

Please complete the gray boxes below following the instructions in italics.

Requesting country:	<i>BURUNDI</i>
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Request title:	<i>Support for capacity building for solar technicians – installation, maintenance and upkeep of solar equipment</i>
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Contacts:

(Complete the table below with the information requested. The requesting organization is the organization that issued the request, if it is different from the national designated entity (NDE).

	National designated entity	Requesting organization
Name:	<i>Ndayishimiye</i>	<i>Ndayihaye</i>
First and middle names:	<i>Rénilde</i>	<i>Nolasque</i>
Title:	<i>General Manager</i>	<i>General Manager for Energy</i>
Organization:	<i>Geographic Institute of Burundi (IGEBU)</i>	<i>National Energy Office (DGE)</i>
Telephone:	<i>(257) 79 910 486</i>	<i>(257) 22 22 38 88</i>
Fax:	<i>(257) 22 40 26 25</i>	<i>(257) 22 223337</i>
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Technology needs assessment (TNA):

{Check one of the three boxes below:}

The requesting country has completed a TNA on 18 July 2018 (Please provide the report finalization date)

The requesting country is carrying out a TNA

The requesting country has never completed a TNA

{If the requesting country completed a TNA in the past, please provide the technology priority this request relates to. Please provide the specific references of the TNA report/technology action plan or of project ideas.}

Technology: *Capture and promotion of solar photovoltaic systems*

Reference: *TNA-II Report, Stage 3: Technology Action Plan*

Geographic focus:

{Select below the geographic level the most appropriate for this request:}

Community level

- Regional/provincial level*
 National level
 Multi-country request

{If the request is for the regional/provincial level or several counties, provide the relevant areas (cities, provinces, regions, countries, etc.) here.}: **Country**

Theme:

{Select below the theme/goal the most appropriate for the request}

- Climate change adaptation*
 Climate change mitigation
 Climate change mitigation and adaptation

Sectors:

The request relates to the Energy sector.

Issue Statement *(one page maximum):*

{Describe the specific climate change-related difficulties and barriers for which the county is seeking the CTCN's technical assistance. Limit your description to specific issues that this request attempts to address and that justify the need for the CTCN's technical assistance.

In Burundi, wood fuel accounts for more than 95% of total energy consumption. With the national electrification rate standing at just 10%, the population is beginning to use solar photovoltaic (PV) as an energy source. This trend will help to reduce greenhouse gas emissions from candles, oil lamps, generators and firewood, and will support environmental conservation by avoiding deforestation and protecting plants and wildlife.

Solar energy is available and well distributed across Burundi. The country also has high promising solar potential. Average sunlight amounts to 4-5 kWh per sq. m per day and close to 2,000 kWh per sq. m per year, which is similar to the sunniest parts of Europe (southern Mediterranean).

Burundi has already embarked on a nationwide solar PV-based rural electrification programme. However, the programme is beset by a number of difficulties, largely related to a shortage of trained technicians capable of properly installing and maintaining solar PV systems.

Training provision is either non-existent or inadequate due to a shortage of educational materials and training modules spanning various solar energy applications, as well as a lack of measurement tools and instruments, coupled with the sheer scale of training needs. As a result, installed solar PV facilities are often out of order, which undermines the acceptability of this form of energy.

The proposed project is of paramount importance because it aligns with **Burundi's National Strategy and Action Plan on Climate Change**, adopted in March 2013, and in particular with **point 7 of the National Strategy on Climate Change**, which emphasizes capacity building (training, awareness-raising, etc.).

Building the capacities of solar energy technicians will equip the country with the skilled technicians needed to guarantee reliable, properly maintained solar PV facilities.

Past and on-going efforts (*half a page maximum*):

{Describe past and on-going processes and projects that have been implemented in the requesting country in order to meet the needs and the barriers described in the preceding section. Explain why the CTCN's technical assistance is necessary to supplement those efforts, and how the CTCN's assistance could build on or work with those initiatives.}

The Government of Burundi has already launched a promotional campaign to increase the uptake of various solar energy applications at schools, health centres and hospitals and in rural villages, as well as training 153 technicians. These initiatives supplement solar PV facilities funded by private investors in Mubuga (7.5 MW), Bubanza (10 MW) and Gitega (10 MW).

