



Technical Assistance Closure Report Template

Objective of the technical assistance (TA) Closure Report:

- To communicate publicly in one document a summary of progress made and lessons learned during the TA towards the anticipated impact (sections 1-4).
- To document qualitative and quantitative data collected during TA, for use in donor and UN reporting (Annex 1).

Steps for completing the TA closure report:

1. The lead TA implementer submits the closure report at the end of the technical assistance as a final deliverable. The TA closure report will capture outputs, outcomes and impacts of all activities conducted under the TA. Please copy and summarise relevant material from previous TA outputs/deliverables and the Response Plan, as relevant.
2. A CTCN Manager will review and revise the closure report before final approval by the CTCN Deputy Director.

Important note on public and internal use of the closure report:

Once approved by the CTCN Deputy Director, the TA closure report will be a public document available on the CTCN website www.ctc-n.org. Selected content will be used for targeted communication activities. Annex 2 is for internal use only and will not be publicly available.

Closure Report for CTCN Technical Assistance

1. Basic information

Title of response plan	National framework for leapfrogging to Energy Efficient Appliances and Equipment in Namibia (Refrigerators and Distribution Transformers) through regulatory and financing mechanism
Technical assistance reference number	2018000030
Country / countries	Namibia
NDE organisation	Namibia University of Science and Technology
NDE focal point	Mr. Jonathan Mutau Kamwi
NDE contact information	Mutauk@yahoo.co.uk
Proponent focal point and organisation	Mr. Nico Snyders, Deputy Director, Renewable Energy Division, Ministry of Mines and Energy (MME), nico.snyders@mme.gov.na
Designer of the response plan	UNEP – The Climate Technology Centre and Network (CTCN)
Implementer(s) of technical assistance	BASE / ICA / SACREEE
Beneficiaries	Ministry of Energy and Mines (MME), Namibia Standards Institution (NSI), Government of Namibia
Sector(s) addressed	Energy Efficiency
Technologies supported	Refrigerators & Distribution Transformers
Implementation start date	January 2021

Implementation end date	September 2022
Total budget for implementation	USD 271,111.30 ¹
Description of delivered outputs and products as well as the activities undertaken to achieve them. In doing so, review the log frame of the original response plan and refer to it as appropriate	<ul style="list-style-type: none"> - 1 Comprehensive market analysis for higher efficiency refrigerators and distribution transformers (DTs) was conducted; - 1 Policy Working Group assembling key stakeholders for the design and future implementation of the national policy roadmap (NPR) for the promotion of higher efficiency refrigerators and DTs was formed and effective including the organisation of 6 PWG meetings; - 2 Technical Committees for refrigerators (TC-Ref) and for distribution transformers (TC-DT) provided forums for effective adoption of the national testing standard and periodic participatory reviews; - 1 NPR for the promotion of higher efficiency refrigerators and DTs was adopted; - Financing mechanisms and options were identified and developed for the promotion of higher efficiency refrigerators and DTs;
Methodologies applied to produce outputs and products	<ul style="list-style-type: none"> - Desk study - Market assessment including economic and financial analysis - Discussion with stakeholders and consultation of beneficiaries - Finalizing materials and producing working documents - List of members and TOR of members (PWG, TC-Ref, TC-DT) - Minutes of meetings and training reports (PWG, TC-Ref, TC-DT) - National consultation workshops and consultation reports - Proceedings of the training workshops and training evaluation reports and list of participants - Copy of official publication (endorsed national standards and NPR) - Official announcement by the government (NPR)
Reference to knowledge resources	None
Deviations	<p>There were a few deviations from the response plan against the actual implemented activities, outputs and products including:</p> <ul style="list-style-type: none"> - The finalization and endorsement of the market assessment report was delayed until the second half of 2021. Delays for the final submission of the market assessment were caused due to the difficulties in data collection and in engaging and receiving inputs and feedback from the national stakeholders and PWG members during COVID 19.; - More efforts than initially planned were put organising 6 quarterly meetings instead of 4 in order to ensure quality review and endorsement of the NPR by PWG;

¹ This value is the total budget approved for the implementers, which excludes activity 4.3; the total amount approved for the Readiness proposal is USD 328,755. The remaining value for activity 4.3 is subject to budget allocation from CTCN as the project progresses.



