

**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/tclear/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.

<b>Requesting country or countries:</b>	Democratic Republic of Timor-Leste
<b>Request title:</b>	Formulating a National Electricity Grid Code and Development of a Net Metering Policy in Timor-Leste
<b>NDE</b>	Mr. Luis dos Santos Belo National Directorate for Climate Change, Ministry of Economic Affairs, Secretariat State for Environment. +670 333-1118 <a href="mailto:alubelo78@gmail.com">alubelo78@gmail.com</a> Fomento Building Venue: Dom Boaventura no.16, Dili, Timor-Leste
<b>Request Applicant:</b>	Organization: National Authority for Electricity (ANE, I.P.) Contact Person: Ruben Jeronimo Freitas Position: ANE, I.P. President & Executive Director E-mail: <a href="mailto:ruben.freitas@ane.gov.tl">ruben.freitas@ane.gov.tl</a> and <a href="mailto:ruben.freitas@untl.edu.tl">ruben.freitas@untl.edu.tl</a> Telp: +670 77059475 Address: Avenida Martires da Patria (Antigo Rua Mozinho de Albuquerque), Beco Tahu-Isin, Dili, Timor Leste

**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 summaries the problem related to climate change and/or the negative impacts of climate change in the country that the request aims to address.

The Democratic Republic of Timor-Leste is fully engaged with the requirements of the multilateral process under the United Nations Framework Convention on Climate Change (UNFCCC) and its Paris Agreement. While Timor-Leste is one of the lowest contributors to global climate change, they are the victims of this phenomenon, and the impacts are getting more serious, especially for communities in rural areas. Additionally, given the fact that Timor-Leste is a Least Developed Country (LDC) and Small Island Development State (SIDS), there is a lot that needs to be done and achieved to safeguard the country’s development and increase the resiliency of its vulnerable communities.

Timor-Leste’s development has been highly dependent on national fossil fuel resources and will remain so until access to alternative economic models and markets are identified. In the meantime, Timor-Leste will scale up investment in renewable energy systems as a means to reduce diesel consumption and improve the resilience of rural communities through engagement with innovative blended financing mechanisms, LDC-focused financing facilities, and private sector engagement. Timor-Leste will prioritise investments that increase energy security and access in rural communities and will seek increased investment and engagement of the private sector to assist with the scale-up and use of low-carbon technologies.

A reaffirmation of Timor-Leste’s key mitigation arrangements and options set out under its first NDC, inclusive of actions related to the scale-up of renewable energy services, improved energy efficiency and transport efficiency, the promotion of sustainable forest management, and the introduction of improved methods and policies related to waste management in relation to low carbon development path. While Timor-Leste’s contributions to climate change are minimal and adaptation and the minimisation of loss and damage remain core national priorities, Timor-Leste continues to explore options for robust national emissions reduction and overall production of oil and gas in Timor-Leste, as well as total export, has declined in recent years. Solar energy, biogas, hydropower, and efficient cook stoves have been increasingly piloted and utilized as an alternative to fossil fuels. However, further progress is conditional on access to increased resources, finance, and technology transfer.

**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.

In 2016 Timor-Leste successfully submitted its first NDC/INDC to the UNFCCC Secretariat following the decisions 1/CP.19 and 1/CP. 20. Since Timor-Leste submitted its first NDC, the Government of Timor-Leste has formalized the national institutional arrangements for an integrated response to climate

change risks. Also, some required policy has been in place and several responsible stakeholders accessed environmental and climate funds to respond to the issues of climate change in the country.

Following the current circumstances, the revised and enhanced NDC to the UNFCCC and its Paris Agreement builds on Timor-Leste's first NDC and highlights additional national intentions to integrate climate risk management into all sectoral policies, planning processes, implementation strategies and investment to enhance national well-being. This revised NDC also seeks to support a climate-safe transition in Timor-Leste and enhance commitments in response to the newly endorsed National Climate Change Policy and Sustainable Development Goals 2030. While the scope, scale, and complexity of climate change risks increase alongside the socioeconomic challenges they create, Timor-Leste is resolute in its commitment to protecting national well-being and achieving the priorities set out by National Climate Change Policy (2021), and the Sustainable Development Goals.