There are still far too few trained technicians to meet the country's needs.

The Government has made the sector one of its top priorities by creating the Department for Renewable Energy and Energy Efficiency within the Ministry of Water, Energy and Mining. The department's primary task is to promote and increase the uptake of this form of energy in parts of the country not connected to the Regideso grid.

The CTCN-appointed expert could work with the National Energy Office, which has past experience with this type of activity, to examine feasibility, map stakeholders, deliver training across various solar applications, and review capacity building needs and major challenges.

Technical assistance requested (*one page maximum*):

{Describe the type of assistance expected from the CTCN and its goals. Explain how this assistance could address the technical difficulties mentioned in the issue statement and supplement past efforts by the requesting country.}

Please note that the CTCN provides technical assistance to the requesting country and is not a funding system.}

1. Carry out solar technology transfer

Trainees will be expected to carry out solar technology transfer by organizing training for technicians, at the national level, on various solar applications. They will also be expected to develop training modules, provide relevant educational materials, supply the necessary measurement tools and instruments, and determine training needs.

2. Set up a training centre

Review plans to set up a solar energy training centre, including developing curricula and determining requirements for equipment and educational materials to support the creation of a training centre. Alternatively, renovate and fit-out the existing Centre d'Etudes Burundais des Energies Alternatives (CEBEA).

3. Encourage innovation

The CTCN could help set up groups and devise strategies to promote a culture of research and innovation in solar energy, as well as create a space for technicians to exchange knowledge and ideas.

4. Provide institutional support

Burundi lacks the resources necessary to build domestic institutional and human capacities. For this reason, the Technology Needs Assessment (TNA) report recommends increasing in-country expertise in solar plant design, maintenance and operation.

Benefits expected (*half a page maximum*):

{Provide the long and medium-term benefits and impacts expected from the CTCN's assistance that

would support climate change mitigation and adaptation in the requesting country.}

Short and medium-term outcomes:

- Knowledge in the field of solar energy will be acquired, and jobs will be created for trained technicians.
- The country will have more trained and qualified solar energy technicians providing high-quality services.
- Solar products will be available on the market.
- Local, low-cost maintenance and upkeep services will be available.
- Stores will sell more solar products, thereby increasing their income.
- The number of innovative solutions for various solar applications will increase.

Long-term outcomes:

- Increased uptake of solar energy will reduce and mitigate greenhouse gas emissions.
- Greater interest in solar energy will reduce deforestation and address health problems linked to indoor air pollution.

Post-technical assistance plans and projects *(half a page maximum):*

{Describe how the CTCN's assistance outcomes will be concretely used by the country after it has been provided in order to carry on the efforts aiming at solving the stated issue. List all the concrete actions that will be implemented after the CTCN's technical assistance has been provided.}

Once the assistance has been provided, the country will have trained, professional personnel capable of meeting its requirements, and will:

- Acquire further knowledge in the field of solar energy.
- Develop in-country expertise in the field of renewable energy.
- Increase the electrification rate.
- Have a functioning training centre, providing appropriate, on-going training for personnel at the Department for Renewable Energy and Energy Efficiency.
- Provide local, on-going training for technicians and managers (by trained experts).
- Set up a department to coordinate the activities.
- Establish mechanisms for monitoring and evaluating the performance of trained technicians.

Partners involved:

{In the table below, identify the main organization (government agencies, ministries, research institutes, universities, associations, cooperatives, companies, etc.) that will collaborate with the CTCN on the technical assistance implementation, and explain what their role will be in respect to the technical assistance. Indicate which organization will be CTCN's main partner for this assistance, in addition to the national designated entity.}

Partners	Role in respect to the technical assistance
<i>Add as many lines as needed.</i>	<i>Add as many lines as needed.</i>
National Energy Office (DGE)	Energy policy development and application/NDE
National Energy Office (DGE)	Proponent of the capacity building and training project
Ministry of the Environment, Agriculture	Advocacy, monitoring & evaluation

and Livestock	
Local authorities	Opinion leadership for beneficiaries and support in identifying trainees and delivering training.