	<ul style="list-style-type: none">- It was decided to cover both higher-efficient domestic refrigerators and DTs in one NPR document instead of two separate documents.- The 2nd TC-REF and TC-DT meetings were held on 20 May 2022 and 17 March 2022 due to delays in the discussions on the regional harmonization recommendations. TC-REF and TC-DT required more time than expected to review in detail and recommend the draft national standards;- The public consultation on the recommended national standards were combined with broader public sensitisation efforts on the NPR co-led by NSI and MME to create synergies due to time constraints with the project end date;- The TC-REF and TC-DT didn't require an additional meeting after the public sensitisation workshop to endorse the national standard for refrigerators and DTs as inputs and comments received were not substantial. The endorsed national standards were included in the NPR which was then endorsed by the PWG. According to guidance from NSI and MME, it is now assumed that the Government of Namibia will be able to complete the country adoption process on a proactive and timely manner so that the national standards can be first made voluntary early next year and then mandatory in the coming years (as per recommended actions and timeline in the NPR);- Based on guidance from the PWG and time constraints, the consultation only included two national stakeholder sensitisation workshops on both the NPR and the national standards instead of a formal public consultation process. The NPR cover both higher-efficiency refrigerators and DTs in one document.- The training materials were informed by the NPR and international experience on MV&E for domestic refrigerators;- The training of trainers combined participants from Namibia, Malawi, Zambia, and Zimbabwe to create synergies among countries. The format was virtual to increase the number of participants. Participants included custom officials but also other relevant stakeholders;- The training materials were informed by the NPR, international experience, and expertise from international expert on the TCO tool for DTs. The workshop agenda covered DT technology upgrade for manufacturers as well. The training combined participants from Namibia, Malawi, Zambia, and Zimbabwe to create synergies among countries. The format was virtual to increase the number of participants. Participants included procurement and compliance officers but also DT manufacturers and other relevant stakeholders;- The PWG endorsed the final NPR including recommended financing mechanisms as well;
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	- No Capacity Building Needs Assessment for financing mechanisms was conducted
Anticipated follow-up activities and next steps	The Government of Namibia is anticipated to complete the country adoption process on a proactive and timely manner so that the NPR can become a national policy document and the MEPS can be first made voluntary early next year and then mandatory in the coming years (see NPR's actions and timetable for the establishment and implementation of MEPS)

2. Lessons learned

	Lessons learned	Recommendations
Lessons learned from the CTCN TA process	- A few challenges were encountered during the project implementation that relate to the closed activities. The pandemic and related measures in place throughout the project implementation, such as international and domestic travel restrictions, and in-person meeting limitations, made it very difficult for the international experts to efficiently gather primary data for the market study, engage the local stakeholders including the PWG, TC-REF, and TC-DT, and receive timely inputs and recommendations to inform the development and finalization of the NPR including the national standards. On the coordination level, considering the number of stakeholders involved, internationally, locally and across the 8 implementing countries, it continued to take more time than first planned to harmonize activities, inputs and policy recommendations. For all these challenges, more coordination time and communication were overall needed between the parties involved and proper measures were taken for the safety of all. Efforts were made to catch up reasonably and be as much coherent as possible with the timeline, while giving enough time to national stakeholders to	- The following contingency measures were implemented in order to avoid further project delay: (1) Dedication of more staff time resources from international experts to improve coordination with the national stakeholders in-between workshops and secure timely inputs on recommendations and deliverables to inform output 4; (2) Organization of monthly and quarterly national and international progress and coordination meetings; (3) Creation of synergies with the U4E's regional MEPS project on cooling appliances when possible; (4) Increased reactivity to provide feedback on deliverables from the UNEP-CTCN and U4E project management team; (5) Organization of virtual meetings for easy and continued communication; (6) Organization of hybrid in-person - virtual meetings in case of milestone meetings. - It's recommended that CTCN makes advance payments to the implementers to ease the delivery of project activities.

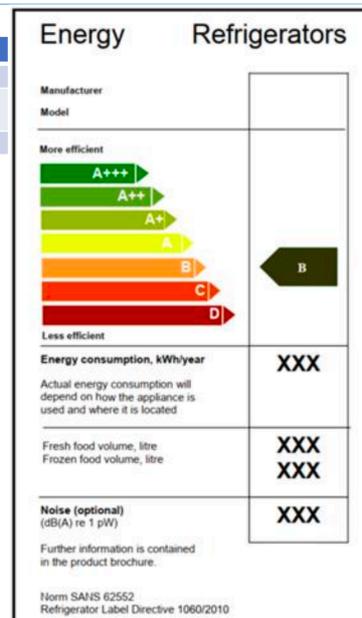
	<p>review, recommend, and endorse key outputs.</p> <p>- The misalignment of the project payment schedule with the implementers' resource needs for the implementation of the respective activities created some challenges.</p>	
Lessons learned related to climate technology transfer	Not applicable	Not applicable

3. Illustration of the TA and photos

For communication purposes, please provide 2-4 Power Point slides, including illustrations or charts, describing barriers, opportunities, methodology, activities, outputs and achieved results. The illustrations must be copied into the TA Closure report but must also be delivered as power point files. Also, please provide at least five high-resolution pictures in jpg format, capturing technical assistance. The pictures should illustrate how the TA has impacted the lives of the beneficiaries in particular and the communities in general.

