CTCN Technical Assistance

Request Submission Form

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:	Zimbabwe
Request title:	Leapfrogging Zimbabwe's market to energy-efficient refrigerators and distribution transformers
NDE	Climate Change Management Department, Ministry of Lands, Agriculture, Water, Climate and Rural Resettlement **Address** 11th Floor Kaguvi Building, Corner 4th Street/Central Avenue, Harare, Zimbabwe **Focal point:** Mr. Elisha N. Moyo, Principal Climate Change Researcher **Telephone:** +263242 701681/3, +263 775 219 592 **E-mail:** enmoyo@gmail.com, moyo_elisha_n@yahoo.co.uk
Request Applicant:	Mr Washington Zhakata Director- Climate Change Management Department - Ministry of Lands, Agriculture, Water, Climate and Rural Resettlement, 11th Floor, Cnr Central Avenue and Fourth Floor, Harare, Zimbabwe Email: climatechange@environment.gov.zw, washingtonzhakata@gmail.com +263 242 701 681/3 Dr S Ziuku Director- Energy Conservation and Renewable Energy, Ministry of Energy and Power Development First Floor- Mukwati Building, Cnr Livingstone and Fifth Street, Harare, Zimbabwe Email: sziuku@gmail.com; Tel +263 242 70 33 20-22

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):

Zimbabwe's energy mix consists of 55% from fossil fuel sources (mainly coal) and 37% from hydroelectric plants. Climate change inhibits the reliability of hydropower as droughts in Zimbabwe increasingly lead to power cuts and intermittency issues. On top of this, only 48% (Zimstats InterCensal Demographic Survey, 2017) of the population has access to electricity. The energy sector of Zimbabwe is the largest contributor to national GHG emissions (60.7%), mainly due to heavy reliance on coal which makes up 46% of electricity generation. Power stations in Zimbabwe are only operating at approximately 66% capacity due to lack of adequate financing, transmission losses, poor maintenance of power equipment and lack of water resources due to climate induced drought. Currently, shortfall of power generation during peak hours is filled by coal due to its local availability.

A heavy reliance on traditional biofuels and coal has an obvious negative impact on emissions and environmental air quality. Because Zimbabwe is situated inland, it is expected to warm more rapidly than the global average warming. Overall there was a 5% decline in rainfall across the country during the 20th century and model experiments indicate that variability in extended drought periods and flooding are to be expected.

To tackle these issues, the government of Zimbabwe has set ambitious targets to achieve 72% (TSP, 2018) electricity access by 2020. By switching to energy efficient refrigerators and transformers, Zimbabwe can reduce strain on the grid that is currently exacerbated by outages, subsequently increasing grid access. Energy efficiency increase will also have power savings and reduce the quantity of fossil fuel usage across the country.

Zimbabwe currently faces critical challenges to achieving market transformation towards energy efficient products including lack of information and awareness, limited labelling of appliances, and an absence of minimum energy performance standards. In coordination with similar GCF Readiness projects in neighbouring countries, this project will prioritize energy-efficient refrigerators and distribution transformers in order to meet these challenges.

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

Attempts to introduce energy efficiency policy are limited. The government set up the Zimbabwe Energy Efficiency Project (ZEEP) with the aim to increase industrial efficiency. Under the ZEEP, industrial

efficiency has been increased, and efforts were undertaken to produce government standards for efficient appliances and equipment, specifically lighting, water heaters and refrigerators (MOEPD, 2008).

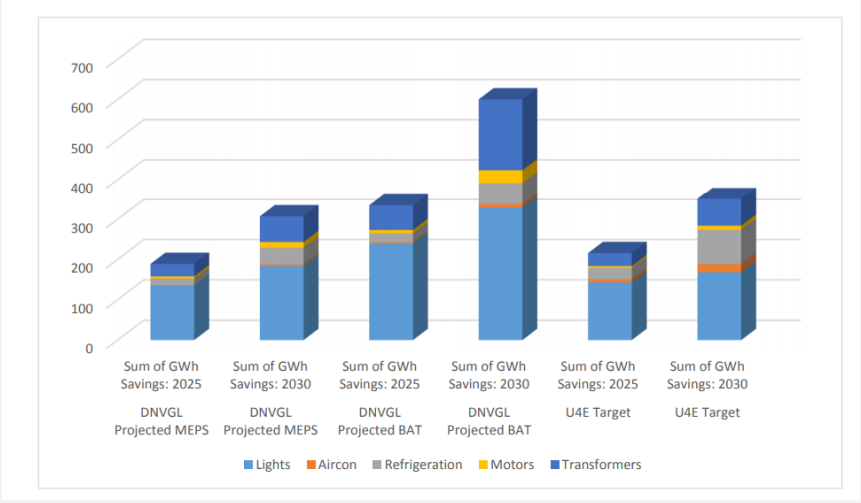
According to the 2015 ZERA (Zimbabwe Energy Regulatory Authority) Annual Report, the results of the National Energy Efficiency Audit (NEEA) gave impetus to the development of strategic interventions in different sectors.

