement is the first international environmental agreement to refer specifically to human rights. Although the Paris Agreement is not a human rights treaty in the typical sense, it does help to mainstream human rights norms into the implementation of, and support for, global climate change actions. In addition, many multilateral climate finance mechanisms now incorporate social and environmental policies, safeguards, and monitoring systems to ensure better adherence to human rights responsibilities. However, many governments still need to strengthen their commitment and integration of human rights into climate change efforts at the national level.

- **Identify the most binding constraints on the intended target group in terms of human rights.**

Climate change presents one of the greatest threats to human rights, posing a serious risk to the fundamental rights to life, health, water and sanitation, food, and an adequate standard of living of individuals across the world.

- **Given the analysis of achievement of human right standards, establish what Denmark should prioritise in the proposed outcomes of the programme.**

An emphasis on both mitigation outcomes (in order to limit climate change) and adaptation outcomes (in order to create more resilient, stable societies in the face of climate change) should be prioritised for the programme. Specifically, a focus should be made on technology support and strengthened climate change policies, planning frameworks and information development.

Universal Periodic Review
- List recommendations from Council for Development Policy (UPR) relevant for the thematic programmes and from any treaty bodies, special procedures, INGOs, Human rights institutions etc. that require follow up by partners in the programme.

Identify key rights holders in the programme
Developing country citizens and the civil society organizations that represent them are the key rights holders.

Identify key duty bearers in the programme
Developing country governments, bilateral and multilateral donors, selected UN agencies, selected technology assistance providers are considered to be the duty bearers.

Human Rights Principles (PANT)

Participation
- **Identify barriers for participation, inclusion, and empowerment of rights holders.**

Potential barriers for participation include a lack of awareness of the availability of services, and a lack of means to communicate with national stakeholders as a result of geographical distance from capital cities, poor communications infrastructure, etc.

- **List key support elements included to promote participation and inclusion.**

Gender considerations are among the scoring criteria for technical assistance request prioritization. Coalition representatives of various constituencies (gender, indigenous, youth) are invited to participate in advisory board, informational and planning meetings. Efforts are made to generate visibility for knowledge and technology contributions of these aforementioned constituencies. Technology information and learning is available online, in multiple languages, and without cost. Participating developing country governments are encouraged to organize public consultation processes as part of the programme's technology-related policy and regulatory development interventions.

Accountability
- **Identify accountability mechanisms in the relevant area – both horizontal and vertical.**

Horizontal: The programme is accountable to three United Nations organizations, the UN Environment Programme, the UN Industrial Development organization, and the UN Framework Convention on Climate Change.

Vertical: The programme is accountable to the UNFCCC Conference of Parties as well an advisory board comprised of national representatives from the global South and North, as well as representatives of multilateral institutions and various constituency groups (incl. civil society, research organizations, & the private sector). Additionally, advisory board meetings are open to observers including gender, youth and indigenous constituencies, and meetings and documents are publicly accessible. National focal points based in national government or institutions hold the programme accountable for performance within each country. Bilateral and multilateral donors supporting the programme also monitor its financial and operational activities and outcomes.

- **List any key support elements included to promote accountability**

Surveys of national focal points and implementers are conducted, and their information disseminated. Capacity building is also regularly provided to national focal points, and guidance tools are provided to implementers.

Non-discrimination
- **Identify groups among rights-holders excluded from access and influence in the thematic programme areas identified.**

Technical assistance and capacity building services will be available to all institutions representing rights-holders, including academic centres, civil society, municipal governments, as well as private and public sectors. In addition, knowledge sharing services will be available to all interested individuals. Additionally, the programme will engage directly with coalitions representing groups at risk of marginalisation, including gender, indigenous populations, and youth constituencies. The monitoring and evaluation system will also include gender-differentiated indicators.

The programme is guided by the provision on human rights laid out in the Paris Agreement, the programme's institutional human rights infrastructure, and a gender policy and action plan specific to the programme. Additionally, implementers are required to provide disaggregated data. Online information is available in multiple languages. Finally, capacity building on inclusion of gender considerations has been conducted internally, for the advisory board, and for national focal points and gender mainstreaming tools and guidelines have been developed for processes such as technical assistance and Technology Needs Assessments.

- **Are disaggregated data available on most vulnerable groups?**

The programme will include gender-disaggregated data.

Transparency
- **Assess the extent to which information is accessible to rights holders including marginalised groups.**

The proposed programme will provide climate change technology information and learning opportunities via an online platform. Communication will also be provided directly to organizations representing potentially marginalised groups such as Gender and Women, Youth, and Indigenous Communities.

- **If relevant, ensure that information is available in other than official languages.**

The online platform of the proposed programme is available in the UN languages. In addition, requests for technical assistance can be made in a country's national language. National focal points will convey information to their country's stakeholders in their national languages.

- **List key support elements included to promote Transparency.**

All technical assistance documentation, donor information, and results & financial reporting will be accessible online. National focal points provide information to stakeholder groups in their countries via means of communication appropriate to national context, through events, and in national languages. Information will also be provided directly to organizations representing potentially marginalised groups such as Gender and Women, Youth, and Indigenous Communities so that it can be further disseminated.

Gender
- **Identify key challenges and opportunities for gender equality.**

Challenges:

Gender equality in the context of climate change:

The degree to which people are affected by climate change impacts is largely a function of their social status, gender, poverty, power, and access to and control over resources. Despite the international community's increasing acknowledgement of the varied experiences and skills women and men bring to development and environmental sustainability efforts, women still tend to have less economic, political and legal power and are hence less able to cope with—and are more exposed to—the adverse effects of the changing climate. Only 33% of all submitted Nationally Determined Contributions explicitly integrate a gender dimension. Other national technology planning documents have also traditionally failed to acknowledge gender. Women have less access to climate technologies due to patriarchal rules, societal limitations or limited financial resources. Women are also underrepresented in environment, energy, planning and science ministries where men account for 97% and women only 3%.

Women commonly face higher risks and greater burdens from the impacts of climate change inequality. For example, women and children are 14 times more likely to die than men from natural disasters. Unequal access to information or mobility results in much higher death rates for women.

Women forced to migrate due to climate change are exposed to higher risks of gender-based violence and trafficking. But when left behind, women bear a heavier burden of work and responsibilities.

Gender equality in the context of technology:

Technology is a key tool to addressing climate change mitigation and adaptation around the world. Women are not a special interest group in climate technology transfer projects. They are often the mainstream users and producers. However, technology itself is not gender neutral and entails biases that can occur when the conditions of a given target group (men, women, youth, or other specific groups) are not adequately considered. In these cases, new

technologies and interventions can unintentionally create greater inequalites and work burdens. There are a number of interrelated factors which hinder the appropriate development or adaptation of technologies for use by women; and/or limit women's access to relevant technologies and related financing and learning opportunities.

These factors include:

- **Socialisation and gender stereotypes:** Household responsibilities can prevent women from participating in trainings or technology demonstrations. Lack of information can also mean they are not even aware of the services or trainings available. Lack of mobility and restrictions in permitted social interactions can similarly pose challenges for women's participation. Gender norms can also affect the prevailing views of men and women's specific abilities. E.g. girls receive less encouragement to pursue technology-related interests and the STEM field. While the energy workforce is comprised of only 22% women, the perception of gender norms is seen as the most important barrier to entry into this sector.

