

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	Developing Institutional Framework for the Energy Efficiency Act and Regulations targeting energy intensive sector (household and industries) in Nigeria
Technical assistance reference number	2021000029
Country / countries	Nigeria
NDE focal point and organisation	National Council on Climate Change, Nigeria
Proponent focal point and organisation	Okebugwu Chukwuemeka – National Council on Climate Change Nigeria
Designer of the response plan	PricewaterhouseCoopers Private Limited
Implementer(s) of technical assistance	<ul style="list-style-type: none"> • PricewaterhouseCoopers Private Limited (PwC India) • PricewaterhouseCoopers Ltd Nigeria • G. Elias & Co Nigeria • Ecowatt Nigeria Limited
Beneficiaries	The TA supported in creation of an ecosystem for energy efficiency in the country. The key stakeholder

	<p>impacted shall range from ministerial stakeholders to grassroots level energy operators and managers.</p> <p><u>Ministerial Stakeholders of Federal Government of Nigeria:</u></p> <p>Federal Ministry of Finance, Federal Ministry of Industry, Trade and Investment, Federal Ministry of Housing and Urban Development, Federal Ministry of Environment, Federal Ministry of Power, Federal Ministry of Transportation, Federal Ministry of Works, Ministry of Petroleum Resources, The Federal Ministry of Innovation, Science and Technology, Federal Ministry of Water Resources and Sanitation and Federal Ministry of Agriculture and Food security, Standards Organization of Nigeria and National Council for Climate Change, Nigeria)</p>
Sector(s) addressed	Energy Intensive Sector (households and industries) in Nigeria
Technologies supported	<p>This TA supported in creating an ecosystem for energy efficiency investments in households and industries through suitable interventions.</p> <p>The TA shall support uptake of all the technologies under the energy efficiency, as per CTCN Mitigation Sectors in CTCN Technology Taxonomy</p>
Implementation period and total duration in months	<p>10th August 2022</p> <p>28 Months</p>
Total budget for implementation	USD 210,645.0
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	<p>Deliverables and Activities</p> <p>Mandatory Output: Develop communication documents and implementation work plan</p> <ul style="list-style-type: none"> • Activity i: Develop detailed Implementation Plan • Activity ii develop a monitoring and evaluation plan • Activity iii: Impact description document • Activity iv: A CTCN Closure and Data Collection report <p>Output 1: Comprehensive market assessment for energy efficiency and conservation in industry and households to establish a baseline</p> <ul style="list-style-type: none"> • Activity 1.1: Market assessment • Activity 1.2: Classification of sectors under the EEA <p>Output 2: Introduction of a Policy Working Group</p> <ul style="list-style-type: none"> • Activity 2.1: Identification of stakeholders • Activity 2.2: Formation of the PWG

	<ul style="list-style-type: none"> • Activity 2.3: 2-day PWG kick-off meeting • Activity 2.4: Quarterly PWG meetings <p>Output 3: Development of the Energy Efficiency and Conservation Act</p> <ul style="list-style-type: none"> • Activity 3.1: Development of draft EEA • Activity 3.2: National stakeholder consultation • Activity 3.3 Development of final EEA <p>Output 4: Operationalization of the Energy Efficiency and Conservation Act</p> <ul style="list-style-type: none"> • Activity 4.1: Guidance on the implementation of the EEA • Activity 4.2: Development of standard template for energy auditing • Activity 4.3: Development of a certification procedures and training curricula for energy auditors and managers • Activity 4.4: Delivery of a training of trainers to energy auditors and managers
<p>Methodologies applied to produce outputs and products</p>	<p>The team followed consultative, inclusive and adaptive approach for execution of this engagement. The key components of the methodology include:</p> <ol style="list-style-type: none"> 1. Energy Efficiency market Assessment <ul style="list-style-type: none"> • Market Assessment to establish a baseline • Classify sectors under the EEA 2. Introduction of a Policy Working Group <ul style="list-style-type: none"> • Stakeholder Identification • Formation of Policy working Group • Policy Working Group Kick-off meeting 3. Development of EEA <ul style="list-style-type: none"> • Development of the draft EEA • National Stakeholder Consultation • Development of Final EEA 4. Operationalise EEA <ul style="list-style-type: none"> • Guidance on the implementation of the EEA • Development of standard templates for energy auditing • Development of certification procedures and training curricula • Delivery of Training to trainers
<p>Deviations</p>	<p>There were certain delays due the economic conditions of Nigeria, however the team executed all aspects under the methodology, to successfully complete and add value to the engagement.</p>
<p>Anticipated follow-up activities and next steps</p>	<p>The TA concluded successfully. However, from our lessons and feedback from stakeholders we anticipate, CTCNs further support in:</p>

