

**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.

<b>Requesting country or countries:</b>	<b>REPUBLIC OF DJIBOUTI</b>
<b>Request title:</b>	Technical assistance for the Development of a Direct Use Project in PK20
<b>NDE</b>	Direction de l'aménagement du territoire et de l'environnement Direction of territory planning and the environment Idriss Nour <a href="mailto:distri_play@yahoo.fr">distri_play@yahoo.fr</a>
<b>Request Applicant:</b>	Office Djiboutien de Développement de l'Energie Géothermique, ODDEG Djiboutian Office of Geothermal Energy Development  Dr Kayad Moussa Ahmed <a href="mailto:kayadmoussa@gmail.com">kayadmoussa@gmail.com</a>

**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):**

**On the climatic plan**

All average temperatures of the decade 1991- 2000, according to the 2006 Weather Report, exceed the normal. According to the same report, this trend was confirmed in the 2000s, which testifies in every respect to an obvious change in climatic context throughout the country.

**Recurring droughts**

Djibouti is among the countries that are seriously affected by droughts. Beyond the very arid climate, the level of precipitation has been below 50% of the usual level since 2005 (Weather report 2006). This important drop in rainfall has resulted in droughts the effects are in the forefront of the more vulnerable populations, namely the nomads and semi-nomads in rural areas and inhabitants of Peri-Urban areas from the capital.

**Decrease in water resources**

On the whole territory, the lack of water resources and remains under the pressure of saline intrusion. With the exception of a stream in the low valleys of Weïma (in the north of the country) and some sources in the Goda and Mabla Mountains are practically drying up, all the water consumed or used for domestic and agricultural activities comes from underground aquifers specially the Aquifer of Djibouti whose filling depends on rainfall and infiltration conditions, become problematic because of climate change. Access to water is more or less disparate in middle function. In urban areas, which include more than half of the country's population, the water supply becomes more and more compromised. This situation is particularly worrying at the capital level where neighborhoods are powered in turn, while several sectors are not connected to the network at all drinking water supply.

In rural areas, lack of water arises with particular acuity and diet (by different types of water points) pastoral populations' follows seasonal fluctuations. Traditional wells, almost all located on the edge of the wadi beds, see their water level decreases, forcing people to rural to fall back on the few permanent water points (drilling stations, wells). In this context, there is a concentration of rural population around some water points, which accentuates the pressures on water resources and the environment

The geographical position of Djibouti and its geological situation on the axis of the African rift makes it vulnerable to all kinds of natural disasters such as increasing the sea level due to climate change. It constitutes a danger for all coastal towns of the country, especially the capital which concentrates the majority population and the bulk of economic activity. There are also other threats that come from exceptional floods (1927, 1989, 1994, 2004 and 2010) and recurrent droughts (1986-2000). The human and material damage are huge.

In rural areas, recent decades have seen an increase in extreme situations or droughts prolonged are the result of violent rains that are sparing neither the villages nor the vegetation cover because of a strong soil erosion. These floods cause siltation of water points and the destruction of agricultural areas and pastoral routes, naturally aggravating the precariousness of the populations.

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

Globally, the amount of GHGs is estimated at more than 49,000 MtCO<sub>2</sub>e in 2004 by the IPCC. The annual emissions of the Republic of Djibouti, estimated at nearly 2 MtCO<sub>2</sub>e in 2010, therefore represent less than 0.005% of the overall volume. Its emissions are therefore insignificant by compared to global emissions. Nevertheless, the Republic of Djibouti reaffirms its conviction in the principle of collective engagement but differentiated responsibility and takes huge steps to address this issue.

The level of emission reduction envisaged unconditionally is 40% compared to reference scenario in 2030. This ambitious commitment supports the commitments of the other countries to collectively contribute to the global goal of limiting the increase in temperature at 2 degrees. For the Republic of Djibouti, the realization of this objective is essential given the country's high exposure to the impacts of climate change. Adaptation and increasing face resilience remains the priority for the country.

The Government of Djibouti have also created two public entities to meet its statements about the reduction of greenhouses gases :

- The creation of ODDEG (the Djiboutian office of geothermal energy development) that is in charge of the exploration, development and the generation of geothermal energy in Djibouti. ODDEG did surface studies in North Goubet , in Arta region , in PK20-Ambado and in Assal West region , ODDEG has also started a multimillions project in Assal Galle le Coma for the drilling of 10 geothermal wells , and an exploration wells in PK20-Ambado. ODDEG realize the commitment of the Government of Djibouti to develop renewable energies in Djibouti.
- The creation of ADME ( Djiboutian Agency for the energy management ) that is in charge of the management and the control of the energy efficiency of the public and private building and the regulation on the energy efficiency .
- Interconnection line with Ethiopia

Construction of a very high voltage line with a capacity of 50 MW to import electricity from Ethiopia to Djibouti. Ethiopian electricity is 90% produced by renewable energy sources. This project has completed in 2011.