- **Power relations:** A lack of gender balance in decision-making roles related to technology selection and access impacts which technologies are selected, how resources are allocated, and which stakeholder groups are supported with technology transfer and training. This often leads to over-looking of the needs of those not represented in the decision-making process. For example, in 2014 more than 140 countries had renewable energy targets and support policies in place, but almost all of these were for the power sector. With this trend, 2.3 billion people will still lack access to clean cooking facilities in 2030.

- **Distribution of resources and women's access to finance:** Women often face greater barriers to accessing finance and have fewer rights to family resources, such as land.

- **Institutional barriers:** Scarcity of female government officials, extension agents and trainers hampers women's access to information, resources and technology provided by external institutions. Formal communications from government officials are sometimes unconsciously gender biased. For instance, letters and invitations to meetings can be addressed to the head of the household who is usually male.

- **Access to knowledge and training:** Research demonstrates that gender stereotypes and traditional beliefs about men and women's roles in society can affect the selection of candidates targeted for technology transfer and training. Men are normally selected for training related to agricultural topics such as technology support for livestock production, while training on processing or household activities generally targets women.

Opportunities:

The growing recognition of the disproportionate impact of climate change on women and girls has been matched in recent years by the rising awareness of their roles as change agents and the tremendous value of gender equality and women's empowerment for producing social, economic, and climate resilience benefits.

There is an opportunity to ensure that both climate change and technology interventions achieve greater and more sustainable impact by involving a more diverse group of stakeholders in decision making and implementation stages. For example, research has demonstrated that more diverse and inclusive efforts made by diverse groups result in better decision making 87% of the time while driving decision-making two times faster. Decisions made and executed by diverse teams delivered 60% better results. Harnessing the capacities of women and other marginalized groups can be a powerful instrument to implementing climate change goals.

At the same time, by involving women more in climate technology decision making and implementation, women can gain a greater voice in determining priorities and methods for climate change action, including disaster risk reduction where women and children have been particularly vulnerable. By incorporating gender mainstreaming in climate change programme

implementation and finance, women can also gain greater opportunities for education, entrepreneurship, and economic empowerment.

This represents a tremendous opportunity to leverage development co-benefits between gender equality and climate action.

- **Identify assessments on gender, such as CEDAW-reporting, SDG National Action Plans, UPR, and other relevant gender analysis.**

See Section 1. Overall development challenges, opportunities, and risks: Status and progress in relation to SDGs.

- **Identify opportunities/constraints for addressing gender equality issues.**

Opportunities: The UNFCCC Paris Agreement formally recognized the intersection of climate change and gender equality, empowerment of women, and realization of their rights. Now there is an opportunity to ensure the incorporation of gender equality and women's empowerment strategies in climate change responses at the local and national levels. In order to do so, there is a need to strengthen institutional capacity to better understand and be able to integrate gender considerations. The programme can both build capacity and play a normative role in terms of gender mainstreaming in climate change technology initiatives.

Constraints: Constraints in terms of addressing gender equality at the national level include prevailing social norms and institutionalized discrimination, together with a lack of capacity in terms of gender mainstreaming practices in the context of climate change and technologies.

- **Describe key strategic interventions to promote gender equality within each thematic programme.**

The programme is steered by the gender guidance of the Paris Agreement, the Technology Framework, and programme's own Gender Policy and Action Plan. The Action plan provides for example, instructions on rating technical assistance requests according to gender considerations; and gender mainstreaming tools and guidelines for implementers. Guidelines explain the importance of conducting gender analysis during background assessments; supporting gender considerations during stakeholder consultations; and including gender-differentiated indicators in monitoring and evaluation activities. An example of gender mainstreaming support to national processes includes the development of the publication "Guidance for a gender-responsive Technology Needs Assessments":

The programme will communicate and collaborate with the UNFCCC Women and Gender Constituency, representing a global coalition of organizations engaged in gender and climate change issues. The programme will also provide networking opportunities and capacity building on upscaling to innovative climate change solution providers who incorporate meaningful gender considerations in their initiatives. Internal capacity building will continue to be conducted, including for the advisory board, staff, national focal points, and implementers. Efforts will be made to raise public awareness of the important relationship between gender, technology and climate change including through events, trainings, and the online information portal.

Youth

- **Identify key challenges and opportunities for engagement of youth following the principle of programming not only for, but also with youth.**

Challenges:

The world's population is young: 42 percent of people are under the age of 25. In South Asia and Sub-Saharan Africa, the number of people aged 12-24 has steadily risen to 525 million in 2015 – almost half the global youth population. At the same time, young people represent almost 40 percent of the unemployed people in the world.

Young people are also the cohort which will be most affected by climate change in the future, but they often feel left out of climate change decision making in their countries, and feel uncertain about how to best play a positive role in climate change action. According to a

World Economic Forum survey with more than 30,000 respondents under age 30 from 186 countries, 84% of youth claim they lack access to information to prevent climate change.

Opportunities:
Young people care about climate change – Young people represent a huge resource as agents of change in the climate change effort, as advocates, entrepreneurs, and active citizens. Youth are demonstrating an increasingly strong social and environmental awareness, which has the power to shift our societies toward a low-carbon and climate resilient future. Surveys show that young people consistently think climate change and the destruction of nature is THE most critical issue the world faces.

They're also optimistic about technology – Technological advances in recent years have sparked concerns within wider society about technology's impact on job displacement and competitiveness. At the same time, 78,6% of youth respondents indicated that they believe that technology is "creating" as opposed to "destroying" jobs.

This creates an opportunity to engage and inform young people on the issue of climate change action, and in particular on the roles of technology and innovation as a vital means to both addressing climate change and creating "green" job growth.

- **Identify opportunities/constraints for addressing youth issues.**
Opportunities: There is a growing awareness of the global trend of youth's climate change concerns and their potential capacity to affect positive change, and this is being reflected in international agreements and programme planning. For example, the Paris Agreement acknowledges the need to "respect, promote and consider respective obligations on human rights, the right to health, the rights of indigenous peoples, local communities, migrants, children, persons with disabilities and people in vulnerable situations and the right to development, as well as gender equality, empowerment of women and intergenerational equity, […]". Young people now have a recognized constituency within the climate negotiations and are engaging at the national level as well to demand progress on climate change efforts.
Constraints:
Many youths are still being denied an ability to gain "a seat at the table" in national and local discussions on climate change priorities, planning, and implementation. Likewise, young people face difficulties in accessing relevant learning opportunities and information on climate change methods, tools, technologies, and financing which can support youth entrepreneurs, innovators, advocates, and others willing to support and lead climate action.
- **Describe key strategic interventions to promote youth within each thematic programme.**
The programme will collaborate with the UNFCCC Youth Constituency, academic and innovation centres to build joint work programmes. Cooperation will focus on highlighting the role that youth play in climate change action and technology innovation, providing young people with a platform for making their concerns and priorities known, and accessing technology services and information.