Compliance with national priorities (*half a page maximum*):

{Explain how the assistance requested matches the official national priorities of the requesting country (examples of national priorities: national development plans, poverty reduction strategies, sectorial strategies, technology needs assessment (TNA), low emission development strategies (LEDS), nationally appropriate mitigation actions (NAMAs), technology action plan (TAP), national action plan (NAP), etc. For each priority mentioned, indicate the official document that mentions it and its detailed references (chapter, page, etc.)}

The technical assistance requested matches the official national priorities of the country as detailed in the following documents:

- National Development Plan of Burundi, July 2018, page 46.
- Energy Policy Letter, January 2011, page 25.
- Opportunities in the renewable energy sector in Burundi, October 2012, page 38.

Request development (*half a page maximum*):

{Explain how the request has been developed at the national level and the process used by the national designated entity in order to approve the request before its submission to the CTCN (which organization proposed the request, who are the various stakeholders that approved the request, which meetings or consultations took place to develop and/or select the request, etc.)}

Climate adaptation and mitigation consultants developed the ideas behind the project as part of the TNA exercise, with input from experts and technology owners.

The CTCN sent the request form to the National Designated Entity (NDE), which in turn forwarded it to the requesting organizations to familiarize themselves with its contents. The NDE organized a three-day residential workshop attended by sectorial experts and technology owners sent by the requesting organizations.

At the workshop, the NDE explained the contents of the request form in detail. These requests were developed during the workshop and endorsed by the participants.

This request was proposed by the National Energy Office and sent to the NDE. Once approved, the NDE endorsed and signed the request before submitting it to the CTCN.

Intervention duration:

{Provide the preferred duration of the technical assistance from the CTCN.}

12 months

Documents and proofs:

{Below list the documents that will allow the CTCN to better understand the context of the request and the pertinent national priorities, and explain their connections with the request. For each document, please provide an Internet link or attach it to this request form when you submit it to the CTCN.}

Institutional and regulatory framework for implementation:

The Ministry of Water, Energy and Mining (MHEM) is governed by a set of laws and other fundamental texts that set out its internal organizational structure. These texts are as follows:

- Law no. 1/13 of 25 April 2015 on the Reorganization of the Electricity Sector (for the electricity sector).
- Law no. 1/14 of 27 April 2015 on the General System for Public-Private Contracts (PPPs) (for projects involving the private sector – water, electricity, mining and oil).
- Establishment of the Agency for Regulation of Water, Electricity and Mining (AREEM).
- National Strategy for Development of New and Renewable Energy in Burundi until 2030.

Other documents:

- Energy Policy Letter, 2011, Ministry of Energy and Mines.
- Opportunities in the renewable energy sector in Burundi, October 2012.
- National Development Plan, July 2018
www.facebook.com/minergiesmine1/posts
[www.facebook.com/Ministere-De-Lenergie Et Des Mines](http://www.facebook.com/Ministere-De-Lenergie-Et-Des-Mines)
ministere-energie-mines.gov.bi
www.ppbd.com/index.php/extras/politique-cooperation
www.energie-mines.gov.bi

Monitoring and evaluation:

{Please read carefully and check the boxes below:}

By signing this request form, I confirm that processes exist in the requesting country for the monitoring and evaluation of the assistance provided by the CTCN. I understand that those processes are explicitly identified in the request response plan, in collaboration with the CTCN, and will be used in the country to monitor the implementation of the CTCN's assistance.

I understand that once the assistance has been implemented, I will support the CTCN's efforts to measure the success and effects of the support provided, including its short-term, medium-term and long-term impacts in the requesting country.

Signature of national designated entity

Name: Ndayishimiye

Organization: IGEBU

Date: 14/02/20

Signature:

**ONCE DULY COMPLETED AND SIGNED, THIS FORM MUST BE EMAILED TO THE
CTCN AT: CTCN@UNEP.ORG**

Need help? The CTCN team is available to answer your questions and guide you throughout the request submission process. Do not hesitate to share your feedback with the CTCN team to improve



**Technical Assistance from the Climate Technology
Center & Network (CTCN)**

Request form

this form.

>>> *Contact the CTCN team at: ctcn@unep.org*