	<ol style="list-style-type: none"> 1. Support for sub regulations for the EE Decree Act 2. Building capacity of local energy auditors and stakeholders 3. Financial support to stakeholders for uptake of energy efficiency technologies in the country 4. Larger program to support province wise technology dissemination and capacity building in Nigeria
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2. Lessons learned

	Lessons learned	Recommendations
Lessons learned from the CTCN TA process	<p>Involvement of local stakeholders and PWG was of utmost importance for successful execution of the TA. We believe CTCN should incorporate forming such PWG to ensure constant validation and buy – in from all its stakeholders.</p> <p>Furthermore, the TA has created opportunities for CTCN to assist with the development of sub-regulations and to support key demand sectors in integrating energy efficiency into their infrastructure and operations</p>	<p>CTCN may engage with the local associations and foster dialogue between NDE and industry associations. But, at the same time ensure that the beneficiaries are not just members of one association but the entire sector.</p> <p>CTNC may involve other ministries along with the NDE. Also, ensure active participation of other ministries for providing ease of access to information and assisting execution of TA.</p>
Lessons learned related to climate technology transfer	<p>This TA supported in creating an ecosystem for energy efficiency investments in industries and building sector through suitable interventions.</p> <p>As part of the capacity building program we were able to assess the capacity of the stakeholders and understand the challenges with respect to financing and capability.</p>	<p>The future TA may follow a sector specific or cluster specific approach, thus ensuring a significant penetration of mitigation technologies.</p> <p>The participants of training programme requested more training programmes with much deeper coverage of specific technologies and pilot studies. There is potential for follow-up TA with focus on capacity building and awareness generation on EE, RE and Water use efficiency. The capacity building programme could be targeted</p>

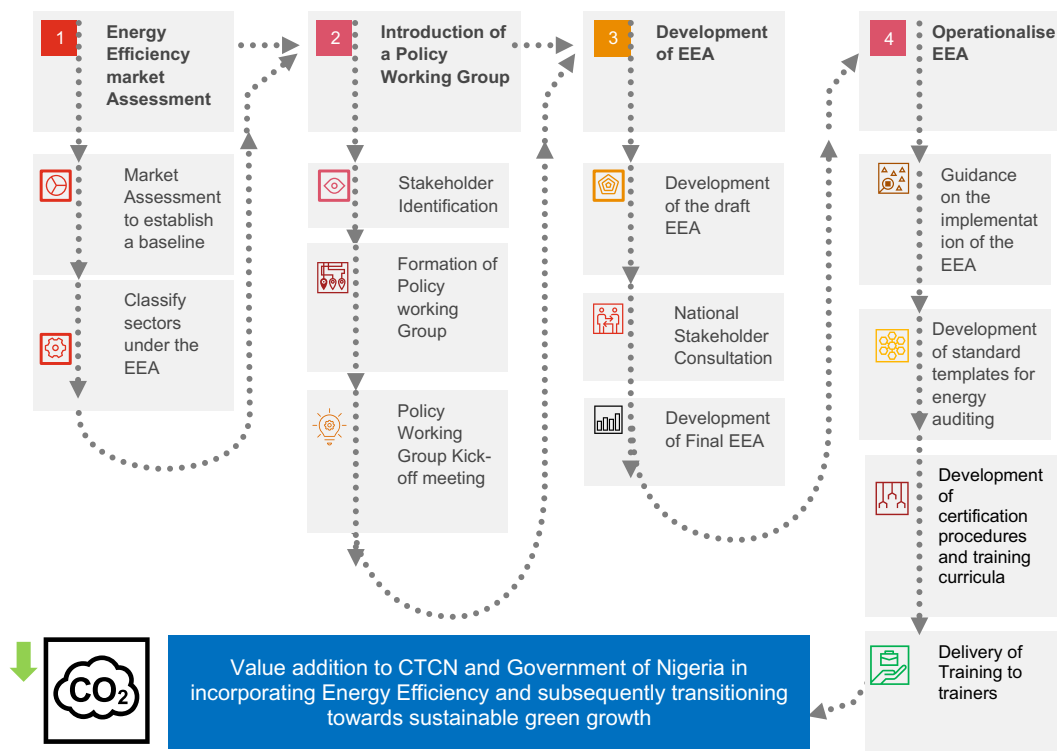
	<p>The stakeholders proposed subsequent support from CTCN to further strengthen the energy efficiency ecosystem of Nigeria</p>	<p>towards three focus sectors Government agencies, industries and local service providers separately.</p> <p>Low carbon technology transfer projects may be demonstrated on pilot basis to showcase benefits in future TAs. This will create greater impact.</p>
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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.

