

Guidelines:

- This Request Submission Form should be completed by the organisation requesting technical assistance from the Climate Technology Centre & Network (CTCN) in collaboration with the National Designated Entity (NDE) of the country in question
- The Form must be signed by the NDE. Please see updated contact list of NDEs here: <http://unfccc.int/ttclear/support/national-designated-entity.html>
- The Form can be submitted as a Word file containing a digital signature or as a signed and scanned PDF file in combination with an un-signed Word file
- For requests submitted by multiple countries, all the NDEs of the respective countries shall sign identical Forms before official submission to the CTCN
- NDEs have the opportunity to submit CTCN requests in collaboration with National Designated Authorities (NDAs) for the Green Climate Fund (GCF) if targeting the GCF Readiness Programme.

Requesting country or countries:	CAMBODIA
Request title:	Study for Technology Upgradation in SMEs in Cambodia through Green Finance
NDE	Dr. Hak Mao Director of Department of Climate Change, the General Directorate of Policy and Strategy, Ministry of Environment of the Kingdom of Cambodia Address: No. 503, Road along Bassac River, Sangkat Tonle Bassac, Chamkarmon, Phnom Penh, Cambodia Phone: +855 78 996479 Email: maohakccd.se@gmail.com
Request Applicant:	SUM Thy Deputy Director General General Directorate of Policy and Strategy Ministry of Environment (MoE) Morodok Techo Building, Lot 503, Sangkat Tonle Bassac, Khan Chamkarmon, Phnom Penh, Cambodia H/P: 855-16907764 Email: cceap@online.com.kh sumthy@yahoo.com

Climate objective:

- Adaptation to climate change
- Mitigation of climate change
- Combination of adaptation and mitigation of climate change

Geographical scope:

- Community level

- Sub-national
 National
 Multi-country

If the request is at a sub-national or multi-country level, please describe specific geographical areas (provinces, states, countries, regions, etc.).

Problem statement related to climate change (up to one page):

This section should answer the question “what is the problem?” Please summarise the problem related to climate change and/or the negative impacts of climate change in the country that the request aims to address.

The focus of Cambodia’s development is on reducing poverty and ensuring stable economic growth, with the aim of achieving upper-middle income status by 2030 and a high-income economy by 2050. Cambodia is committed to combating climate change and accelerating the transition to a climate-resilient, low-carbon, sustainable mode of development. Cambodia has supported global efforts against climate change by being a Party to the United Nations Framework Convention on Climate Change (UNFCCC) since 1996. Cambodia adopted and ratified the Paris Agreement by which the country submitted an ambitious Intended Nationally Determined Contribution (NDC), which showcased her progress in climate policy, and put forward mitigation targets and adaptation actions consistent with her national circumstances.

Cambodia is highly vulnerable to the effects of climate change, and adaptation features prominently in the Nationally Determined Contribution (NDC). At the same time, Cambodia’s total greenhouse gas (GHG) emissions are increasing as the country develops. The country has already made remarkable progress in terms of climate change policy, particularly in mainstreaming climate change into national and sub-national planning. Cambodia has developed and continues to implement the Cambodia Climate Change Strategic Plan 2014 – 2023 (CCCSP) (2013) and each relevant ministry has developed associated action plans (CCAPs).

Some of the priority areas for climate change adaptation and mitigation within the manufacturing sector are the increased use of renewable energy options in industry; enhancement of energy efficiency solutions and technologies; enhancement of other resource efficient solutions for production facilities; focus on improved waste management initiatives; development of financing options to support adoption of environmentally sound technologies (ESTs) and public policy development to support the manufacturing sector’s shift to a green economy.

Key challenges for industrial SMEs include unreliable and high cost of energy, high costs of labor and logistics thereby increasing production costs; inadequate access to affordable long term financing; limited technological capability; limited information on international markets opportunities; delay or lack of availability of quality local raw materials, and shortage of skilled workforce.

Cambodia is rich in water and renewable energy resources where much of it remains out of reach. Improved access to food, water, and energy, together with promotion of low-carbon development through a combination of technology transfer, legal reform and fiscal incentives, are regarded as appropriate solutions to sustainable development in the context of climate change.

Industrial SMEs in Cambodia face numerous challenges with regard to uptake of climate smart technologies. These include limited information on the relevant technologies and providers; high upfront costs, unfavourable credit terms and lack of access to finance for technology acquisition; lack of skills and knowledge on technology implementation and insufficient local policy support.

Past and on-going efforts to address the problem (up to half a page):

This section should answer the question “what has been done or is currently being done to address the

problem?" Please describe past and on-going processes, projects or initiatives implemented in the country or region to tackle the climate problem as described above.