Label for Residential Refrigerators

Category	Low	Intermediate 1	Intermediate 2	High
Refrigerators	$1.00 \leq R < 1.25$	$1.25 \leq R < 1.50$	$1.50 \leq R < 1.75$	$1.75 \leq R$
Refrigerator-Freezers	$1.00 \leq R < 1.25$	$1.25 \leq R < 1.50$	$1.50 \leq R < 1.75$	$1.75 \leq R$
Freezers	$1.00 \leq R < 1.25$	$1.25 \leq R < 1.50$	$1.50 \leq R < 1.75$	$1.75 \leq R$





5 Overall Action Plan & Budget

5.1 Action Plan & Estimated Budget

Key actions of the national policy roadmap for refrigerators and distribution transformers with information on lead agencies and stakeholders involved, indicative timeframe and estimated budgets are summarized in Table 5-1 and Table 5-2 respectively. It should be noted that the estimated budgets shown in the tables primarily cover costs for technical assistance as well as tools and materials required for each action. These costs are exclusive of salaries and wages of government personnel and utility's staff.

5.1.1 Refrigerators

Table 5-1: Action Plan for Establishment of Enabling Policy and Regulatory Environment for Refrigerators in Namibia

Action No.	Action	Lead Agency & Other Stakeholders	Timeframe	Budget (US\$)
A	MEPS			
A.1	Develop an implementation plan on the national policy roadmap	MME, NSI, and International/national advisor	2023	105,600
A.2	Finalize the draft MEPS for voluntary implementation	NSI	2023	35,200
A.3	Establish/designate the Authority (preferably ECB/NERA or NDU) to regulate refrigerating appliances	MME, ECB/NERA or NDU	2023	158,400
A.4	Develop and implement a capacity building and training program for ECB/NERA or NDU to effectively regulate the refrigerating products	MME & International Partners	2024	35,200
A.5	Conduct public consultation on the voluntary MEPS to become mandatory	Regulator (ECB/NERA) designated to regulate the refrigerating appliances	2024	52,800

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Action No.	Action	Lead Agency & Other Stakeholders	Timeframe	Budget (US\$)
C.4	Conduct a training program for in-store salespersons on understanding energy label and educating customers on the label usage and value	MME	2025	44,000
C.5	Implement awareness campaigns for retailers/wholesalers/distributors on MEPS and labelling regulations to manage inventories	MME, ECB/NERA	Included in C.4	
C.6	Conduct regular public awareness and educational campaigns for consumers, and develop communication tools (incl. website, brochures, media reports, TV, and radio broadcasts, etc.)	MME, ECB/NERA	Every year	50,000
D	Financing Mechanism			
D.1	Finalize finance strategies and detailed implementation plan	MME leads, with support from ECB/NERA, DEA, MOF, etc.	2023	35,200
D.2	Engage potential donors and prepare technical assistance project proposals to turn the On-bill financing mechanism concept into a program	MME	2023	35,200
D.3	Develop and implement the On-bill financing mechanism program	MME leads, with support from ECB/NERA, DEA (take-back schemes, MOF, and technical assistance projects supported by international donors and experts.	2024	250,000 (per mechanism)
D.4	Design and implement marketing campaigns to promote the On-bill financing mechanism	MME and Non-Power, REDD, partner financial institutions and participating technology providers	2024 onwards	50,000
E	Monitoring, Verification, and Enforcement			
E.1	Develop a regulatory & enforcement mechanism - to address managing compliance activities and clearly specify roles and responsibilities of related	MME (lead), NSI, ECB/NERA, NAMRA/MoF	Draft by end of 2023 and	158,400

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Action No.	Action	Lead Agency & Other Stakeholders	Timeframe	Budget (US\$)
E.10	Train importers on mandatory registration of regulated refrigerator products and their legal obligations	MME, ECB/NERA	2023	17,600
E.11	Develop and publish annual reports to maintain market transparency and declare non-compliance cases	MME, ECB/NERA, NSI	2023	Included in E.8
E.12	Establish a methodology for identification of products selected and purchase for verification processes, allocate staff for verification (Market Surveillance) and implement	MME, ECB/NERA, NSI	Draft by the end of 2023 and full operation on annual basis by 2024	34,400
E.13	Train officers in charge of market surveillance	MME, ECB/NERA	2023	Included in E.14
E.14	Implement a pilot market surveillance program and evaluate the results	MME, ECB/NERA	2024 and full operation on annual basis by 2025	27,600
E.15	Develop procedures for verification testing and test laboratory selection (outsourcing lab testing and/or using shared test results from neighbouring countries or other entities) to verify E.E of selected products	MME ECB/NERA and NSI	2024	Included in E.14
E.16	Implement a pilot verification testing program and evaluate the results	MME ECB/NERA and NSI	2024 and full operation on annual basis by 2025	27,600
E.17	Plan the evaluation program on process and impact, identify resources and implement	MME, ECB/NERA	2025 and periodic assessment	17,600