Methodology

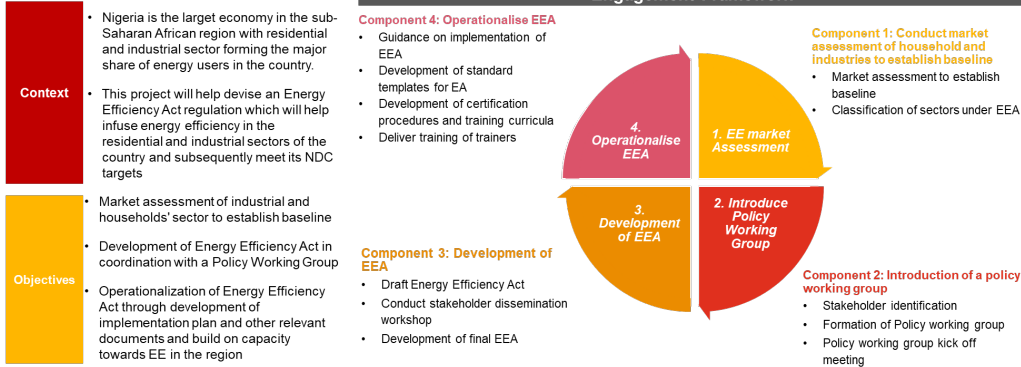
In line with the requirements mentioned in the Terms of Reference, the assignment involves carrying out four activities/components as indicated below



Our understanding of the assignment

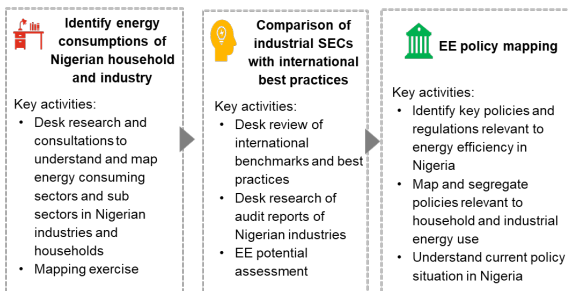
CTCN is supporting Nigeria in development and operationalization of its Energy Efficiency Act in order to support Nigeria to achieve energy security and achieve its NDC targets.

Engagement Framework



Output 1: Energy Efficiency Market Assessment

Key activities to be carried out for Output 1



Consult and validate findings with CTCN and key stakeholders

Activity 1.1: Market Assessment

Description:

Comprehensive market assessment for energy efficiency and conservation in household and industries to establish a baseline for further assessments. We shall follow our in house methodology to carry out the study.

Deliverable:

Comprehensive market assessment report

Activity 1.1: Classification of sectors under EEA

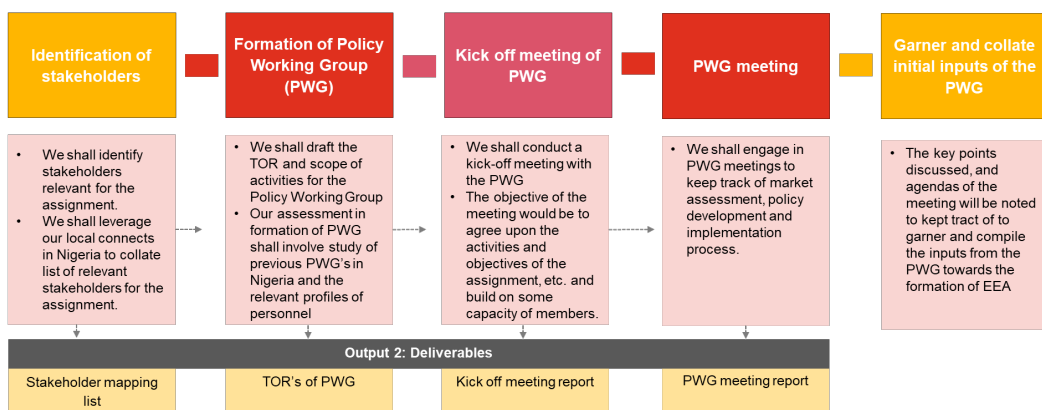
Description:

Classification of sectors under the Energy Efficiency Act. We shall define threshold values based on studies and energy consumption data of industries and households to classify sectors under EEA

Deliverable:

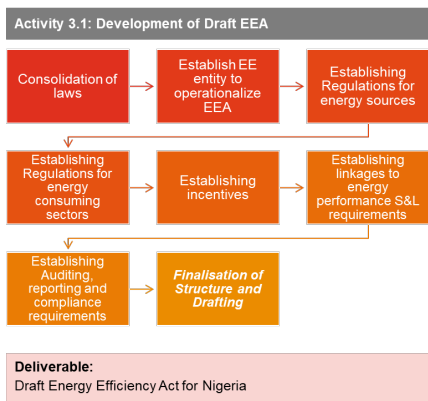
Selection of sectors and sub sectors under the EEA

Output 2: Introduction of Policy Working Group





Output 3: Development of EEA



Activity 3.2: Stakeholder Consultation

Description:
The consultation workshop will be conducted with the aim of disseminating the outcomes of our analysis and the draft EEA and gather feedback and develop a consensus on priority sectors, metrics and mechanisms for the draft EE&C Act.

To address the possible language barrier, our alliance partners PwC Nigeria would be actively involved in the discussions to provide translation. The proceedings of the workshop would be summarized as minutes for further discussions between CTCN and the engagement team.

Deliverable:
National Stakeholder Consultation workshop report

Activity 3.3: Finalisation of EEA

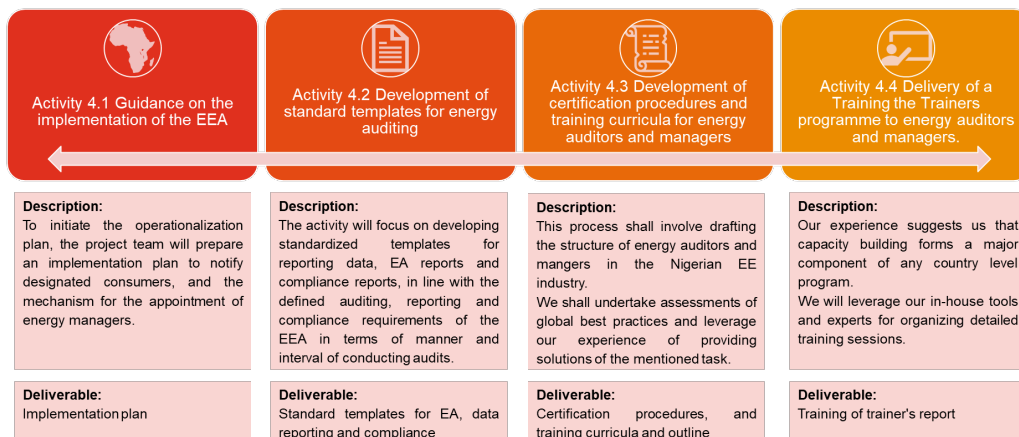
Description:
Post consultations with the PWG, CTCN and the stakeholders, we will finalize the Energy Efficiency Act for Nigeria and incorporate all the comments, feedbacks received through the process of the assignment.

We shall ensure the EEA is aligned with national strategies, ambitious, clear, inclusive and has effective governance structure.