Also, efforts were undertaken to produce government standards for efficient lighting, appliances, and equipment. For the moment, air conditioners need be at least Class B in order to enter the market. Zimbabwe worked with the German Government to develop a Hydrochlorofluorocarbon (HCFC) phase-out management plan (HPMP) to facilitate the country's compliance with the Montreal Protocol.

Zimbabwe has made progress in regulating inefficient products, like banning incandescent lamps however it lacks policies (MEPS and labelling) for refrigerators and distribution transformers. Those with the lowest purchase price (often inefficient) are the most ubiquitous, and these products tend to have the worst performance.

It is estimated that by 2030 the installed stock of residential refrigerators will grow by over 500% and losses in distributions transformers is expected to grow by 105%. Without the development of energy-efficient policies, inefficient products will continue to enter the market and remain strain on the grid for their useful life (approximately 10 years for refrigerators and 20 years for distribution transformers).

Zimbabwe benefitted from CTCN Technical Assistance along with other 9 SADC countries: CTCN developed detailed country assessments for the five priority products (i.e. lighting, refrigerators, air conditioners, electric motors and distribution transformers). This assistance was required in order to more accurately define the current situation and the future objectives for climate-related policy actions. Each country report contains information on the status/trends of energy-efficient products, status of policies and potential savings of energy efficient products.



Specific technology[1] 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

[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)*

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).

Refrigerators:

Refrigerators were built to last. Therefore, some very old units are still in operation throughout Zimbabwe and the users are typically not willing to let these go. When new refrigerators are bought, old units are often kept as "backup" but are left running in the pantry. Alternatively, old refrigerators are given to friends or family who do not have the financial means to purchase their own units. The result is that these inefficient units are not removed from the system and the purchase of new units simply increases the overall number of refrigerators in the market. There is need to address the driver to this challenge due to lack of awareness, standards capacity to attract investors .

Transformers:

Costs of energy efficient transformers are still significantly higher than standard efficiency units and the relatively low cost of electricity, combined with a general acceptance of system losses, results in the very slow adoption of energy efficient transformers in Zimbabwe. Further to that, the long-life expectancy of typical transformers (upwards of 40 years) further reduces the potential uptake of energy efficient units.

Sectors:

Please indicate the main sectors related to the request:

☐ Coastal zones	☐ Early Warning and Environmental Assessment	☐ Human Health	☐ Infrastructure and Urban planning
☐ Marine and Fisheries	☐ Water	☐ Agriculture	☐ Carbon fixation
☒ Energy Efficiency	☐ Forestry	☐ Industry	☐ Renewable energy
☐ Transport	☐ Waste management		

Please add other relevant sectors:

Cross-sectoral enablers and approaches:

Please indicate the main cross-sectoral enablers and approaches

☒ Communication and awareness	☐ Economics and financial decision-making	☒ Governance and planning	☐ Community based
☐ Disaster risk reduction	☐ Ecosystems and biodiversity	☐ Gender	

Technical assistance requested (up to one page):

In coordination with similar CTCN projects in neighbouring countries, this project will prioritize energy-efficient refrigerators and distribution transformers in order to meet these challenges.
The specific objectives of this technical assistance are to:

- Validate the data collected by the CTCN from stakeholders (e.g. manufacturers, retailers, suppliers, utilities) on the existing initiatives and use of refrigerators and distribution transformers. Undertake detailed market assessments and feasibility of implementation of technologies with highest efficiency.
- Develop a technology roadmap and action plan for promoting and adoption of efficient appliance in the country.
- Propose draft minimum energy performance standards (MEPS) and labelling for refrigerators (building off the United for Efficiency Model Regulations) and procurement specifications for distribution transformers.
- Assist decision makers and stakeholders to put the draft MEPS for refrigerators and procurement specifications for distribution transformers into practice.
- Gather information on financing lines and business models for financing energy-efficient refrigerators and/or distribution transformers.
- Develop proposal for financial/market based mechanism on energy-efficient refrigerators and/or distribution transformers.
- Promote effective monitoring and evaluation of CTCN projects as well as capacitating the NDE to carry out its oversight role.
- Enable the NDE to build climate technology capacity through exchange programmes, participating in Technology Mechanism negotiations and events
- Enhance the capacity of industries to transition to efficient appliances through awareness raising programmes, trainings programmes, inclusion of local experts into the implementation of the Technical Assistance and provision of necessary opportunities and enabling environment.