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Action No.	Action	Lead Agency & Other Stakeholders	Timeframe	Budget (US\$)
A.6	Develop regulatory mechanisms to enforce mandatory MEPS and testing methods	MME & ECB/NERA	2025	105,600
A.7	Promote/urge the mandatory MEPS regulation	ECB/NERA, MME, Cabinet, and Parliament	2025	Included in A.6
A.8	Enforce the mandatory MEPS	ECB/NERA, MME	2026	50,000
A.9	Review and adjust the MEPS level based on the analysis of statistical data collected and the regional harmonization trend	NSI, ECB/NERA, MME	2025	52,800
B	Label Labelling			
B.1	Phase 1: Conduct consultation workshops to discuss with the South African authorities and adopt the South African label with relevant modifications on the label	ECB/NERA, MME, NSI	2023 to 2024	35,200
B.2	Phase 2: Develop a uniform energy performance labelling for all residential refrigerators sold in Namibia (in coordination with the mandatory MEPS DRB/REGIS)	ECB/NERA, MME, NSI	2023	70,400
B.3	Formalize institutional frameworks for regular market data collection and analysis (as needed)	ECB/NERA, NSI, NAMRA	2024 to 2025	35,200
B.4	Develop a labelling regulation requiring all residential refrigerators imported to and sold in Namibia to be compliant with the mandatory labelling requirement	MME, ECB/NERA, NSI, NAMRA	2025	70,400
C	Communication Program			
C.1	Develop awareness campaigns and capacity building programs on new MEPS and labelling regulations	MME, ECB/NERA	2023	26,400
C.2	Conduct a training program for ECB/NERA, MME and relevant government agencies staff on evaluation and review of the MEPS and labelling requirements	International Advisor	2025	Included in C.1
C.3	Conduct a training program for Non-Power and REDD on managing and maintaining on-bill financing scheme	MME, ECB/NERA, International Advisor	2024	35,200

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Action No.	Action	Lead Agency & Other Stakeholders	Timeframe	Budget (US\$)
E.2	enforcement authorities on all related MVAE activities including liability measures with penalty structure for cases where non-compliance has been established		full enforcement by 2024	
E.1	Develop administrative procedural/operational manual for enforcing regulations on MEPS and labelling program	MME (lead), ECB/NERA, NSI, Customs	2023	35,200
E.3	Assess and conduct capacity building on the national MVAE mechanism for responsible staff (customs and other related MVAE officials)	MME, ECB/NERA	2023	57,800
E.4	Develop a procedure and process of product registration system (PRS) for refrigerators Review UAE's prototype PRS software and consider whether to use it (in whole or part) as the basis for developing a national PRS Explore regional coordination options for establishing a regional product registry to minimize the cost associated with product certification	MME, ECB/NERA	2023	65,200
E.5	Train officers in charge of management and maintenance of PRS	MME/ECB	2023	8,800
E.6	Develop procedures for customs personnel to monitor compliance of imported refrigerators with the import regulations for refrigerator products, listed under mandatory MEPS and labelling requirements	MME (lead), ECB/NERA, NAMRA/MoF, Customs	Draft by end of 2023 and full enforcement by 2024	Included in E.1
E.7	Develop national regulations on mandatory registration of refrigerators	MME	Draft by end of 2023 and full enforcement by 2024	Included in E.1
E.8	Design a communication plan for all the main stakeholders involved	MME, ECB/NERA	2023	17,600
E.9	Develop information materials for Customs officials and consumers	MME, ECB/NERA	2023	27,600

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Action No.	Action	Lead Agency & Other Stakeholders	Timeframe	Budget (US\$)
			throughout the program	
			TOTAL	1,820,200

Note: The total budget is based on one financial mechanism (D) chosen for implementation

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4. Impact Statement

The information in the table below will be used to communicate results and anticipated impacts of this technical assistance publicly. Please copy information from impact statement developed in the M&E Plan and update as relevant.