Deliverable:
Final EEA



Output 4: Operationalization of EEA



Results

The deliverables were successfully drafted and shared with CTCN. The result of this engagement was a successful draft of the Energy Efficiency Bill along with its implementation roadmap. Further, as part of the engagement the project team supported in building capacity of local energy auditors and managers. A glimpse of our engagement with stakeholders is showcased along,







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	Nigeria is one of the largest African economies, with rich reserves of oil and natural gas. The increased economic development complimented with increased urbanization of the population has led to an increase in the energy demand for the country. There has been a lot of effort being made in enhancing power generation, however there is need to formulate and implement energy efficiency programs in the various sectors of the economy.
CTCN Assistance	TA is aimed at addressing the barriers mentioned above. It envisages to provide support in: <ol style="list-style-type: none"> 1. Conducting a comprehensive market assessment for energy efficiency and conservation in industries and households to establish a baseline for energy efficiency and conservation market transformation 2. Developing an Energy Efficiency Act for Nigeria through assessment of Nigeria's energy sector landscape. Forming a policy working group of relevant stakeholders to support with development of the Act. Conduct national stakeholder consultation for the dissemination and approval of the Energy Efficiency Act. 3. Support with operationalization and implementation of the Act in Nigeria as well as support in creating a market for energy efficiency through development of standard templates for energy auditing, developing certification procedures for training energy auditors and managers and conducting training of trainers for energy auditors and managers.
Anticipated impact	The impact of the assistance will be multifold: <ol style="list-style-type: none"> 1. Improvement in energy intensity of different sectors of the country as well as reduction in energy shortages faced across sectors in the country 2. Improved energy efficiency of the industrial sector in the country, meaning increased output per unit of energy consumed 3. Creating a self-sustaining market for energy efficiency through building of capacities of locals and development of energy efficiency auditor and manager program in the country 4. Involvement of women in energy efficiency infrastructure of the country
Co-benefits: Achieved or anticipated co-benefits from the TA	The anticipated co-benefits of the TA: <ol style="list-style-type: none"> 1. Increasing the productivity and efficiency of industries making them competitive across the globe

	<ol style="list-style-type: none"> 2. Improving the infrastructure of Nigerian residential sector and transition to smart sustainable cities 3. Increasing the share of women in the energy efficiency market of the country 4. Reduction of energy shortages and less demand of fossil fuels which helps in reduction of GHG emissions
<p>Gender aspects of the TA</p>	<p>The assignment incorporates gender mainstreaming as one of the key components in creating a self-sustaining market for energy efficiency in Nigeria:</p> <ol style="list-style-type: none"> 1. During the market assessment, gender aspects will be integrated transversally in order to understand challenges and opportunities that particularly arise for women. 2. The formation of the policy working group will done keeping into account gender equality 3. Stakeholder workshops will be conducted keeping gender mainstreaming issue in mind 4. Capacity building activities will be carried out in an inclusive manner to ensure involvement of women in the process
<p>Anticipated contribution to NDC</p>	<p>Nigeria's updated NDC commits to reduce emissions by 47% by 2030 against BAU projections, with an updated baseline from 2018. The Energy Efficiency Act accompanied by CTCN's work to create a self-sustaining market for energy efficiency in Nigeria will help in reducing the energy intensity of Nigeria. This will also increase the existing systems of energy consumption and production in the country.</p> <p>Nigeria is also looking beyond 2030 through developing a vision of long-term low emission development in order to achieve net-zero emissions by 2060. The TA will help align with Nigeria's NDC targets and national level country programs to transition towards low carbon sustainable growth.</p>
<p>The narrative story</p>	<p>Nigeria's rapid economic development and subsequent increase in urbanization has led to an increase in the energy demand for the country. In addition to this, Nigeria has committed a 47% reduction in its emissions by 2030 considering 2018 as baseline.</p> <p>In response to TA request, CTCN has collaborated with NDE to execute the TA through PricewaterhouseCoopers India.</p> <p>As part of the TA, the project team will conduct a comprehensive market assessment for energy efficiency and conservation in industry and household to establish a baseline will be conducted. Post the market assessment, the project team will develop the Energy Efficiency Act for Nigeria. The Act would provide the framework through which new age technologies and practices be introduced as well as provide an environment conducive to energy conservation measures.</p>

	<p>The team will also support in enabling Nigeria in creating a self-sustaining market for energy efficiency by building on capacities and creating energy auditor and manager certification program in the country. The TA will eventually help Nigeria in mitigating climate change across sectors and reducing its emissions.</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>	<p>SDG 5: Gender Equality TA will increase the involvement of gender in the energy market of Nigeria.</p> <p>SDG 7: Affordable and Clean Energy TA will develop a conducive environment for energy efficiency and conservation in the country through development of Energy Efficiency Act and building on capacities for energy efficiency market transformation</p> <p>SDG 13: Climate Change TA will strengthen the mitigation capacity and align with countries other programs and policies to mitigate impacts of climate change</p> <p>SDG 9: Industry, Innovation and Infrastructure TA will strengthen the efficiency of industries and make them competitive through provisions under the Energy Efficiency Act.</p> <p>SDG 11: Sustainable Cities and Communities TA will support in transitioning residential sector towards smart infrastructure through provisions under the Energy Efficiency Act.</p>