Financing: US \$ 65 million financed 95% by the African Bank of Development and 5% by the Republic of Djibouti.

Estimated emissions avoided: 150 ktCO<sub>2</sub>e / year

- Exploitation of geothermal energy

The potential is estimated at 1200MW in the region of Assal Lake, Abbé Lake and North Goubhet. Commissioning power plants is scheduled for 2030.

Funding: Assal project funded by a group of donors led by the World Bank up to 31 million USD. Other projects financed by private investors in partnership with the Republic of Djibouti.

Estimated avoided emissions: 6,000 ktCO<sub>2</sub>e / year

- New railway line

Construction of a 752 km railway line between Djibouti-Ville and Addis Ababa. Commissioning was done in the beginning of 2016.

Financing: Project financed by Chinese private investors

Other project are on the way ( please see the annexe NDC 2015)

**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 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).

The use of diesel-powered generators has been widespread in the target area since several years, and despite the significant operating costs and the pollution caused by these facilities, this relatively simple method to implement is efficient and endures. Over the years of the diesel network have been created and expertise has developed into the day-to-day management of facilities and computers occasional. In addition, renewable energy-related technologies are relatively new and poorly mastered. For these communities those new technologies has to be well known. The operators especially ODDEG personal have to be trained in geothermal direct use technologies to know more about the appropriate technologies to develop direct use project around the country.

The existing solution for the technological barrier is the engagement of the local communities and the ODDEG personal through the project by different ways :

- During the environmental and social impact assessment , that specify the procedure for public meeting , and public engagement according to the decree n°2011-029/PR/MHUEAT 24<sup>th</sup> February 2011 , Article 15 , the local communities have to be well informed about the technologies that will be used in the project .
- And during the operation it has to be a knowledge transfer in each project by the training of workers and operators specially ODDEG personal in the geothermal direct use technologies.

ODDEG has recently started to work closely with its partner to develop the skills of its workers. ODDEG work with ICEIDA, JICA and BGR to develop the skills of its personals.

**Sectors:**

Please indicate the main sectors related to the request:

- Coastal zones       Early Warning and Environmental Assessment       Human Health       Infrastructure and Urban planning

<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)

- |   |   |   |  |
|---|---|---|--|
| <input type="checkbox"/> Marine and Fisheries | <input type="checkbox"/> Water            | <input checked="" type="checkbox"/> Agriculture | <input type="checkbox"/> Carbon fixation             |
| <input 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 type="checkbox"/> Economics and financial decision-making | <input type="checkbox"/> Governance and planning | <input checked="" 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.

The Djiboutian Office of Geothermal Energy Development will begin in February 2019 the drilling of two geothermal shallow wells (700-900 m) in PK20 area to confirm the viability of the resource in this area. A surface study was done in 2017, during this study the presence of a shallow reservoir was proven according to the surface manifestation (high temperature water wells, fumaroles) (please the attached file "PK20 conceptual model").

The project area is located near to the city (20 Km) , there is the main national road "RN1" used to transport material from the Port to Ethiopia , there is storage areas , there is free zones , there is industries ( cement industries , and a steel manufacturing company ) , local farmers and nomads .

The local community is living in hard conditions in PK20, they are affected by industrial projects in the zone, and they are really vulnerable because of climate change, drought, and human activities.

Depending on the productivity of the geothermal wells, direct use project will be implemented for the milk pasteurisation, small scale agriculture, and industries for local communities and nomads.

The main objective of this request is to identify the best technology for the implementation of a direct use project in PK20 and increase the capacity of ODDEG to handle direct use projects.

The anticipated groups of activities to be performed by the technical assistance will be :

- The study of the data from the well ,
- The realization of a direct use project according to the local conditions ,
- And the capacity building of ODDEG personal in the direct use technologies, the development of direct use projects and the best practices.

The anticipated product to be delivered to by the technical assistance will be :

- Report on the potentiality of the resource in PK20 for a direct utilization ,
- Report about a direct use project in PK20 , including the local condition , the best technology and the implementation ,
- Training of ODDEG personal in Djibouti about the direct utilization of geothermal energy ,

**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.

The technical assistance will begin in February 2019 and will end in December 2019.