Cambodia has already made remarkable progress in terms of climate change policy, particularly in mainstreaming climate change into national and sub-national planning. Cambodia has developed and continues to implement the Cambodia Climate Change Strategic Plan 2014 – 2023 (CCCSP) (2013) and each relevant ministry has developed associated action plans (CCAPs).

The updated NDC (31 December 2020) of Cambodia has been improved in several important ways. First, coverage has increased to include climate change mitigation targets in the agricultural and waste sectors, and also with more detailed actions in key sub-sectors, such as energy efficiency. Second, Cambodia has set an ambitious target in the Forestry and Land Use sector (FOLU) for halving the deforestation rate by 2030, in line with our REDD+ strategy. In other sectors, Cambodia has increased our level of ambition for Green House Gases (GHG) emissions reduction compared to our initial NDC in 2015. Finally, a significant effort has been made to develop a solid framework for measurement, reporting and verification (MRV), so that Cambodia is able generate credible evidence on progress made and on challenges encountered.

In order to achieve the vision on green growth, Cambodia has laid out its National Policy and National Strategic Plan (2013-2030), targeting at continuing the stimulation of economic growth and environment protection, sustainable natural resources management, reducing people's poverty, enhancement of gender equality, social equality, and good governance. Key strategies to effectively implement the National Policy and National Strategic Plan include green technology exchange and transfer, green investment, green job opportunity and green economy management.

Specific technology¹ barriers (up to one page):

This section should answer the questions "what are the technology barriers that hinder national efforts described above" and "how will the CTCN technical assistance complement these efforts?" Building upon the problem statement and taking into consideration the existing efforts described above, please describe the specific technology barriers encountered by the requesting applicant to identify, assess or deploy climate technology(ies) in an effort to address the problem statement. The described barriers should be within the scope of the requested CTCN technical assistance (described in the section below).

Key challenges for industrial SMEs include:

Unreliable and high cost of energy, high costs of labour and logistics, thereby increasing production costs; inadequate access to affordable long-term financing; limited technological capability; limited information on international markets opportunities; delay or lack of availability of quality local raw materials, and shortage of skilled workforce.

Key Barriers to be Addressed

The following are key barriers identified regarding the adoption of environmentally sound technologies (ESTs):

- Lack of sufficient information and understanding about what constitutes environmentally sound or climate-smart technologies and their benefits, related topics such as greenhouse gas emissions or

¹ "any equipment, techniques, practical knowledge and skills needed for reducing greenhouse gas emissions and adapting to climate change" (Special Report on Technology Transfer, IPCC, 2000)

quantifying the resulting carbon footprint from a company's operations. The result is the absence of an environmental management culture within organizations – environmental management is treated as an optional component of business operations as the SMEs do not have the skills or knowledge to implement environmental practices and technologies.

- Financial constraints inhibiting the acquisition of the technologies; Related to this is the issue of lack of access to finance where many commercial lenders are currently not financing ESTs and particularly at the SME level.
- An absence of green technology databases to support the development of circular economies.
- Absence of linkages between SMEs and the relevant solution providers - SMEs do not have information as to where to access the technologies and/ or which financiers to engage with to support the relevant acquisitions.

Sectors:

Please indicate the main sectors related to the request:

- | | | | |
|---|---|---|---|
| <input type="checkbox"/> Coastal zones | <input type="checkbox"/> Early Warning and Environmental Assessment | <input type="checkbox"/> Human Health | <input checked="" type="checkbox"/> Infrastructure and Urban planning |
| <input type="checkbox"/> Marine and Fisheries | <input checked="" type="checkbox"/> Water | <input checked="" type="checkbox"/> Agriculture | <input type="checkbox"/> Carbon fixation |
| <input checked="" type="checkbox"/> Energy Efficiency | <input checked="" type="checkbox"/> Forestry | <input checked="" type="checkbox"/> Industry | <input type="checkbox"/> Renewable energy |
| <input type="checkbox"/> Transport | <input checked="" type="checkbox"/> Waste management | | |

Please add other relevant sectors:

Cross-sectoral enablers and approaches:

Please indicate the main cross-sectoral enablers and approaches

- | | | | |
|---|---|---|--|
| <input checked="" type="checkbox"/> Communication and awareness | <input checked="" type="checkbox"/> Economics and financial decision-making | <input checked="" type="checkbox"/> Governance and planning | <input type="checkbox"/> Community based |
| <input type="checkbox"/> Disaster risk reduction | <input type="checkbox"/> Ecosystems and biodiversity | <input type="checkbox"/> Gender | |

Technical assistance requested (up to one page):

Founded on the problem statement, past/on-going efforts and technology barriers, please describe the requested technical assistance. The technical assistance should clearly contribute to mitigation or adaptation to climate change as described in the problem statement and contribute to overcome the specific technology barriers.