List the key documentation and sources used for the analysis:

- UNEP, 2011, http://bit.ly/1Niu2q7
- UNEP, GlobeScan Survey, 2008, http://bit.ly/1CtR3zZ
- United Nations Joint Framework Initiative on Children, Youth and Climate Change, 2010, http://bit.ly/1FBQsfy]
- Climate Change and Human Rights, UNEP https://wedocs.unep.org/bitstream/handle/20.500.11822/9530/-Climate_Change_and_Human_Rightshuman-rights-climate-change.pdf.pdf?sequence=2&amp%3BisAllowed=

- UNDP, Overview of Gender and Climate Change, http: http://www.undp.org/content/dam/undp/library/gender/Gender%20and%20Environment/PB1-AP-Overview-Gender-and-climate-change.pdf
- World Economic Forum https://www.weforum.org/agenda/2017/08/global-shapers-survey-2017-5-things-we-learned/
- Food and Agricultural Organization http://www.fao.org/3/ae538e/ae538e06.htm#TopOfPage,
- http://www.fao.org/3/ae538e/ae538e07.htm#TopOfPage,
- http://www.fao.org/3/i9047en/I9047EN.pdf
- UNEP Global Gender and Environmetnal Outlook, 2016
- Hacking Diversity with Inclusive Decision Making, Cloverpop, 2017
- UN Women, Women in Policitcs 2017 Map
- **The Paris Agreement As a Human Rights Treaty https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3192106**
- International and regional human rights and HRBA principles and HRBA Guidance Note of 2013
- Danish Institute of Human Rights (DIHR) Guide to understand the interlinkages between human rights and the SDGs (http://sdg.humanrights.dk)
- Danish Institute of Human Rights (DIHR) Guide to understand the interlinkages between human rights and the SDGs (http://sdg.humanrights.dk)

Are additional studies / analytic work needed? How and when will it be done?

List additional studies that will be carried out as part of the preparation phase, including studies that will be carried out jointly with others or by partners / other donors.

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4. Inclusive sustainable growth, climate change and environment

Briefly summarise the key conclusions and implications for the programme of the analysis of the below points:
The interlinkages between climate change and sustainable development are strong. The programme's aim is to support developing countries to implement their Nationally Determined Contributions and other key climate change planning documents in order to meet global goals for low-carbon, climate resilient economies and sustainable development.

- **Assess the overall risks and challenges to inclusive sustainable growth and development from the impact of climate change and environmental degradation**
Climate change is expected to impact the availability of basic necessities like freshwater, food security, and energy, while efforts to both mitigate and adapt to climate change will similarly inform and shape the global development agenda. Poor and developing countries, particularly least developed countries, will be among those most adversely affected and least able to cope with the anticipated shocks of climate change to their social, economic, and natural systems. Efforts to model the impact of climate change on sustainable growth indicate that:
1) Changes in crop yields and labour productivity are projected to face the largest negative consequences.
2) Damages from seal level rise also gradually become more important, growing most rapidly after the middle of the century.
3) Net economic consequences are projected be negative in 23 of 25 regions/sub-regions modelled. They are especially large in Africa and Asia.
4) The actual magnitude of the regional damages will depend in part on the ability of economies to adapt to climate impacts by changing production technologies, consumption patterns and international trade patterns.
In terms of sustainable development, climate change is more than just one of the 17 SDGs. It is considered a threat multiplier with the potential to worsen some of humanity's greatest challenges, including health, poverty, equality, and hunger.

- **Assess the status of policies and strategies in the country / thematic area / organisation to ensure that development is inclusive and sustainable, avoid harmful environmental and social impacts and respond to climate change**

The climate change work is undertaken in the context of supporting the implmentation of the Paris Agreement and its Technology Framework, and overseen by the Conference of Parties.

- **Assess the political will and the institutional and human capacity to implement these policies and strategies**

In December 2015, the Conference of the Parties adopted the Paris Agreement, a universal agreement which aims to keep a global temperature rise for this century well below 2 degrees Celsius, with the goal of driving efforts to limit the temperature rise to 1.5 degrees Celsius above pre-industrial levels.

This is complemented by the 2030 Agenda for Sustainable Development, which conveys the commitment of countries to protect the planet from degradation and take urgent action on climate change. Both frameworks outline the need for integration of climate change measure into national policies, the improveiment of education, and insitutional capacity development on climate change mitigation and adaptation.

- **Identify opportunities for mainstreaming support to inclusive green growth and transformation to a low-carbon and climate resilient economies in the programme thematic areas and DEDs.**

Support for and cooperation on climate action are central to achieving mitigation and adaptation objectives and increasing ambition as countries face more and more political, technical, socioeconomic and other barriers. The programme's aim is to support developing countries to implement their Nationally Determined Contributions and other key climate change planning documents in order to meet global goals for low-carbon, climate resilient economies and sustainable development. It will do so by providing technical assistance and capacity building in response to developing country requests for technology and enabling environment support, including

  - Innovation support and facilitating netwroking for collaborative R&D
  - Development of decision-making tools and relevant information/data
  - Technology identification and prioritization
  - Feasibility of technology options & technology adaptation
  - Sectoral roadmaps and strategies for NDC implementation
  - Policy and regulatory guidance to create enabling environments
  - Piloting and deployment of technologies
  - Private sector engagement and market creation, and
  - De-risking, upscaling, and financing.

- **Identify potential risk and negative impacts related to environment and climate change from the proposed thematic areas and DEDs and consider how these may be mitigated in the design of the programme and the relevant DEDs.**

The programme's main objective is to assist developing countries to adapt to climate change and transition to a low carbon economy. Potential negative impacts to environment and climate change are therefore deemed to be limited. However, all technology interventions will be reviewed by the implementing secretariat, monitored during implementation, and evaluated upon completion.

- **Identify if EIA (Environmental impact assessment) or similar should be carried, including legal requirements in partner countries / organisations.**

This is not applicable given the nature and focus of the programme.

- **Consider rights and access to key natural resources: land, water, energy, food, and agriculture, including impacts on employment for youth, women, and indigenous peoples, etc.**

The issues of rights and access to key natural resources figure into many types of climate change work and intended outcomes and will be taken into consideration where relevant in the design and implementation of technical assistance and capacity building interventions.

List the key documentation and sources used for the analysis:
- European Commission https://ec.europa.eu/clima/citizens/benefits_en
- Schletz, M. C., Konrad, S., Staun, F., & Desgain, D. D. R. (2017). Taking stock of the (I)NDCs of developing countries: regional (I)NDC coverage of mitigation sectors and measures. United Nations Environment Programme, Nairobi
- The Economic Consequences of Climate Change, OECD https://espas.secure.europarl.europa.eu/orbis/sites/default/files/generated/document/en/OECD%20Climate%20Change.pdf
- UN Sustainable Development Progress Report, 2019 https://www.un.org/sustainabledevelopment/progress-report/
- Climate action and support trends (UNFCCC) https://unfccc.int/sites/default/files/resource/Climate_Action_Support_Trends_2019.pdf
- UN High-level Political Forum on Sustainable Development 2019

If this initial assessment shows that further work will be needed during the formulation phase, please list how and when will it be done?

List additional studies that will be carried out as part of the preparation phase, including studies that will be carried out jointly with others or by partners / other donors.

List required EIAs or similar studies to be carried during the formulation or implementation face.

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5. Capacity of public sector, public financial management and corruption

Briefly summarise the key conclusions and implications for the programme of the analysis of the below points:
The capacity of the public sector to plan and implement national climate change goals and commitments varies widely across developing countries but is a crucial factor in promoting and facilitating climate change action at the national and local level. The programme will provide support to developing countries to build institutional capacity to identify technology priorities, strengthen enabling environments, make informed decisions, and provide economic incentives in order to transition to a low-carbon and more climate resilient society.