Ensuring energy security and improving access to reliable energy services remains a priority for Timor-Leste. Building resilience to climate change requires increasing investment in infrastructure protection. With the support of the World Bank climate-resilient road infrastructure projects have progressed in the Dili-Ainaro corridor supporting local livelihoods and business continuity. Pilot projects aimed at delivering solar lighting for rural communities have been trialled that utilise a pay-as-you-go model. Such schemes will be scaled up in future to help enable off-grid communities to access affordable home lighting solutions.

As an LDC and a climate-vulnerable developing nation, Timor-Leste references Articles 2.2, 4.3, and 4.19, regarding the concept of "common but differentiated responsibilities" when developing the practicality and scope of its national emissions reduction commitments. The Government of Timor-Leste aims to facilitate the conditions required to enable sustainable low-carbon development and will continue to seek options for increasing both the energy efficiency and economic efficiency of national energy services. In addition to technological changes made within the energy sector, Timor-Leste will continue to bolster national carbon sequestration potential as a means to reduce net domestic emissions in conjunction with any activities undertaken to transfer carbon emission reduction units offshore through modalities enabled under Article 6 of the Paris Agreement.

Through the development and implementation/enforcement of product efficiency standards, energy-efficient building designs, new fuel standards, closer regulation of industrial processes, and the energy efficiency improvements that can be derived from changes to primary energy sources used by communities, there is potential to increase the overall efficiency of Timor-Leste's energy sector. To do so, research will be conducted to improve the understanding of key opportunities and improve the cost-benefit analysis available on potential demand-side efficiency improvements in Timor-Leste.

**Specific technology<sup>1</sup> 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

<sup>1</sup> "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)

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).

Timor Leste needs a unified grid code in order to standardize all the connections to the grid. As part of the strategy to transition to renewable energy, the renewable energy decree-law has been prepared to establish the legal framework for registration, installation, exploration, licensing, supply, marketing, promotion, financing, and incentives, for the production and use of electricity derived from renewable energy sources. In addition, the government established the regulation of the activity of production of electric energy destined for self-consumption. Last but not least, this technical assistance is to define a net metering policy and a regulatory framework and institutionalization of a system for installers and to promote this scheme at the national level.

**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 type="checkbox"/> Water                                      | <input type="checkbox"/> Agriculture  | <input type="checkbox"/> Carbon fixation                              |
| <input checked="" type="checkbox"/> Energy Efficiency | <input type="checkbox"/> Forestry                                   | <input type="checkbox"/> Industry     | <input checked="" type="checkbox"/> Renewable energy                  |
| <input type="checkbox"/> Transport                    | <input type="checkbox"/> Waste management                           |                                       |   |

Please add other relevant sectors:

**Cross-sectoral enablers and approaches:**

Please indicate the main cross-sectoral enablers and approaches

- |  |   |   |  |
|--|---|---|--|
| <input 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 checked="" 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.

#### **Formulating a National Electricity Grid Code**

The formulation of a national electricity grid code will enable private-sector electricity producers to connect more easily to the grid. This will reduce the risks for potential investors and encourage the use of more renewable energy. It will also simplify the process since the regulators and the producers of energy will be operating from the same perspective. One of the barriers to renewable energy will be removed, and increasing amounts of renewable energy can be installed. The technical assistance from CTCN will help to create a document that is of an international standard that might even be referred to by other SIDS in developing or revising their own grid code.

The following activities will be implemented.

- Review present practices for renewable energy system connectivity and single out the stakeholders that have been involved so far in grid connection;
- Define short-term and long-term requirements for the energy system;
- Define a technology road map including the grid technology;
- Future policies road map;
- Define a national grid code for Timor-Leste.

#### **Development of a Net Metering Policy**

This technical assistance aims to develop an institutional framework that will regulate the use of electricity starting with a Net metering policy.

The following activities will be implemented.

- Develop a net metering policy and a regulatory framework and institutionalization of a system
- Develop a market-based financial model for technology adoption
- Conduct technical training of national trainers on technology for households
- Prepare a GCF concept note to ensure the replicability of the system.

#### **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 18 months.

18 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 field of energy, the roles of people 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 their activities related to energy in their day-to-day life. While the barriers and needs can vary among these groups, this project will be able to respond more easily to residential areas where it will have a direct impact on women and vulnerable populations.