Within a clearly defined scope, the description of technical assistance should be structured into the following:

- Overall objective
- Anticipated groups of activities to be performed by the technical assistance
- Anticipated products to be delivered by the technical assistance.

Please note that the CTCN facilitates technical assistance and is not a project financing mechanism.

Expected Activities and Outputs that will address the barriers identified and lead to the expected outcomes.

The following are proposed interventions for consideration that could potentially help to address the identified challenges and take advantage of potential quick wins.

Activities

1. Create a profile of the SME sector in Cambodia which includes sectors, number of units, production process, economy etc.
2. Investigate scale of operations and growth forecast
3. Investigate typical technology used and resources consumed in comparison to other industries in the same sector internationally
4. Estimate the potential of savings in GHG emission in each sector/sub sector
5. Conduct cost analysis
6. Provide information on ESTs and climate technologies and their benefits
7. Provide information on green technology databases and suggestion for the establishment of data hub
8. Selection of potential target SMEs (and/ or business advisory training for them including supporting the identification of ESTs to be acquired for individual SMEs)
9. Provide policy and action recommendation on the facilitation of the uptaking by SMEs
10. Suggestion on the innovative financial instruments tailored to the adoption of climate technologies and ESTs by SMEs
11. Preparation of GCF Concept Note

Outcome 1: Understanding current status on SMEs in target sectors in Cambodia and raising awareness on the uptake of ESTs by SMEs

Output 1: Profile of SMEs in Cambodia

Output 2: Information on climate technologies and ESTs

Output 3: Green technology databases and creation of a data hub to support the promotion of a circular economy

Output 4: Policy and Action recommendations for the uptake of ESTs in targeted sectors

Output 5: Selection of target SMES (and/or Capacity building of target SMEs)

Outcome 2: Recommendation on Innovative financial instruments tailored to the adoption of climate and EST technologies.

Output 6: Suggestion on innovative financial instruments for the uptaking of climate technologies and ESTs by SMEs

Output 7. GCF Concept Note

Intended Impact Potential

- Savings on electricity costs by adopting renewable energy options
- Reduction in the use of fossil fuels including diesel, kerosene and heavy fuel oils
- Investment in energy efficiency measures
- Impact from tons of waste reused and recycled instead of landfilled
- Impact of reduced methane through better management of liquid waste
- Impact of water usage management measures
- Reduction of agricultural losses through increased processing capacity and post-harvest solutions

Expected timeframe:

Please indicate the expected duration period for the requested technical assistance. Please note CTCN technical assistance is limited to a maximum duration of 12 months.

12 months

Anticipated gender and other co-benefits from the technical assistance:

Please describe the activities with gender linkages as well as the anticipated gender and other co-benefits (e.g. biodiversity, economic, social, cultural, etc.) that are likely to be generated as a result of the technical assistance.

For more information you can find guidelines on the CTCN's website here:

<https://www.ctc-n.org/technologies/ctcn-gender-mainstreaming-tool-response-plan-development>

Further reading on gender can be found on the CTCN website here:

<https://www.ctc-n.org/technology-sectors/gender>

Energy poverty does not affect women and men in the same way. In the energy field, people's roles are most often assigned on the basis of their gender, whether at the production, distribution and use of energy, both at the household level, communities or the market. This technical assistance will create an enabling environment for female and vulnerable groups to support energy-related activities in their day-to-day life. While the barriers and needs can vary among these groups, this project will be able to respond more efficiently to residential areas, where it will have a direct impact on women and vulnerable populations.

In addition, recycling and reusing of wastes have critical gender dimensions, particularly those that could be used in setting up or be used in an informal sector enterprise. Gender dimensions are essential while developing broader developmental priorities influencing waste management. These priorities include, for example, the local environment, health and hygiene, quality of life and lifestyles, economic and business opportunities from waste management and consumption/production patterns. This technical assistance will be executed considering the differentiated role gender plays in waste management.

Lastly, as this technical assistance provides environmentally sound technologies, it could be an opportunity for Cambodia to engage local stakeholders in sustainable development. The deliverables from this project would be beneficial in strengthening the capacity of the technical staff, and the knowledge and skills will be transferred to the community through awareness raising. The provision of this technical support would help build knowledge and a better understanding and to enhance the coordination among relevant ministries, particularly in developing climate projects in Cambodia going

forward.