- **Capacity of the public sector for policy making, enforcement and service delivery.**

The capacity of the public sector to plan and implement according to national climate change goals and commitments varies widely across developing countries. Policymakers in developing countries face the challenge of balancing current priorities together with the potential impacts of climate change and the outcomes of the strategies proposed to respond to them. Besides implementing a series of mitigation, adaptation, and development measures themselves, governments play a key role in building required enabling environments to facilitate national and regional technical and technological innovation. Reduced vulnerability, sustainable development, and adaptation processes can be promoted by setting an equitable and fair regulatory framework, supporting development and sustainable natural resource management, and creating economic opportunities through access to markets, economic incentives, and other key assets. The public sector may lack access to relevant information, data, and best practice examples, as well as the requisite skillset and experience in attempting carrying out these actions.

- **Quality and capacity of PFM, including budget credibility, comprehensiveness, and transparency as well as control and external scrutiny / audit in all phases of the budget process as well as participation of citizens / CSOs in monitoring public budgets and corruption**

As the programme focuses on delivering technical assistance and is not a funding mechanism, the programme model ensures that implementers are contracted directly to provide services to developing country stakeholders (public sector, CSOs, private sector and academic/research institutions). Thus, no funds are received or managed by the public sector.

- **The corruption situation and relevant anti-corruption measures and reforms.**

In terms of corruption, the 2019 Corruption Perceptions Index shows more than two-thirds of countries, along with many of the world's most advanced economies, are stagnating or showing signs of backsliding in their anti-corruption efforts.

Anti-corruption measures for this programme include the utilization of a transparent and competitive UN procurement system to contract service providers to implement requested technical assistance and capacity building in developing countries. Publicly accessible financial reporting on the programme's use of funds also contributes to transparency.

List the key documentation and sources used for the analysis:

- Corruption Perception Index 2019:
  https://images.transparencycdn.org/images/2019_CPI_Report_EN_200331_141425.pdf
- Bapna M., McGray H., Mock G., Withey L. 2009. Enabling Adaptation: Priorities for Supporting the Rural Poor in a Changing Climate. WRI Issue Brief. World Resources Institute (WRI). Washington DC.
- Courtney H., Kirkland J., Viguerie P. 2005. Strategy under Uncertainty. In: Strategy Despite Uncertainty: Cutting Through the Fog. Harvard Business Review 1746.
  - Fankhauser S., Smith J., Tol R. 1999. Weathering climate change: some simple rules to guide adaptation decisions. Ecological Economics 30:67-78.
  - Folke C. 2006. Resilience: The emergence of a perspective for social-ecological systems analyses. Global Environmental Change 16: 253-267.
  - Prato T. 2008. Accounting for risk and uncertainty in determining preferred strategies for adapting to future climate change. Mitig Adapt Strat Glob Change 13:47-60

Are additional studies / analytic work needed? How and when will it be done?

List additional studies that will be carried out as part of the preparation phase, including studies that will be carried out jointly with others or by partners / other donors.

6. Matching with Danish strengths and interests, engaging Danish actors, seeking synergy

Briefly summarise the key conclusions and implications for the programme of the analysis of the below points:

The programme is closely aligned to Denmark's interests and areas of expertise and offers considerable opportunity for Danish companies and organizations to engage in climate change and technology work in developing countries.

Identify:	
- where we have the most at stake – interests and values, - where we can (have) influence through strategic use of positions of strength, expertise, and experience, and - where we see that Denmark can play a role through active partnerships for a common aim/agenda or see the need for Denmark to take lead in pushing an agenda forward.	- In the area of climate change and technology, Denmark's national strengths and interests include: - Energy, including renewable energy, energy planning, energy efficiency and reform of policy frameworks; - Water related activities including water management, water infrastructure resilience, information

	services, land management and agriculture.
	• Denmark is a recognized leader in combating climate change. The overall objective for the Danish Climate Envelope is threefold: 1) Assist developing countries to adapt to climate change; 2) Assist developing countries with the transition to a low carbon economy; and 3) Prepare developing countries to enter into and implement the new global climate agreement, agreed at COP21 in Paris with a view to sustainable development.
	• Denmark's expertise and solutions in green technologies offer sustainable opportunities to keep the greenhouse gas emissions of developing countries low as their economies grow.
• Brief mapping of areas where there is potential for increased commercial engagement, trade relations and investment as well as involvement of Danish local and central authorities, civil society organisations and academia.	• Denmark exported 84 billion DKK of energy technology in 2016
	• The Danish Export Water Association represents +600 members
	• Denmark topped the Global Cleantech Innovation Index in 2017
	• Denmark has a high number of patents relative to its population. Most of the new products are in the fields of life sciences and pharmaceuticals, biomedicine, environmental science, and food and agriculture
	• Danish companies and organizations have been contracted to deliver technology services for the CTCN in the amount of 24.538.363 DKK
	• The CTCN facilitates a global network of academic, civil society, private and public sector institutions with technology and enabling environment expertise. Network members gain the opportunity to connect with national decision makers, thought leaders and other Network members to expand partnership possibilities, learn about new markets, and gain greater visibility through the CTCN's global communication channels.
	• The CTCN has leveraged its original global support of 60 million USD to 922 million USD in projected additional investment for developing country technology & NDC implementation.
• Assessment of the donor landscape and coordination, and opportunities for	• The EU, its Member States and the European Investment Bank are together

Denmark to deliver results through partners including through multilaterals and EU;	the biggest contributor of public climate finance to developing countries, giving €21.7 billion in 2018 alone.
	• The EU is also the world's top provider of official development assistance (a total of €7.2 billion in 2019), with climate action being increasingly integrated into the assistance. The EU is the largest donor of the CTCN, having provided €12.839.017 as of 2019.
	• The United Nations Framework Convention on Climate Change (UNFCCC) is the UN entity tasked with supporting the global response to climate change. The UNFCCC's technology implementation arm, the Climate Technology Centre & Network (based in Copenhagen), serves as a global technology broker by contracting technology companies, organizations and universities to deliver technology assistance and capacity building at the request of developing countries as they seek to achieve their Nationally Determined Contributions to the Paris Agreement. The CTCN is co-hosted by UNEP & UNIDO.
	• The International Environmental Technology Centre of the UN Environment Programme (based in Osaka) works with developing countries to implement sustainable solutions to environmental challenges, with a focus on holistic waste management.
	• The United Nations Industrial Development Organization specializes in clean energy, together with improved resource efficiency in developing countries.

List the key documentation and sources used for the analysis:
- Guiding Principles for the Danish Climate Envelope – Febuary 2016 http://www.netpublikationer.dk/um/guiding_principles_danish_climate_envelope_2016/Html/kap02.html
- https://ec.europa.eu/clima/policies/international/finance_en
- https://unfccc.int/about-us/about-the-secretariat
- https://um.dk/en/news/newsdisplaypage/?newsid=d30e7dff-3c12-44fb-9fd7-120b7dd8de63
- https://stateofgreen.com/en/partners/danish-ministry-of-energy-utilities-and-climate/news/dkk-84-billion-in-danish-export-of-energy-technology-in-2016/
- https://www.copcap.com/news/denmark-tops-global-cleantech-innovation-index-2017
- https://www.ctc-n.org/about-ctcn/donors
- https://denmark.dk/innovation-and-design/innovation
- https://www.unenvironment.org/ietc/who-we-are

Are additional studies / analytic work needed? How and when will it be done?