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 Please note indicators below highlighted as anticipated	Quantitative value Value and unit	Qualitative description List the various elements corresponding to the quantitative value as well as timelines and responsible institutions
Number of communication and outreach activities conducted by proponents and implementing partners to showcase CTCN support	3	Policy Working Group Workshop
Number of participants in the events above	Number of participants in the PWG: PWG 1 – 32 PWG 2 – 30 PWG 3 – 25	Number of Participants: 1. (04/ 04/2024) PWG meeting 1 – 32 members 2. (12/09/2024) (PWG meeting 2 – 30 members 3. (17/12/2024) PWG meeting 3 – 25 members
a) Number of men	29 – PWG 1 27 – PWG 2 22 – PWG 3	
b) Number of women	3 – PWG 1 3 – PWG 2 3 – PWG 3	
Number of training sessions and capacity strengthening activities	4	Training session of energy auditors and managers
Number of people who received the training	50	We carried out a 2-day training program for trainers and representative from Government Agencies. The number of participants have varied.
a) Number of men	47	
b) Number of women	3	
Total number of institutions trained	14	The institutions trained include the following:

		<ul style="list-style-type: none"> • Energy Commission of Nigeria (ECN) • Federal Ministry of Environment (FMoE) • Federal Ministry of Housing and Urban Development (FMoHUD) • Federal Ministry of Industry, Trade and Investment (FMoTI) • Federal Ministry of Power (FMoP) • Federal Ministry of Petroleum Resources (FMoPR) • Federal Ministry of Water Resources and Sanitation (FMoWRS) • National Council on Climate Change (NCCC) • Nigerian Electricity Management Services Agency (NEMSA) • Nigerian Electricity Regulatory Commission (NERC) • Rural Electrification Agency (REA) • Standards Organization of Nigeria (SON) • G. Elias • Ecowatt Nigeria Limited
a) Number of research organisations, laboratories and universities	1	The representatives from Test Laboratory of ECN attended the training of trainer's session.
b) Number of private companies	2	The same are mapped in the list above.
c) Number of cities and local government	NA	NA
d) Number of communities	NA	NA
e) Number of ministries	12	The same are mapped in the list above.
f) Number of specialised governmental institutions	NA	NA
g) Number of non-profit organisations	NA	NA

Percentage of participants reporting satisfaction with CTCN training (from CTCN training feedback form)	NA	NA
Percentage of participants reporting increased knowledge, capacity and/or understanding as a result of CTCN training (from CTCN training feedback form)	NA	NA
a) Number of men	NA	NA
b) Number of women	NA	NA
Total number of deliverables produced during the assistance (excluding mission, progress and internal reports)	7	01 – Sector Prioritisation Report 01 – Market Assessment Report 01 – Energy Efficiency Bill 01 – Implementation Plan 01 – Certification Program for energy auditors 01 – Template for Energy Auditing 01 – Modules for training of trainer’s program
a) Number of tools and technical documents strengthened, revised or developed	7	The TA supported in delivery of 7 documents to support Nigeria with operationalising its EE Decree.
b) Number of other information materials strengthened, revised or created (For example training and workshop reports, Power Points, exercise docs etc.)	1	Created modules for Training of Trainers Workshop
Total number of policies, strategies, plans, laws, agreements or regulations supported by the assistance	3	
a) Adaptation related	NA	NA
b) Mitigation related	3	1. Energy Efficiency Decree 2. Implementation Plan 3. EA certification program
c) Both adaptation- and mitigation related	NA	NA
Anticipated number of policies, strategies, plans, laws, agreements or regulations proposed, adopted or implemented as a result of the TA	3	
a) Adaptation related	NA	NA
b) Mitigation related	3	1. Energy Efficiency Decree 2. Implementation Plan