Key stakeholders:

Please list the stakeholders who will be involved in the implementation of the requested CTCN technical assistance and describe their role during the implementation (for example, government agencies and ministries, academic institutions and universities, private sector, community organizations, civil society, etc.).

Stakeholders	Role to support the implementation of the technical assistance
National Designated Entity	The NDE will approve and provide guidance to its final deliverables of this technical assistance. It will serve as a coordination body across different stakeholders in the relevant sector.
Request Applicant	The applicant will closely monitor the design and execution of this technical assistance in close discussion with other national authorities, policymakers and citizens.
Private Sector	Assisting in the identification of market needs and exploring new economic opportunities, input into financial measures and instruments to stimulate the development of a national electricity grid code and a net metering policy.

Alignment with national priorities (up to 2000 characters including spaces):

Please describe how the technical assistance is consistent with national climate priorities such as: Nationally Determined Contribution, national development plans, poverty reduction plans, technology needs assessments, Low Emission Development Strategies, Nationally Appropriate Mitigation Actions, Technology Action Plans, National Adaptation Plans, sectorial strategies and plans, etc.

Reference document (please include date of document)	Extract (please include chapter, page number, etc.).
Nationally Determined Contribution (NDC)	<p>Direct alignment and contribution to NDC implementation is required for all CTCN technical assistances. Please include a direct reference to the INDC/NDC document (chapter, page number, etc.).</p> <p>The updated Nationally Determined Contribution (NDC) for Cambodia presents its commitments and needs for the next decade in order to realize the vision of a low-carbon and resilient society. Developed through extensive consultations over a nine-month period, its NDC includes contributions from all concerned stakeholders in the country, including relevant ministries and agencies, civil society representatives, development partners, academia, and the private sector.</p> <p>https://unfccc.int/sites/default/files/NDC/2022-06/20201231_NDC_Update_Cambodia.pdf</p>
Technology Needs Assessment	Cambodia completed its TNA in 2013. The TNA identifies water resources, agriculture and coastal zones as the priority sectors for building climate resilience in Cambodia.

	https://tech-action.unepccc.org/country/cambodia
Technology Action Plans	As part of its TNA, Cambodia has formulated Technology Action Plans for each of the prioritized technologies, specifying activities and enabling frameworks to facilitate the successful adoption and implementation of the most relevant technologies. https://tech-action.unepccc.org/country/cambodia
National Adaptation Programme of Action	The main goal of the Cambodian NAPA is to provide a framework to guide the coordination and implementation of adaptation initiatives through a participatory approach, and to build synergies with other relevant environment and development programmes. https://www.adaptation-undp.org/resources/assessments-and-background-documents/cambodia-national-adaptation-programme-action-napa
National Strategic Development Plan (NSDP)	The National Strategic Development Plan (NSDP) 2019-2023 summarizes the key achievements and challenges during the implementation of the National Strategic Development Plan 2014-2018, together with the macro-economic framework for NSDP 2019-2023. National Strategic Development Plan (NSDP) 2019-2023 (English) - National Strategic Development Plan (NSDP) 2019-2023 (English) OD Mekong Datahub (opendevelopmentcambodia.net)
Cambodia Climate Change Strategic Plan 2014 – 2023 (CCCSP)	Cambodia Climate Change Strategic Plan UNFCCC
National Policy and National Strategic Plan (2013-2030)	The National Strategic Plan has been developed to boost Cambodian economy toward a green economy focusing on efficient use of natural resources, environmental sustainability, green jobs, green technology, and economic reform, placing more consideration into green incentives, such as green tax, green finance, more importantly green credit, green microfinance, and green investment. National Policy and Strategic Plan for Green Growth 2013-2030. FAOLEX

Development of the request (up to 2000 characters including spaces):

Please describe how the request was developed at the national level and the process used by the NDE to approve the request before submitting it (who initiated the process, who were the stakeholders involved and what were their roles?) and describe any consultations or other meetings that took place to develop and select this request, etc.

Cambodia has embarked on several initiatives (e.g., the Nationally Determined Contribution, NDCs, The National Climate Change Action Plan and the Green Economy Strategy and Implementation Plan, among others) to support climate change adaptation and mitigation within the manufacturing sector. Some of the priority areas that are aligned to the proposed project include the increased use of renewable energy options in the industry; enhancement of energy efficiency solutions and technologies; enhancement of other resource-efficient solutions for production facilities; focus on improved waste management initiatives; Development of financing options to support the adoption of

ESTs and public policy development to support the manufacturing sector's shift to a green economy.