Challenge	Impact
Low efficient appliances and electricity-using equipment result in huge losses, which bring a heavy burden on the government's budget (electricity is subsidized) and hampers the country's electrification potential. The lack of information and awareness, lack of dedicated policies for energy efficient products and appliances including absence of minimum energy performance standards prevents Namibia from inducing a sustainable market transformation in favor of higher efficiency products. Domestic	



	<p>refrigerators account for over 30% of domestic electricity consumption. It is estimated that by 2030 the installed stock of residential refrigerators will grow by over 50% and losses in distributions transformers is expected to grow by 86%. Without the development of energy-efficient policies, inefficient products will continue to enter the market and remain strained on the grid for their useful life.</p>
<p>CTCN Assistance</p>	<p>In coordination and harmonization with similar CTCN projects in neighboring countries, CTCN will:</p> <ul style="list-style-type: none"> • Validate the data collected by the CTCN from stakeholders on the existing initiatives and use of refrigerators and DTs • 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 MEPS-HEPS, and labeling for refrigerators and procurement specifications for DTs. • Assist decision makers and stakeholders to put the draft MEPS-HE for refrigerators and procurement specification for DTs into practice. • Gather information on financing lines and business models for financing energy-efficient refrigerators and/or DTs. • Develop proposal for financial/market-based mechanism on energy-efficient refrigerators and/or DTs.
<p>Anticipated impact</p>	<p>Short term:</p> <ol style="list-style-type: none"> (1) Strengthened existing policies and regulatory frameworks (2) Increased technical capacity on energy efficient refrigerators and DTs <p>Mid/long-term:</p> <ol style="list-style-type: none"> (3) Higher energy efficiency of refrigerators and DTs / lower energy consumption (4) reduction of GHG emissions
<p>Co-benefits: Achieved or anticipated co-benefits from the TA</p>	<p>This readiness proposal through notification of MEPS and labelling scheme will create an enabling policy and</p>

	<p>regulatory environment for refrigerators and distribution transformers to support market transformation. The project will reduce strain on the electricity grid and ability to extend the electricity grid, increase disposable income for households (reduced electricity bill), and potentially reduce GHG emissions, since it is anticipated that the planned increase in grid connections and electrification would move Namibia towards the use of fossil fuels for electricity generation.</p>
<p>Gender aspects of the TA</p>	<p>The TA aimed to pursue thorough and gender responsive integration and ensure stakeholder involvement at all levels. Energy efficiency policies and financing mechanisms were designed based on a gender-differentiated understanding of opportunities and constraints to optimize their social and climate impact. The market assessment aimed to include an assessment of the gender considerations related to refrigerators and distribution transformers and gender considerations were considered in the analysis of and choice of financing mechanisms selected.</p>
<p>Anticipated contribution to NDC</p>	<p>Contribute to Namibia's INDC submitted in 2015 which aims to improve energy efficiency through various demand side management measures such as implementing an energy efficiency program to reduce consumption by about 10% in 2030.</p>
<p>The narrative story</p>	<p>The rate of electrification is 52.5 % in Namibia. Low efficient appliances and electricity-using equipment result in huge losses, which bring a heavy burden on the government's budget (electricity is subsidized) and hampers the country's electrification potential. The lack of information and awareness, lack of dedicated policies for energy efficient products and appliances including absence of minimum energy performance standards prevents Namibia from inducing a sustainable market transformation in favor of higher efficiency products. Domestic refrigerators account for over 30% of domestic electricity consumption. It is estimated that by 2030 the installed stock of residential refrigerators will grow by over 50% and losses in distributions transformers is expected to grow by 86%. Without the development of energy-efficient policies, inefficient products will</p>



	<p>continue to enter the market and remain strained on the grid for their useful life.</p> <p>In this context, Namibia requested the support of CTCN through UNEP to implement a GCF Readiness proposal that aimed to develop a national framework for leapfrogging to energy-efficient refrigerators and distribution transformers through regulatory and financing mechanism. CTCN assistance resulted in Namibia having:</p> <ul style="list-style-type: none">• Minimum Energy Performance Standards (MEPS), High Energy Performance Standards (HEPS), and labeling schemes for refrigerators and distribution transformers• National policy roadmap and enabling environment for implementation of standards and label for refrigerators and distribution transformers• Appropriate financing mechanisms to accelerate deployment of energy efficient refrigerators and distribution transformers.• Strengthened national capacity to develop standards and labels for other appliances in future. <p>The CTCN assistance contributed to improve the country programming process through the identification and prioritization of appropriate climate technology solutions in accordance with national strategies and plans for climate adaptation and mitigation, periodic participatory review and updating of the climate finance country programme, while strengthening the stakeholder engagement consultative processes. Finally, CTCN assistance strengthened climate finance strategies and project pipeline through market preparation and business planning for deployment and scale-up of prioritized climate technology solutions Climate finance strategy defines</p>
<p>Contribution to SDGs</p> <p>A complete list of SDGs and their targets is available here: https://sustainabledevelopment.un.org/partnership/register/</p>	<ul style="list-style-type: none">• SDG 1: End poverty in all its forms everywhere: Energy efficiency is a major contributor in the reduction of fuel poverty.• SDG 7: Ensure access to affordable reliable, sustainable and modern energy for all: By 2030, double the global rate of improvement in energy efficiency: Energy efficiency will be