List additional studies that will be carried out as part of the preparation phase, including studies that will be carried out jointly with others or by partners / other donors.

7. Stakeholder analysis

Briefly summarise the key conclusions and implications for the programme of the analysis of the below points:

The analysis demonstrates that there are a wide range of stakeholders interested in or potentially affected by the programme, and that most of these stand to benefit from the programme's activities. Among the stakeholders, the Climate Technology Centre & Network offers the best overall prospect for partnership, given their considerable experience, global adaptation and mitigation focus, efficient multi-stakeholder technology broker implementation model, strong oversight and engagement of 3 key UN agencies, and ability to provide bespoke assistance to developing countries in overcoming technology, capacity, and financial access challenges in order to unlock more transformational climate outcomes and NDC implementation.

- **Who are the stakeholders that may be interested in or affected by the program, including donors?**

The stakeholders who may be interested in or affected by the program include:
  - Developing country constituencies who could be potential direct beneficiaries of the programme (academic, civil society, private sector, research, and public sector entities who may request assistance)
  - Women, men, and youth engaged in climate change work
  - National Designated Entities (nationally selected UNFCCC climate technology focal points, usually based in Ministries of Environment or Energy, who coordinate CTCN technical assistance requests in-country based upon national climate change priorities)
  - The public at large in developing countries who stand to be impacted by the programme
  - Technology and capacity building providers who could be eligible to participate in the programme activities as implementers
  - Other donors (incl. Canada, the EU Commission, Finland, Ireland, Italy, Japan, Norway, the Republic of Korea, Spain, Sweden, and Switzerland, the U.S.)
  - The Adaptation Fund
  - Green Climate Fund
  - UN Environment Programme (UNEP)
  - UN Industrial Development Organization (UNIDO)
  - UN Framework Convention on Climate Change (UNFCCC)

- **Who are the key stakeholders and what are their main interests, capacity, and contributions?**

The key stakeholders include:

Stakeholder	Interest	Capacity	Contribution
National Designated Entities (nationally selected focal points on climate technology, usually based in Ministries of Environment or Energy)	To access technology assistance so their countries can implement Nationally Determined Contributions	Varies from country to country	Coordinate CTCN technical assistance requests in-country
Developing country constituencies engaged on climate change: academic, civil society,	To access technology assistance to achieve their goals vis a vis climate change & SDGs	Varies; some are highly engaged but lack financial and technical resources	Propose ideas for technical assistance; serve as in-country partners

private sector, research, and public sector			
Technology and capacity building providers who could be eligible to participate in the programme activities as implementers (including Danish companies and organizations)	To be contracted to deliver CTCN technical assistance and capacity building or who are interested in technology partnerships, knowledge sharing or expanding their market access	Possess technology, capacity building and/or policy and regulatory guidance expertise	Submit tenders to implement CTCN technical assistance & capacity building; Share knowledge; identify potential partnerships; Invest in technology projects
UN Framework Convention on Climate Change (UNFCCC) Conference of Parties (COP)	To ensure effective delivery of technology services to developing countries as part of achieving the Paris Agreement; The CTCN serves as the implementation arm of its Technology Mechanism, a body of the UNFCCC.	The COP is the supreme decision-making body of the Convention. All States that are Parties to the Convention are represented at the COP, where they review the implement-ation of the Convention bodies and take decisions necessary to promote the effective implementation of the Convention.	Provides guidance to and monitoring of the CTCN's operations through COP negotiations, CTCN Advisory Board & Paris Agreement Technology Framework
UN Environment Programme (UNEP) – Institutional host of the CTCN	To ensure effective implementation of the CTCN's COP mandate and programme of work.	In-house expertise on a variety of climate change-related sectors; Strong institutional guidelines to ensure efficacy and transparency	Provides administrative & programme support, structure, & oversite to CTCN activities
UN Industrial Development Organization (UNIDO) – Co-host of the CTCN	To ensure effective implementation of the CTCN's COP mandate and programme of work.	In-house expertise on a variety of climate change-related sectors; Strong institutional guidelines to ensure efficacy and transparency	Provides administrative & programme support, structure, & oversite to CTCN activities
Gender & youth constituencies	To ensure that gender and youth perspectives/experience are incorporated in CTCN service delivery; To access CTCN services	The UNFCCC Women and Gender Constituency and YOUNGO Youth Constituency are knowledgeable and well-organized advocates in the	Provide guidance to CTCN operations; Partner with CTCN on knowledge sharing and capacity building activities

		context of climate change	
Bilateral donors & UNFCCC financial institutions (GCF, GEF, etc)	To ensure sustainability of CTCN services in support of achieving Nationally Determined Contributions	Strong financial and programme capacity; Awareness of ongoing country-level programs of relevance to the CTCN	Provide financial resources and programme partnership to support CTCN mandate

- **How do the stakeholders (in this programme context) communicate, coordinate, and cooperate?**

 Donors communicate with one another and with the CTCN (and hosts UNEP & UNIDO) directly and through dedicated donor meetings. Many donor countries and organizations are also represented on the CTCN Advisory Board. Donors also cooperate with the CTCN in cases where they have particular expertise to share regarding relevant technology assistance, and/or where they maintain a country presence and the CTCN is active. **Developing countries** (and donor countries) communicate via climate change negotiations as well as through their National Designated Entities (NDEs). The **NDEs** coordinate directly with the CTCN Secretariat through direct online/email communications, request submissions, and CTCN regional forums where NDEs meet together annually to receive capacity building and share information and experience with one another. **Gender and Youth** constituencies coordinate with the CTCN directly and through the development and implementation of joint workplans. **Technology and capacity building providers** cooperate via the Climate Technology Network, where they submit tenders for being contracted to implement CTCN technical assistance/capacity building, conduct knowledge sharing, identify potential new partnerships, and gain visibility through CTCN communication channels. The **UNFCCC COP** provides overall guidance and oversight to the CTCN in terms of its mandate. The CTCN operates within its terms of reference and is accountable to, and under the guidance of the COP through the Centre's Advisory Board. **UNEP & UNIDO** jointly manage the CTCN, providing staff, administrative & procurement support, and oversight to the Secretariat.

- **Who is the lead stakeholder and is it a homogenous group or are there divisions within the group?**

The UNFCCC is considered the lead UN agency on the issue of climate change, while developing country constituencies engaged on climate change (i.e. academic, civil society, private sector, research, and public sector institutions) are those the programme aims to serve.

- **How have key stakeholders been involved during the preparation and formulation process?**

Key stakeholders have been involved in the development and review of the CTCN's Programme of Work plan for 2019-2022, which informs the preparation and formulation process.

- **Which stakeholders are likely to support the programme and who, if any, are likely to hinder the program? (Who stands to gain and who stands to lose?)**

All of the stakeholders are likely to gain from the programme. National Designated Entities and potential beneficiaries will gain increased access to essential technologies and strengthened enabling environments. Current and potential Network members will benefit from participation in tendering opportunities to implement technical assistance, as well as the chance to exchange knowledge and seek partnerships within a global network. Gender and youth organizations will gain a platform to generate greater awareness of the important roles of gender and youth in climate change action; and from which to access CTCN services. Aforementioned UN agencies will appreciate Danish bilateral support to enhance the CTCN's delivery towards its global climate change technology support mandate.