		3. EA certification program
c) Both adaptation- and mitigation related	NA	NA
Anticipated number of technologies transferred or deployed as a result of CTCN support	NA	NA
Number of South-South collaborations enabled during or through CTCN TA support	NA	NA
Number of climate technology RD&D related outreach activities	NA	NA
Number of participants in climate technology RD&D related workshops and events	NA	NA
a) Number of men	NA	NA
b) Number of women	NA	NA
Anticipated number of cooperative research, development, and demonstration programmes facilitated as a result of CTCN TA	NA	NA
Number of countries with strengthened National System of Innovation as a result of CTCN support	NA	NA
Number of organisations engaged through CTCN support	NA	NA
Insert any additional indicators here	NA	NA

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 CO ₂ equivalent (CO ₂ e) emissions reduced or avoided as a result of CTCN TA	
	Anticipated metric tons of CO ₂ , equivalent emissions reduced or avoided as a result of the TA on annual basis	Anticipated metric tons of CO ₂ , equivalent emissions reduced or avoided as a result of the TA in total
Quantitative value	NA	NA
Unit	NA	NA
Methodology	NA	NA

Explain the method or process of verifying the indicator and how data was gathered		
GHG assessment boundary Identify expected post-TA activities, associated effects and assess boundary for quantification of GHG emission reductions	NA	NA
Baseline candidates Define alternative technologies or practises used in baseline calculation to represent possible alternatives to the project activities	NA	NA
Baseline emissions Describe baseline scenario and emissions calculated	NA	NA
Assumptions Describe assumptions made during calculation and quantification of GHG reductions	NA	NA

Core indicator 2	<p>Anticipated increased economic, health, well-being, infrastructure and built environment, and ecosystems resilience to climate change impacts as a result of technical assistance</p> <p><i>Please provide a qualitative description of the anticipated impacts on the categories below</i></p>
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<p>Infrastructure and built environment Anticipated increased infrastructure resilience (avoided/mitigated climate induced damages and strengthened physical assets)</p>	<p>The energy efficiency decree shall pave the way for sub regulations in the built environment space. The sub regulations shall mandate energy conservation interventions to be taken up for climate resilient infrastructure and built environment</p>
<p>Ecosystems and biodiversity Anticipated increased ecosystem resilience (areas with increased resistance to climate-induced disturbances and with improved recovery rates)</p>	<p>NA</p>
<p>Economic Anticipated increased economic resilience (e.g. less reliance on vulnerable economic sectors or diversification of livelihood)</p>	<p>The TA has showcased how investments in energy conservation provides opportunities for local companies for entrepreneurship taking up role of ESCOs. Further, energy efficiency will also help in enhancing productivity and thereby leading to industrial development</p>
<p>Health and wellbeing Anticipated increased health and wellbeing of target group (e.g. improved basic health, water and food security)</p>	<p>NA</p>

Core indicator 3	Anticipated number of direct and indirect beneficiaries as a result of the TA		
	Direct beneficiaries	Indirect beneficiaries	Means of verification
Adaptation related			
Mitigation related	Energy Commission of Nigeria and National Council for Climate Change.	Federal Ministry of Finance, Federal Ministry of Industry, Trade and Investment, Federal Ministry of Housing and Urban Development, Federal Ministry of Environment, Federal Ministry of Power, Federal Ministry of Transportation,	We developed a Bill which supported uptake of energy efficiency in Nigeria, to mitigate the adverse impacts of climate change. The direct and indirect beneficiaries of the Bill are mentioned in the table.

		Federal Ministry of Works, Ministry of Petroleum Resources, The Federal Ministry of Innovation, Science and Technology, Federal Ministry of Water Resources and Sanitation and Federal Ministry of Agriculture and Food security, Standards Organization of Nigeria	
Both adaptation-and mitigation related	NA	NA	NA

Core indicator 4			
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 Value and currency	Qualitative description List the various elements corresponding to the quantitative value as well as expected timelines and responsible institutions	Methods Describe method use for quantification of funds leveraged including assumptions made and attention paid to causality, attribution and avoidance of double-counting
Total anticipated amount of funding/investment mobilised or leveraged (USD) as a result of the TA	NA	NA	NA
Anticipated amount of public funding mobilised from national sources (USD)	NA	NA	NA
Anticipated amount of public funding mobilised from international and	NA	NA	NA

regional sources as a result of the TA			
Anticipated amount of private investment mobilised (in USD) from national sources as a result of the TA	NA	NA	NA
Anticipated amount of private investment mobilised (in USD) from international and regional sources as a result of the TA	NA	NA	NA

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.