	<p>improved in the buildings sector through energy efficient appliances.</p> <ul style="list-style-type: none">• SDG 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation: The standard and labelling programmes will promote product innovation among local manufacturers to improve the performance and sustainability of refrigerators and DTs.• SDG 13: Take urgent action to combat climate change and its impacts: Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries: The long-term impact of reduced electricity consumption mitigates dependency on climate sensitive electricity. Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning: Future awareness raising, in accordance with the strategy developed in this TA, informs consumers and manufacturers about the benefits of energy efficient appliances.
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Annex 1 Technical assistance data collection

Please add quantitative and qualitative values for the indicators selected in the M&E plan and monitored throughout the technical assistance in the tables below. Indicators which have been monitored in addition to the proposed indicators below may be added at the end of table A. Non-relevant indicators should be left blank.

A. Output and outcome indicators

Indicator	Quantitative value	Qualitative description
<p>Please note indicators below highlighted as anticipated</p> <p>Total number of events organized by proponents and implementing partners</p>	<p><i>Numerals only; disaggregates must sum to the total</i></p> <p>13</p>	<p><i>List the various elements corresponding to the quantitative value as well as timelines and responsible institutions</i></p> <ul style="list-style-type: none"> - 1st PWG meeting on 23 September 2021; - 1st and 2nd TC-REF meetings were held on 15 September 2021 and 20 May 2022; - 1st, 2nd, and 3rd TC- DT meetings were held on 17 March 2022, 08 June 2022, and 30 June 2022; - 2 public sensitisation workshop events on recommended draft NPR and national standards held on 1st September and 8th September 2022; - 5 coordination meetings NDE, NDA, MME, and implementers held on 23 September 2021, 15 December 2021, 01 July 2022, 23 August 2022, and 29 September 2022;
<p>Number of participants in events organized by proponents and implementing partners</p>	<p>196</p>	
<p>a) Number of men</p>	<p>143</p>	<ul style="list-style-type: none"> - 10 participants from 8 different institutions and including 4 women (1st PWG) - 13 participants from 8 different institutions and including 5 women (1st TC-REF) - 15 participants from 8 different institutions and including 6 women (2nd TC-REF) - 18 participants from 9 different institutions and including 4 women (1st TC-DT)

		<ul style="list-style-type: none"> - 13 participants from 6 different institutions and including 4 women (2nd TC-DT) - 13 participants from 7 different institutions and including 3 women (3rd TC-DT) - 37 participants from 23 different institutions and including 8 women (public sensitisation workshop event on recommended draft NPR and national standards for refrigerators); - 30 participants from 14 different institutions and including 6 women (public sensitisation workshop event on recommended draft NPR and national standards for DTs); - 6 participants from 4 different institutions and including 1 woman (1st coordination meeting); - 9 participants from 5 different institutions and including 2 women (2nd coordination meeting); - 9 participants from 5 different institutions and including 3 women (3rd coordination meeting); - 14 participants from 7 different institutions and including 4 women (4th coordination meeting); - 9 participants from 6 different institutions and including 3 women (5th coordination meeting);
b) Number of women	53	See above
Number of climate technology RD&D related events		
Number of participants in climate technology RD&D events	<i>List total number here</i>	
a) Number of men		
b) Number of women		
Number of training organized by proponents and implementing partners	7	<ul style="list-style-type: none"> - 1 training on market assessment and recommended policy measures and financing mechanisms (2nd PWG meeting on 19 Oct 21); - 1 training on recommended national standards, policy measures, and financing mechanisms for refrigerators (3th PWG meeting on 16 Nov 21); - 1 training on recommended national standards, policy