Expected timeframe:

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.

The gender gap in access to inheritance and property rights, finance and information can limit the capacity of women home and business owners to invest in energy-efficient appliances. Energy use in the home may also be reduced by about 20 per cent through changes in behaviour. Women and men respond differently to policies encouraging behavioural changes. The success of these policies will depend heavily on how they affect the workload and well-being of both women and men. Energy efficiency policies and investment will be designed based on a gender-differentiated understanding of opportunities and constraints to optimize their social and climate impact.

The project will provide gender and other co-benefits, such as energy-efficient and higher quality refrigerators allowing users to save funds for other economic opportunities, reducing food waste from spoiled foods and providing increased economic opportunities by increasing the ability to store food instead of frequent trips to the market. In addition distribution transformers and other energy-efficient products will result in reduced demand on the electricity grid provide more stable electricity distribution and economic opportunities for the entire population.

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

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.). More stakeholders are going to be consulted during the finalization of the Concept that will be submitted to the Green Climate Fund.

Stakeholders	Role to support the implementation of the technical assistance
National Designated Entity	The NDE will support in getting the commitment and participation of the relevant stakeholders within the process and also in exchanging of best practices regionally.
Request Applicant	Mr Washington Zhakata: Director- Climate Change Management Department - Ministry of Lands, Agriculture, Water, Climate and Rural Resettlement, 11th Floor, Cnr Central Avenue and Fourth Floor, Harare, Zimbabwe. Email: climatechange@environment.gov.zw, washingtonzhakata@gmail.com +263 242 701 681/3 Dr S Ziuku: Director- Energy Conservation and Renewable Energy, Ministry of Energy and Power Development First Floor- Mukwati Building, Cnr Livingstone and Fifth Street, Harare, Zimbabwe Email: sziuku@gmail.com; Tel +263 242 70 33 20-22
Please add as many stakeholders and lines as required.	Standard Association of Zimbabwe, Business Council for Sustainable Development Zimbabwe (BCSDZ), UNIDO-Zimbabwe, UNOSSC, Refrigeration and Air Condition (RAC) Associations in Zimbabwe. Climate technology manufacturers
Ministries of Energy and Power Development	As the Ministry of Energy and Power Development is the main authority for energy matters in the countries it will take the lead on the project development as a Project Proponent. In particular the Ministry of Energy and Power Development will be responsible for developing the national strategies and development of minimum energy performance standards and labelling.
Zimbabwe Electric Supply Authority	The Zimbabwe Electric Supply Authority will contribute reviewing draft regulations and specifications that could be used within their existing demand side management programs in order to incentivize the purchase of energy-efficient products. In addition, utilities are the primary owner of distribution transformers.

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.

Zimbabwe's Nationally Determined Contribution to the United Nations Framework Convention on Climate Change's (UNFCCC's) Paris Agreement aims to reduce it greenhouse gas emissions by 33% by 2030 compared to a business as usual scenario. Energy efficiency improvement is a listed as a priority action in order to meet the mitigation commitments.

In 2017, Zimbabwe drafted the National Climate Policy (NCP) – a framework for integrating climate change adaptation into several climate-sensitive economic sectors, including water, agriculture, health and energy sectors. The NCP also promotes: i) technology transfer and information sharing; ii) education, training and awareness raising; and iii) financial resource mobilization and management.

Reference document (please include date of document)	**Extract** (please include chapter, page number, etc.).
Nationally Determined Contribution (NDC)	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.).
Technology Needs Assessment	
National Adaptation Plans	
Nationally Appropriate Mitigation Actions	
Add others here as relevant	

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.

Zimbabwe participated in a workshop organized by CTCN, United 4 Efficiency, and the Southern Africa Power Pool on Country Profiles on Leapfrogging to Energy Efficient Lighting, Appliances and Equipment. The country assessments developed in the framework of CTCN technical assistance were discussed. Zimbabwe and other participating countries reviewed the use, future trends and energy efficiency savings of the five leading energy consuming products and prioritized **refrigerators and distribution transformers** as focus products (besides lighting) to engage funding agencies for the development of policy framework.

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. Not

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[2].

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: Zimbabwe Climate Change Management Department, Ministry of Lands, Agriculture, Water, Climate & Rural Resettlement

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Date: 05 December, 2018

Signature:

[2] Please see:
https://unfccc.int/files/meetings/marrakech_nov_2016/application/pdf/auv_cop22_i8b_tm_fm.pdf

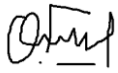
Monitoring and impact of the assistance:

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: Elisha N Moyo

Date: 02 January, 2019

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.