- **What are potential strategies (approaches, methods, etc.) for engaging key stakeholders?**

Among the key stakeholders, National Designated Entities and current Network members are engaged through direct email and phone/online calls by the CTCN, annual regional CTCN forums, and bi-weekly e-newsletters. Potential Network members and beneficiaries are engaged at numerous global, regional & national events, the CTCN website, social media, earned media, and bi-weekly e-newsletters. Donors

- **Which stakeholders offer the best overall prospects in terms of possible partnerships and why?**

The Climate Technology Centre & Network offers the best overall prospect for partnership, given their considerable experience, global adaptation and mitigation focus, their efficient multi-stakeholder technology broker implementation model, strong oversight and engagement of 3 key UN agencies, and unique contribution in terms of providing bespoke assistance to developing countries in overcoming technology, capacity, and financial access challenges in order to unlock more transformation climate action and NDC implementation.

List the key documentation and sources used for the analysis:

- https://unfccc.int/sites/default/files/resource/cp24_auv_cop_4_TF.pdf
- https://www.ctc-n.org/about-ctcn/advisory-board
- https://www.ctc-n.org/about-ctcn/donors

Are additional studies / analytic work needed? How and when will it be done?

List additional studies that will be carried out as part of the preparation phase, including studies that will be carried out jointly with others or by partners / other donors.

Annex 2: Partners

1. Summary of stakeholder analysis

The analysis demonstrates that there are a wide range of stakeholders interested in or potentially affected by the program, and that most of these stand to benefit from the program's activities. The stakeholders who may be interested in or affected by the program include:

1. Developing country constituencies who could be potential direct beneficiaries of the program (academic, civil society, private sector, research, and public sector entities who may request assistance)
2. Women, men, and youth engaged in climate change work
3. National Designated Entities (nationally selected UNFCCC climate technology focal points, usually based in Ministries of Environment or Energy, who coordinate CTCN technical assistance requests in-country based upon national climate change priorities)
4. The public at large in developing countries who stand to be impacted by the program
5. Technology and capacity building providers who could be eligible to participate in the program activities as implementers
6. Other donors (incl. Canada, the EU Commission, Finland, Ireland, Italy, Japan, Norway, the Republic of Korea, Spain, Sweden, and Switzerland, the U.S.)
7. The Adaptation Fund
8. Green Climate Fund
9. UN Environment Programme (UNEP)
10. UN Industrial Development Organization (UNIDO)
11. UN Framework Convention on Climate Change (UNFCCC)

For further information, please see Annex 1: Context Analysis.

2. Criteria for selecting program partners

The criteria utilized for selecting the partner was its adherence to the following:

Objectives:

1. Assist developing countries to adapt to climate change;
2. Assist developing countries with the transition to a low carbon economy; and
3. Prepare developing countries to implement their Nationally Determined Contributions

The specific impact that is targeted:

- Reduced greenhouse gas emissions
- Increased climate resilience specifically for vulnerable and marginalised groups

The following interventions:

- Strengthened national and community-level climate change policies, planning frameworks and information systems
- Scale up of climate-relevant technologies, infrastructure and markets

The following activities:

1. Supporting more effective policies and planning (in particular relating to the energy and water sectors)
2. Promoting climate solutions through more effective markets and investments, including
   - Promoting climate-friendly technologies and solutions as well as public and private investments through effective markets, and
   - Encouraging technologies R&D, innovation, and transfer (including south-south)
3. Building more robust international architecture, particularly
4. Promoting the implementation of the international climate agreement, in particular the nationally determined contributions, and
5. Supporting marginalized voices and ensuring accountability to most vulnerable

Funding principles:

- **Intervention logic**: The Climate Envelope activity/project must be aligned with the overall Theory of Change for the Climate Envelope.
- Alignment: Activities to be funded must be based on demand from recipient countries.
- **Balance between adaptation and mitigation:** The aim is to use half of the Climate Envelope funds for mitigation purposes and the other half for adaptation purposes.
- Activities will be identified with a view to follow-on as a new phase to an on-going or previously Danish funded activity and/or with an existing implementing agency
- **National strengths:** Where possible, Climate Envelope funds will be targeted interventions where Denmark can add value in terms of national strengths, competences or interests
- **Leverage:** Leverage of private finance and innovation are seen as important objectives of the Climate Envelope
- **Transformation:** Priority will be given to interventions where chances of achieving transformational change through accompanying changes in policy, markets or finance structures (both public and private) are largest. Transformational change can be also be in the form of innovation and test of new approaches, changes in existing systems and structures (systemic change), changes in conception and values, changes which are irreversible and change which are based on a clear identification of entry points and opportunities and the presence of a clear vision for change. Increasing chances of achieving transformational change also involves scale in form of national, sectoral or economy wide programmes including policy and technology scale up as well as replicability in terms of programmes that others can copy and accelerate the roll out of.

3. Brief presentation of partners

Among the stakeholders, the Climate Technology Centre & Network offers the best prospect for partnership, given their strong alignment with the criteria listed above, as well as their considerable experience, global adaptation and mitigation focus, efficient multi-stakeholder technology broker implementation model, strong oversight and engagement of 3 key UN agencies, and ability to provide bespoke assistance to developing countries in overcoming technology, capacity, and financial access challenges in order to unlock more transformational climate outcomes and NDC implementation.

Summary of key partner features

Partner name *What is the name of the partner?*	Core business *What is the main business, interest and goal of the partner?*	Importance *How important is the program for the partner's activity-level (Low, medium, high)?*	Influence *How much influence does the partner have over the program (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 *What is the strategy for exiting the partnership?*
Climate Technology Centre & Network (CTCN)	*Delivery of technical assistance, capacity building and knowledge sharing at the request of developing countries as they strive to meeting their climate change and sustainable development goals.*	*Medium. The CTCN has other bilateral as well as multilateral donors. However, Danish support will provide a stable multi-year planning opportunity and send a strong signal to other donors who may be considering renewing their support for the coming years.*	*Medium. The CTCN responds to the requests of developing countries and thus cannot direct exactly which technical assistance interventions will be made. However, there are strong criteria in place to ensure that CTCN interventions are aligned with national climate change and energy commitments in order to ensure significant impact.*	*Provide technical assistance, capacity building and knowledge sharing support to developing countries on relevant technologies, enabling environments and financial linkages.*	*Strength: Global adaptation and mitigation experience (including gender and youth engagement) and a strong and efficient model for identifying relevant technology experts to implement.* *Weaknesses: Multiple stakeholders to coordinate* *Opportunities: Bridges climate technology implementation and negotiations as mechanism under the UNFCCC; and can rely on the support and expertise of hosts UNEP and UNIDO.* *Threats: COVID 19 pandemic continues and climate temporarily becomes a low priority for the countries*	*No special requirements after end of contract*

Annex 3 - Results framework

The CTCN's monitoring and evaluation system was reviewed and updated in 2019. Available data from 2018 was used as the baseline in this new system. In cases where new indicators were added, baseline information has been collected throughout 2020.

Thematic Programme		Climate Technology Centre & Network (CTCN) Global Technology Support
Thematic Programme Objective		Environmentally sound technologies are developed, transferred, and deployed for low-carbon and climate resilient development at the request of developing countries to support implementation of National Determined Contributions, National Adaptation Plans and national plans
Impact Indicator		• Anticipated metric tons of CO2 equivalent (tCO2e) emissions reduced or avoided as a result of CTCN technical assistance (disaggregated by annual and life of project) • Anticipated number of direct and indirect beneficiaries as a result of CTCN TA (disaggregated by mitigation, adaptation, and both) • Number of technologies identified, transferred or deployed as a result of CTCN support
Baseline		N/A	CTCN has developed a new monitoring & evaluation system with revised methodologies for aggregation of impacts. Hence, baselines for main impacts are expected to be set at the end of 2020.
Target	Year	N/A	Target is dependent on baseline.