		<p>measures, and financing mechanisms for DTs (4th PWG meeting on 03 Feb 22);</p> <ul style="list-style-type: none"> - 1 training on recommended national standards, policy measures, and financing mechanisms (5th PWG meeting on 30 Aug 22) - 1 training on final NPR document (6th PWG meeting on 29 Sep 22) - 1 training on MEPS for customer officials on 15 Sep 22; - 1 training on TCO for procurement officers and technology upgrades for DT manufacturers on 20 Sep 22;
Number of participants in trainings organized by proponents and implementing partners	176	<ul style="list-style-type: none"> - 18 participants from 8 different institutions and including 5 women (2nd PWG) - 17 participants from 8 different institutions and including 3 women (3rd PWG) - 19 participants from 7 different institutions and including 8 women (4th PWG) - 15 participants from 8 different institutions and including 6 women (5th PWG) - 12 participants from 7 different institutions and including 3 women (6th PWG) - 56 participants from 23 different institutions and including 7 women (training on MEPS for custom officials); - 39 local trainers trained from 19 different institutions and including 8 women (training on TCO and technology upgrades);
a) Number of men	136	
b) Number of women	40	
Total number of institutions trained	80	
a) Governmental (national or subnational)		<i>List the name of organisations trained here</i>
b) Private sector (bank, corporation, etc.)		<i>List the name of organisations trained here</i>
c) Nongovernmental (NGO, University, etc.)		<i>List the name of organisations trained here</i>
Percentage of participants reporting satisfaction with CTCN training (from CTCN training feedback form)		<i>Satisfied= 4+ on 5-pt scale</i>

Percentage of participants reporting increased knowledge, capacity and/or understanding as a result of CTCN training (from CTCN training feedback form)		<i>Increased knowledge, capacity and/or understanding= 4+ on 5-pt scale</i>
a) Percentage of men		
b) Percentage of women		
Total number of deliverables produced during the assistance (excluding mission, progress and internal reports)	42	
a) Number of communication materials, including news releases, newsletters, articles, presentations, social media postings, etc.		<i>List the name of the documents</i>
b) Number of tools and technical documents strengthened, revised or developed	6	<ul style="list-style-type: none"> - 1 comprehensive market assessment report endorsed by the NDE, NDA, and PWG; - 1 report on climate mitigation finance strategy for the promotion of higher-efficiency domestic refrigerators; - 1 report on climate mitigation finance strategy for the promotion of higher-efficiency DTs; - 1 National Policy Roadmap (NPR) for higher-efficiency domestic refrigerators and DTs (in Word document format) by the PWG; - 1 national testing standards for refrigerators endorsed by the TC-REF and PWG; - 1 national testing standards for DTs endorsed by the TC-DT and PWG;
c) Number of other information materials strengthened, revised or created (For example training and workshop reports, Power Points, exercise docs etc.)	36	<ul style="list-style-type: none"> - 3 training PPT (2nd PWG) - 2 training PPT (3rd PWG) - 2 training PPT (4th PWG) - 2 training PPT (5th PWG) - 1 training PPT (MEPS for custom officials) - 1 training PPT (TCO for procurement officers & technology upgrades for DT manufacturers) - 1 feasibility study for DT technology upgrades - 2 public sensitisation PPT (refrigerators) - 2 public sensitisation PPT (DTs) - 20 meeting minutes / workshop reports
Total number of policies, strategies, plans, laws, agreements or regulations supported by the assistance	<i>List total number here</i>	
a) Adaptation related		<i>List the type and name of documents supported</i>
b) Mitigation related		<i>List the type and name of documents supported</i>



c) Both adaptation- and mitigation related		<i>List the type and name of documents supported</i>
Anticipated number of policies, strategies, plans, laws, agreements or regulations proposed, adopted or implemented as a result of the TA	3	
a) Adaptation related		<i>List the type of documents anticipated to be proposed, adopted or implemented</i>
b) Mitigation related	3	- 1 National Policy Roadmap (NPR) for higher-efficiency domestic refrigerators and DTs; - 1 national testing standards for refrigerators endorsed by the TC-REF and PWG; - 1 national testing standards for DTs endorsed by the TC-DT and PWG;
c) Both adaptation- and mitigation related		<i>List the type of documents anticipated to be proposed, adopted or implemented</i>
Anticipated number of technologies transferred or deployed as a result of CTCN support	<i>List total number here</i>	<i>Instruction: List the type of technologies supported by this assistance. Technologies must be identified from the CTCN taxonomy of climate sectors and technologies (download in pdf format and choose from column C): https://www.ctcn.org/resources/ctcn-taxonomy</i>
Anticipated number of collaborations facilitated or enabled as a result of technical assistance	<i>List total number here</i>	
a) Number of South-South collaborations		<i>List the names of the organisations (excluding the CTCN or TA implementers)</i>
b) Number of RD&D collaborations		<i>List the names of the organisations (excluding the CTCN or TA implementers)</i>
c) Number of private sector collaborations		<i>List the names of the organisations (excluding the CTCN or TA implementers)</i>
Number of countries with strengthened National System of Innovation as a result of CTCN support		<i>List names of countries</i>
Insert any additional indicators here		

B. Core impact indicators

Please fill in the tables for anticipated impacts of the CTCN assistance. Every technical assistance should contribute to at least one of the indicators below. For guidance on how to report on core indicators see the [‘M&E Guidance Document for TA Implementers’](#).