Activities / Month	Feb	Ma r	Apr	Ma y	Jun	Jul	Au g	Sep	Oct	No v	Dec
<b>Review the surface study report</b>											
<b>Review of the data from drilling</b>											
<b>1st visit in Djibouti / PK20</b>											
<b>Identify best technologies for PK20 project</b>											
<b>Report for a direct use project in PK20</b>											
<b>2nd visit in Djibouti / ODDEG</b>											
<b>Training of ODDEG personal</b>											
<b>Implementation of the the Project</b>											

**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>

Women are the most vulnerable category with children in the face of the effects of climate change. This situation is partly explained by their rank and status in society. The lack of water, the decrease wood for fire and infant malnutrition affect especially women since they are the ones who are in the foreground when it comes to doing daily facing these problems. Sometimes they are widowed, divorced or without resources and are forced to provide only to the needs of the children, which increase their vulnerability to the impacts of changes climate.

This project aims to reduce the gender vulnerability , and for that such activities will be done during the project :

- Engagement of the women to the public meeting ,
- The final report of the direct use project will consider the gender issue ,
- The training of ODDEG personal will also contain the consideration of gender issues, and the gender vulnerability reduction by direct use projects.

**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	Direction de l'aménagement du territoire et de l'environnement, Direction of the territory planning and the environment
Request Applicant	Office Djiboutien de Développement de l'Energie Géothermique, ODDEG Djiboutian Office of Geothermal Energy Development
Please add as many stakeholders and lines as required.	<ul style="list-style-type: none"> <li>- Prefecture of Arta ,</li> <li>- The regional Council of Arta</li> <li>- Ministry of Finance , Economy in charge of the Industrialization</li> <li>- Ministry of Habitat , Urbanism and Environment</li> <li>- Electricity of Djibouti</li> <li>- Djiboutian Social Development Agency</li> <li>- Local NGOS / CSOs</li> <li>- Women representatives</li> <li>- And the elders of the community of PK20</li> </ul>

**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.

❖ Alignment with the NDC

- The technical assistance will help the government of Djibouti to reduce the poverty, the vulnerability of the local community and to build resilience.
- The development of the geothermal energy is in the NDC, this will allow the country to be independent in energy from Ethiopia and to reduce its emission drastically.
- The technical assistance will promote also a technology transfer for ODDEG personal about geothermal utilization technologies.

❖ Alignment with the national plan for adaptation

- The technical assistance will help the government of Djibouti to develop geothermal direct use in PK20 and reduce its GHGs emission due to the industrial activities in PK20. This technical assistance is aligned with the national plan for adaptation.

<b>Reference document</b> (please include date of document)	<b>Extract</b> (please include chapter, page number, etc.).
Nationally Determined Contribution (NDC) <b>2015</b>	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.). <ul style="list-style-type: none"> <li>- Chapter 1: National contribution for attenuation Strategy and planning ( page 6)</li> <li>- Chapter 2: National contribution for adaptation Objectives ( page 9)</li> <li>- Chapter 3 : Implementation measures Need for technology transfer ( page 14)</li> </ul>
Technology Needs Assessment	None
National Adaptation Plans <b>2006</b>	
Nationally Appropriate Mitigation Actions	None
Add others here as relevant Rio+20 report 2012	Chapter 7 : Sectorial studies Energy ( page 44)

**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.

**Background documents and other information relevant for the request:**

- Please list all relevant documents that will help the CTCN analyze 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.

The Direction of Environment and sustainable development (*Direction de l'Environnement et du Développement Durable*) ex: Direction of the Territory Planning and the Environment (Direction de l'Aménagement du Territoire et de l'Environnement) of the Ministry of Housing, Urban planning and

Environment (Ministère de l'Habitat, de l'Urbanisme et de l'Environnement) is the national designated entity and the ministry is the national designated authority.  
For that, a meeting was held with the direction after their coming back from the COP24 to confirm this request. And there is no other stakeholder for the validation of this request.  
The surface study report, the NDC of Djibouti, the national plan for adaptation and the RIO+20 reports are joined to this request.

**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: Ministry of Housing, Urban development and Environment

Date: 03/01/2019

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.

<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)

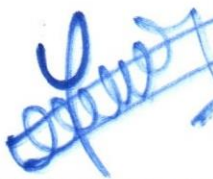
**Signature:**

NDE name:

*Direction of the Environment and the Sustainable Development* (ex:  
Direction of the Territory Planning and the Environment )

Date:

Signature:



**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.