Outcome	1. Innovation: Key stakeholders develop, transfer, adapt and deploy new and existing (endogenous) climate technologies 2. Implementation: Countries have a clear pathway with identified support options to enhance technology development and transfer 3. Collaboration and stakeholder engagement: A broad range of stakeholders collaborate in promoting gender-responsive climate technology development and transfer 4. Enabling environment and capacity-building: Stakeholders have the necessary capacity and enhanced institutional and legal frameworks to develop, transfer and deploy climate technologies 5. Support: Financial and technical resources identified and available to support climate technology development and transfer
Outcome indicator	**Innovation** 1.1. Number of countries developing, transferring, and deploying new and existing climate technologies as a result of CTCN support 1.2. Anticipated number of collaborations facilitated or enabled within and between developed and developing country Parties (disaggregated by South-South, collaborative RD&D, and private sector collaborations) **Implementation** 2.1. Number of countries which received support from CTCN to develop technology needs assessments (TNAs) and technology action plan (TAPs) 2.2. Anticipated amount of funding/investment leveraged (in USD) as a result of CTCN technical assistance

			Collaboration & stakeholder engagement 3.1. Number of engaged Network members and knowledge partners 3.2. Overall satisfaction of network members with CTCN services **Enabling environment and capacity building** 4.1. Number of stakeholders with enhanced technical capacities to develop, transfer and deploy climate technologies 4.2. Anticipated number of policies, strategies, plans, laws, agreements, or regulations proposed, adopted, or implemented as a result of CTCN TAs (disaggregated by mitigation, adaptation and type) **Support** 5.1. Annual percentage increase of funding mobilized for the activities of the CTCN
Baseline	Year	2018	1.1. 38 1.2. 3 2.1. 2 2.2. Baseline to be determined in 2020 after new methodology for determining funding leveraged has been implemented for a year. 3.1. 9 % 3.2. 16 4.1. 445 4.2. 14 5.1. 8,292,655 USD received in 2018
Target	Year	2022	1.1. 25-30 countries per year 1.2. 10 per year 2.1. No target set as this is based on country demand, but number will be recorded on a yearly basis 2.2. 10:1 ratio (external finance : CTCN investment) per year 3.1. 20% of Network members and knowledge partners per year 3.2. >90% satisfaction (collected in biannual survey) 4.1. 450-500 per year 4.2. 10-12 per year 5.1. 10% increase in funding mobilized for the activities of the CTCN per year

Annex 4: Budget details

	Budget in DKK million
Programme: CTCN Climate Change Technology Support	
Development engagement 1 : Thematic programme objective Ensure that the aim of the Paris Agreement's Technology Framework is achieved by supporting accelerated, diversified and scaled-up transfer of environmentally sound technologies for climate change mitigation and adaptation in response to developing country requests and in line with their sustainable development priorities.	
Outcomes 1. Innovation: Intended stakeholders develop, transfer, and deploy new and existing climate technologies 2. Countries have clear pathways with identified support options to enhance technology development and transfer 3. A broad range of stakeholders collaborate in promoting climate technology development and transfer 4. Stakeholders have the necessary capacity and enhanced institutional and legal frameworks to develop, transfer and deploy climate technologies 5. Financial and technical resources identified and available to support climate technology development and transfer	3,94 9,45 4,20 5,32 2,24
Sub-total Thematic Programme	**25,15**
UN Levy 1%	0,25
Programme support mechanisms: UN Environment Programme programme support costs (indirect costs): 7% subject to approval by UNEP	1,76
Other costs (Reviews/studies/communication/monitoring)	0,84
Total	**28,00**

Overall CTCN funding projections for Work Programme (in DKK)

	2020	2021	2022+	Total
Engagement 1				
- **Denmark**	8,000,000	10,000,000	10,000,000	**28,000,000**
- **Partners**	68,143,055	49,125,662	19,763,599	**137,032,315**
Grant TOTAL	**76,143,055**	**59,125,662**	**29,763,599**	165,032,315

Annex 5: Risk Management Matrix

Contextual risks

Risk Factor	Likelihood	Impact	Risk response	Residual risk	Background to assessment
UNFCCC COP28 will modify mandate of the CTCN	Low	Minor	The CTCN Secretariat is closely monitoring the climate negotiations on technology . The CTCN has developed a robust Mand E system which enumerates the impact of CTCN assistance to the countries in line with the COP mandate	The risk still exists though the CTCN has strong support from the developing countries with more than 100 countries being served	There would be an independent review on the effectiveness of the CTCN operations and its roles in supporting countries as an operational entity of the technology mechanism.

Programmatic risks

Risk Factor	Likelihood	Impact	Risk response	Residual risk	Background to assessment
COVID 19 pandemic continues and climate becomes a low priority for the country	Medium	Medium to High	The CTCN has conducted the analysis of the impact of COVID-19 on the delivery of its services and is adopting alternate ways of continuing work through extensive use of digital technologies.	The risk exists and would require more time for returning to business as usual.	One of the important roles of the CTCN is to adapt technologies as per the local conditions and this requires extensive stakeholder consultations at local level. With the suspension of local meetings and gathering by respective countries consultations are adapted to be undertaken through questionnaire surveys and web meetings. This is causing some delay in completion of the activities.

CTCN outputs which create enabling environment for technology scale up are reversed due to change in national political affiliations.	Low	High	CTCN interventions are based on the country planning documents and being a country driven approach the government is engaged throughout the cycle	The risks still exist but reduced due to strong engagements with the national governments. In any case this would be restricted to a few countries at best.	There is political instability in some LDCs in African countries as reported by some agencies.
CTCN services on technical assistance do not match the programmatic priorities and strategies of host agencies	Medium	Low	The CTCN follows the guidance of the advisory board on eligibility and prioritization of the request by the countries with a focus on supporting countries meet the implementation of NDCs	The risks still exist but reduced due to strong mandate delivered through the COP on the need to follow country driven approach. This is further strengthened by the Advisory Board guidance on the eligibility and prioritization criterion	The CTCN workplan is as per the guidance from the COP using the elements of Technology Framework with clearly defined climate objectives. The work programme of the host agencies are more broader and is not exclusive to climate change.

Institutional risks

Risk Factor	Likelihood	Impact	Risk response	Residual risk	Background to assessment
Frequent change in the NDE of few respective countries	Low	Minor	The implementation work of the current technical assistance does not stop; however the new requests are delayed. The CTCN provide extra efforts to	Short term risks still exist but reduced since the countries are have moved towards institutional structures to host NDEs	There is frequent request to the CTCN secretariat with regards to the services it provides and how the services can be accessed. Furthermore, for communication from the CTCN secretariat to the NDEs there is no response and later there is a request for the change in the NDEs name and focal point.

			onboard the new NDE		
NDEs unable to fulfil their roles due to lack of capacities and shift in institutional priorities to bodies under financial mechanism	Medium	Minor	CTCN is working with the bodies under financial mechanism to have a close coordination mechanism at a national level between focal points of all initiatives like the GCF, NDCs, NAP, GEF etc.	Short term risks still exist but reduced due to COP decisions and increase in engagement of NDEs in the national planning process.	Initiatives and bodies like NDC Partnership, GCF Readiness programme are having a dedicated funding window for capacity building of respective institutions and the NDEs were perceived to be left out of this process.
The Consortium partners and co-hosts request change in roles.	High	Minor	The advisory board has asked CTCN to enhance engagement with the network members. The engagement of the network members is increased, and the network membership is growing	Short term risks still exist, though reduced due to continual increase in engagement with the network members	The consortium partners are less keen to develop terms of reference and refine the request for technical assistance, however they are keener on implementation of the technical assistance. The CTCN is working on creating a database of experts which can be hired for developing the response plans.