Core indicator 1	Anticipated metric tons of CO₂ equivalent (CO₂e) emissions reduced or avoided as a result of CTCN TA	
	<i>Please add your calculations in word or excel format as an Annex to this Closure Report, where applicable.</i>	
	Anticipated metric tons of CO₂e reduced or avoided as a result of the TA on annual basis	Anticipated metric tons of CO₂e reduced or avoided as a result of the TA in total
Quantitative value (emissions reductions)	In 2040 (if MEPS are being adopted in 2022): 76,000 (domestic refrigerators) + 101,000 (distribution transformers) = 177,000 (total)	By 2040 (if MEPS are being adopted in 2022): 709,000 (domestic refrigerators) + 741,000 (distribution transformers) = 1,450,000 (total)
Unit	tCO ₂ e	tCO ₂ e
GHG assessment boundary (project emissions) Identify expected post-TA activities, associated effects and assess boundary for quantification of GHG emission reductions		
Baseline emissions Describe baseline scenario, baseline candidates, emission factors and emissions calculated	<ul style="list-style-type: none"> - U4E's Namibia Savings Policy Assessment for residential refrigerators and distribution transformers (2022); - The savings potentials are calculated based on the assumption that Minimum Energy Performance Standards are implemented in 2022 at a level derived from the United for Efficiency Model Regulation Guidelines; - U4E's country savings assessments methodology and assumptions (2022) 	<ul style="list-style-type: none"> - U4E's Namibia Savings Policy Assessment for residential refrigerators and distribution transformers (2022); - The savings potentials are calculated based on the assumption that Minimum Energy Performance Standards are implemented in 2022 at a level derived from the United for Efficiency Model Regulation Guidelines; - U4E's country savings assessments methodology and assumptions (2022)
Methodology Explain the method or process of verifying the indicator and how data was gathered	- idem	- idem
Assumptions Describe assumptions made during calculation and quantification of GHG reductions	<ul style="list-style-type: none"> - Annual energy consumption from residential refrigerators in 2040 of 215 GWh (BAU) and of 162 GWh (Minimum Ambition) resulting to energy savings of 52 GWh; - Annual energy consumption from DTs in 2040 of 222 GWh (BAU) and of 150 GWh (Minimum Ambition) resulting to energy savings of 72 GWh; 	- Cumulative savings (2022 – 2040)



Core indicator 2	Anticipated increased economic, health, well-being, infrastructure and built environment, and ecosystems resilience to climate change impacts as a result of technical assistance <i>Please provide a qualitative description of the anticipated impacts on the categories below</i>
Infrastructure and built environment Anticipated increased infrastructure resilience (avoided/mitigated climate induced damages and strengthened physical assets)	
Ecosystems and biodiversity Anticipated increased ecosystem resilience (areas with increased resistance to climate-induced disturbances and with improved recovery rates)	
Economic Anticipated increased economic resilience (e.g. less reliance on vulnerable economic sectors or diversification of livelihood)	
Health and wellbeing Anticipated increased health and wellbeing of target group (e.g. improved basic health, water and food security)	

Core indicator 3	Anticipated number of direct and indirect beneficiaries as a result of the TA	
	Quantitative value	Means of verification
Total beneficiaries	<i>Total number</i>	
Number of adaptation beneficiaries		<i>Describe calculation methods and assumptions made</i>
Number of mitigation beneficiaries		<i>Describe calculation methods and assumptions made</i>
Number of adaptation-and mitigation beneficiaries		<i>Describe calculation methods and assumptions made</i>

Core indicator 4	Anticipated amount of funding/investment leveraged (USD) as a result of TA (disaggregated by public, private, national, and international sources, as well as between anticipated/confirmed funding)			
	Quantitative value	Quantitative value anticipated in USD	Qualitative description	Methods

	confirmed in USD		<i>List the institutions, timelines, and description or title of the investment</i>	<i>Describe methods used for quantification of funds leveraged</i>
Total funding	<i>Total number in USD (numerals only, no rounding or abbreviations)</i>	<i>Total number in USD (numerals only, no rounding or abbreviations)</i>		
Anticipated amount of public funding mobilised from national/domestic sources				
Anticipated amount of public funding mobilised from international/ regional sources				
Anticipated amount of private funding mobilised from national/domestic sources				
Anticipated amount of private funds mobilised from international/regional sources				

Annex 2 (for internal use – to be filled in by the CTCN)

CTCN evaluation

This section will be completed by the relevant CTCN Technology Manager.

- Evaluation of the timeliness of the TA implementation as measured against the timeline included in the response plan;
- Evaluation of TA quality as defined in the response plan;
- Overall performance of the Implementers;
- Overall engagement of the NDE and Proponent;
- Lessons learned on the CTCN process and steps taken by the CTCN to improve.