The NDE has determined that the CTCN Technical Assistance program is an ideal source to seek help with this process, given the scale and type of assistance it provides. The main objective of the programme is to support the adoption of climate and environmentally sound technologies (ESTs) for industrial SMEs in Cambodia, which is expected to positively impact production efficiency and improve business value for enterprises.

Industrial SMEs in Cambodia face numerous challenges with regard to the uptake of climate-smart technologies. These include limited information on the relevant technologies and providers; high upfront costs, unfavorable credit terms and lack of access to finance for technology acquisition; lack of skills and knowledge on technology implementation and insufficient local policy support.

The proposed technical assistance will support (1) understanding of current status of SMES in the target sectors in Cambodia, (2) capacity building of SME manufacturers and processors on climate-smart technologies and investor readiness, (3) the creation of a data hub to promote a waste and by-products exchange among the manufacturers, thereby creating a circular economy, resulting in the adoption and scale-up of environmentally sound technologies and practices by SMEs in Cambodia. This is expected to improve production efficiency, boost productivity, enhance climate resilience and promote sustainability in the targeted sectors as below:

- Agriculture
- Forestry
- Building & Construction
- Energy, Electricity & Water
- Manufacturing
- Digital and learning organizations

Background documents and other information relevant for the request:

- *Please list all relevant documents that will help the CTCN analyse the context of the request and national priorities. Please note that all documents listed/provided should be mentioned in this request in the relevant section(s), and that their linkages with the request should be clearly indicated. For each document, please provide web-links (if available) or attach to the submission form. Please add any other relevant information as required.*
- *Please indicate if this request has been developed with the support of the CTCN Request Incubator.*
- Nationally Determined Contribution (NDC)
- Technology Needs Assessment
- Technology Action Plans
- National Adaptation Programme of Action
- National Strategic Development Plan (NSDP)
- Cambodia Climate Change Strategic Plan 2014 – 2023 (CCCSP)
- National Policy and National Strategic Plan (2013-2030)

OPTIONAL: Linkages to Green Climate Fund Readiness and Preparatory Support

The CTCN is collaborating with the GCF in order to facilitate access to environmentally sound technologies that address climate change and its effects, including through the provision of readiness and preparatory support delivered directly to countries through their GCF NDA. These actions are in line with the guidance of the GCF Board (Decision B.14/02) and the UNFCCC, particularly paragraphs 4 and 7

of 14/CP.22 that addresses Linkages between the Technology and the Financial Mechanisms².

The CTCN is therefore implementing some of its technical assistance using GCF readiness funds accessed via the country's NDA. Any application for GCF support, including the amount of support provided, is subject to the terms and conditions of the GCF and should be developed in conjunction with the NDA.

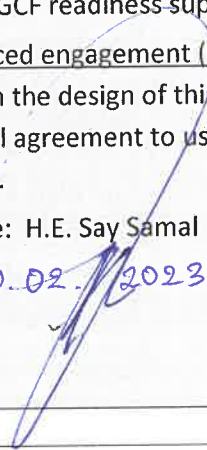
Please indicate whether this request has been identified as preliminarily eligible by the NDA to be considered for readiness support from the GCF.

Initial engagement: The GCF NDA of the requesting country has been engaged in the design of this request and the NDA will be involved in the further process leading to an official agreement for accessing GCF readiness support.

Advanced engagement (preferred): The GCF NDA of the requesting country has been directly involved in the design of this request and is a co-signer of this request, the signature indicating provisional agreement to use readiness national funds to support the implementation of the technical assistance.

NDA name: H.E. Say Samal

Date: 20.02.2023

Signature: 

Monitoring and impact of the assistance:


By signing this request, I affirm that processes are in place in the country to monitor and evaluate the technical assistance provided by the CTCN. I understand that these processes will be explicitly identified in the CTCN Response Plan and that they will be used in the country to monitor the implementation of the technical assistance following standard CTCN procedures.

I understand that, after the completion of the requested assistance, I shall support CTCN efforts to measure the success and effects of the support provided, including its short, medium and long-term impacts in the country.

Signature:

NDE name: Dr. Hak Mao

Date: 17.02.2023

Signature: 

THE COMPLETED FORM SHALL BE SENT TO THE CTCN@UNEP.ORG

The CTCN is available to answer all questions and provide guidance on the application process.

² Please see:

https://unfccc.int/files/meetings/marrakech_nov_2016/application/pdf/auv_cop22_i8b_tm_fm.pdf