Annex 6: Summary of appraisal recommendations

Title of Project	
File number/F2 reference	F2 2020-13768
Appraisal report date	**October 1, 2020**
Council for Development Policy meeting date	**N.A.**

Summary of possible recommendations not followed

Recommendation 6 is not fully followed. The final draft project document provides a detailed outcome-based budget of DKK28.16 million; this include DKK 2.8 million for CTCN operation costs and a 7% administration budget for UNEP, in total 17%. CTCN need to adjust the budget to the funds of DKK 28.0 million available. This should include adjustment to the outcome-based budget. The appraisal team also note that the total administrative budget and over-head to UNDEP adds up to a total of 17%. Under normal circumstances administrative overhead of 7% should include the operational expenses. Hence, the appraisal team need evidence to justify the total administrative budget.

Overall conclusion of the appraisal: The basic design of CTCN is considered sound. This appraisal was carried out in process based on early draft project document. The appraisal was guided by the OECD-DAC evaluation criteria and by the AMG. Key-issues identified were discussed in a continues process with CTCN team. The appraisal recommendations are a documentation of this process.

The appraisal team note that, after a read through of the draft final project document, the project document now is appropriate and that the recommendations of the appraisal team have been addressed, except recommendation 6 on budget, that need further action.

The appraisal is positive and recommended for approval, with the following remarks:

- **Support to CTCN is relevant**. The support will underline Denmark's profile as a leading country in combating climate change and will contribute to resilience and migration of GHG emission in developing countries. The work of CTCN targets directly or indirectly contributes to achieving all SGDs by 2030.
- **Support to CTCN is well justified**. CTCN is demand led and action oriented stimulating technology cooperation and enhance the development and transfer of technologies that also benefit the Danish private sector interest.
- **CTCN adheres to the development effectiveness agenda** and meet the OECD-DAC evaluation criteria, although coherence could be improved.
- **The choice of partners at both international and national level are well justified,** with International coordination happens through the Adaptation Fund, Global Environment Facility, Technology Executive Committee and the Green Climate Fund.
- **Quality of the design of CTCN is adequate but the early draft project document was insufficiently to meet the AMG requirements.** The early draft project document included the necessary analysis but needed more information on several elements to meet the AMG requirements.
- **The final draft project document has included adequate information on all relevant elements pointed out by the appraisal team and as required by AMG**.
- **In the early draft project document the Theory of Change and results framework presented for appraisal did not meet the AMG criteria.** Appropriate information has now been added including in the final draft project document and includes an appropriate theory of change and has made the results frame adequate at outcome level.
- **The risk management matrix has been significantly improved in the draft final project document** and now meet the requirements of the AMG**.**
- **Governance and management of CTCN is adequate and well established** and accountable to the UNFCCC Conference of the Parties. CTCNs capacity to manage and operate the program is adequate.
- **CTCN will always depend on external funding** and a long-term funding strategy is needed.
- **Cross cutting issues are well addressed** and integrated into the program.

Based on the draft final project document the project is **recommended for approval with minor adjustments.**

Recommendations by the appraisal team	Follow up by the responsible unit
Choice of partners, their capacity and feasibility of CTCN	

Recommendation 1: In the next (joint) review carefully assess how the pro bono contributions are considered in the tender procedures, including whether the lowest price selection criterion in UNIDO tender procedures secures the best quality of TA input.	Danida will take action to ensure this recommendation is adhered to in the upcoming mid-term review.

Theory of change and results framework

Recommendation 2: Develop a theory of change following the guiding principles in the AMG and reduce the number of outcomes to a maximum of 5 outcomes with appropriate indicators and end targets.	**Done** The CTCN final draft project document include a TOC that is appropriate, although the AMG 7 questions are still not fully responded to. In the final draft results framework, the number of outcomes has been reduced to 5 with 9 indicators and with a final target for 2022. This seems sufficient and appropriate.

Monitoring and reporting

Recommendation 3: Make clear reference to the updated CTCN monitoring framework from 2019 in the project document and encourage joint review by contributing partners that include value for money assessment.	**Done** The draft final project document **has included sufficient reference** to the CTCN monitoring framework. Danida to make a cost-effective joint effort in reviewing CTCN progress.

Risk Management

Recommendation 4: Amend the risk management matrix with focus on contextual risks, including e.g. Political instability and poor reform progress; Deterioration of human rights situation; Natural disasters (flooding, cyclones and tidal waves); Corruption, and; Programmatic risks should also include mismanagement of funds and corruption in implementation of the program.	**Done** The final draft project document fully addresses Contextual, Programmatic and Institutional risks with appropriate mitigation measures.

Measures on anti-corruption	
Recommendation 5: Anti-corruption measures should be clearly expressed and included in the project document.	**Done** The draft final Project Document adequately addresses measures on anti-corruption.
Budget	
Recommendation 6: Provide an outcome budget following the AMG Standard Annex 4 format, include administration expenses, reduce the budget to DKK28.0 million and ensure that the budget is earmarked for ODA eligible countries only.	**Done: The budget has been revised and the administration over head reduced to 7%** **Follow up required:** The final draft project document provides a detailed outcome-based budget of DKK28.16 million; this include DKK 2.8 million for CTCN operation costs and a 7% administration budget for UNEP, in total 17%. CTCN need to adjust the budget to the funds of DKK 28.0 million available. This should include adjustment to the outcome-based budget. The appraisal team also note that the total administrative budget and over-head to UNDEP adds up to a total of 17%. Under normal circumstances administrative overhead of 7% should include the operational expenses. Hence, the appraisal team need evidence to justify the total administrative budget. The draft final project document stipulate that all Danish support will be earmarked for ODA eligible countries only and that this will be reported separately
CTCN sustainability and Danida exit strategy	
Recommendation 7: Danida should accept that financial sustainability of CTCN is not an option and should consider, jointly with other contributing partners to push for mandatory contributions from all non-LDC countries in the UNFCCC/COP.	Danida fully understand and accept financial sustainability of CTCN is not an option and will follow up when opportunities arises.

I hereby confirm that the above-mentioned issues have been addressed properly as part of the appraisal and that the appraisal team has provided the recommendations stated above.

Signed in Copenhagen on the 1st of October 2020:

………..……………..…………………..….

Henning Nøhr, Appraisal Team leader/TQS representative

I hereby confirm that the responsible unit has undertaken the follow-up activities stated above. In cases where recommendations have not been accepted, reasons for this are given either in the table or in the notes enclosed.

Signed in Copenhagen on the 1 st of December 2020

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Rasmus Abildgård Kristensen,   Head of Department of Green Diplomacy