Moreover, as this technical assistance provides renewable energy technology, it could be an opportunity for Timor-Leste 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 renewable energy projects in Timor-Leste 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.
Other ministries <ul style="list-style-type: none"> <li>• Ministry of Public Works</li> <li>• Ministry of Economic Affairs</li> <li>• Ministry of State Administration</li> <li>• Ministry of Finance</li> </ul>	Data and research input, standards shaping and development

**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 Government of Timor-Leste believes that the revised NDC will significantly contribute to responding to climate change issues and implementing the initiatives as well as engaging on climate risk governance, nature-positive growth and transition, low carbon development, climate change adaptation and resilience building with national and international support.</p> <p><a href="#">Timor Leste Updated NDC 2022_2030.pdf (unfccc.int)</a></p>
Technology Needs Assessment	<p>Timor-Leste started its TNA process in 2020. Among the prioritized sectors for mitigation is energy efficiency in transportation.</p> <p><a href="#">Timor Leste - Technology Needs Assessment (unepccc.org)</a></p>
National Adaptation Plan	<p>The National Adaptation Plan of Timor-Leste describes its vulnerabilities to climate change and presents its priority adaptation needs for addressing climate change risks and achieving climate-resilient sustainable development goals in the country. The NAP is well aligned with its Nationally Determined Contribution (NDC) to the Paris Agreement and the Green Climate Fund (GCF) country programme.</p> <p><a href="#">Timor Leste NAP.pdf (unfccc.int)</a></p>
National Adaptation Programme of Action	<p>The National Adaptation Programme of Action has been developed to identify national priorities to address climate change adaptation and to monitor the implementation of adaptation measures.</p> <p><a href="#">timor-leste_napa - december 2010.pdf (adaptation-undp.org)</a></p>
Add others here as relevant	<p>National Climate Change Policy (2021) Strategic Development Plan 2011-2030</p>

**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.

The problem of operating without a grid code has become apparent as more micro-sized installations start to be connected to the grid. The grid code should be finalized as soon as possible to remove barriers from the path to a greater share of renewable energy in Timor-Leste, and to combat climate change. 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.

It is expected that the formulation of a national electricity grid code and the definition of a net metering policy will enable private-sector electricity producers to connect more easily to the grid. This will reduce the risks for potential investors and encourage the use of more renewable energy. The grid code will help ensure the safety of all stakeholders' property including the national grid and equipment belonging to the operators. There will be a reference document to ensure all component suppliers comply with the relevant standards. For the grid operator, it will ensure grid stability since everyone will be operating from the same set of standards and have the same understanding. By removing barriers and increasing the share of renewable energy in the generation mix, Timor Leste will be able to reduce its greenhouse gas emissions and play its part in fighting climate change.

The grid code and a net metering policy will be of national importance that will be used as the reference document for many decades, with periodic minor revisions as deemed necessary by the regulator and the grid operator. After it is created, anyone who wants to connect to the grid will have to follow all the standards set out in the document. This will ensure a safe and stable operation of the grid.

The private sector will be involved in creating the grid code and a net metering policy to ensure that they are able to apply the grid code standards when they are designing their installations and preparing to connect to the grid. The grid operator will use the grid code to assist in designing its grid and determining whether an applicant can connect to the grid. The regulator will ensure that everyone is following the grid code. Furthermore, workshops will be organized to disseminate the information set out in the grid code after it has been finalized.

**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) Timor-Leste 2022-2030
- National Adaptation Plan (NAP)
- National Adaptation Programme of Action (NAPA) on Climate Change
- National Climate Change Policy (2021)
- Strategic Development Plan 2011-2030

**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 Mechanisms<sup>2</sup>. 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: Pedro G.D.S. Marcal da Costa

Date: 25/01/2023

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:

Mr. Luis dos Santos Belo

Date:

25/01/2023

Signature:

<sup>2</sup> Please see:

[https://unfccc.int/files/meetings/marrakech\\_nov\\_2016/application/pdf/auv\\_cop22\\_i8b\\_tm\\_fm.pdf](https://unfccc.int/files/meetings/marrakech_nov_2016/application/pdf/auv_cop22_i8b_tm_fm.pdf)

THE COMPLETED FORM SHALL BE SENT TO THE [CTCN@UNEP.ORG](mailto:CTCN@UNEP.ORG)

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