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	Development of Green Building Standards for Zimbabwe
Technical assistance reference number	2022000002
Country / countries	Zimbabwe
NDE focal point and organisation	Climate Change Management Department, Ministry of Environment, Climate, Tourism and Hospitality Industry Ms Munashe Mukonoweshuro NDE Focal Point munamuko@gmail.com 11th Floor, Kaguvi Building Cnr S.V Muzenda, Harare
Proponent focal point and organisation	
Designer of the response plan	UNEP – The Climate Technology Centre and Network (CTCN)
Implementer(s) of technical assistance	HEAT GmbH, DEM, and BCA (local partner)
Beneficiaries	Ministry on National Housing and Public Works Green Building Council of Zimbabwe Zimbabwe Energy regulatory Authority Ministry of Environment
Sector(s) addressed	Energy efficiency in buildings
Technologies supported	Building technologies Efficient Building Design Building Renewable Energy

Implementation period and total duration in months	Originally April 2023 – June 2024 (15 months). A no-cost extension was executed to allow more time on the collection of building data. April 2023 – September 2024 (18 months)
Total budget for implementation	201,529 USD
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	The key delivered output for this project is a Green Building Standard (GBS) that will support a transition of the building sector towards low climate impacts. In addition, the project delivered the following ancillary outputs: 1. Baseline analysis of the buildings sector that includes a look at policy, regulations, building practices, and building performance as possible. 2. A database of high-performance building materials for different sectors of the building sector. 3. An MVE strategy to support monitoring and enforcement of the implementation of GBS. 4. Capacity building workshop including related materials. 5. User guide for the green building standard. 6. The establishment of a PWG that is set to continue cooperation after the project, and the associated meeting notes.
Methodologies applied to produce outputs and products	The project used a number of techniques to collect data, perform analysis, carry out projections, deliver capacity building, and engage with the relevant stakeholders including: 1. Workshops with stakeholders. 2. Bilateral meetings 3. Collection of statistics from electricity providers, building owners, existing reports, etc. 4. Policy and regulatory analysis to understand existing frameworks. 5. Statistical analysis to estimate energy saving potential and related projections of the market. 6. Carried out workshops to engage, consult, and capacitate domestic stakeholders.
Deviations	The key deviations of the project are due to the lack of available information on current building practices and building performance that caused significant delays in the in the early stages of the project and prevented the detailed simulation of building types. This resulted in the following deviations: 1. The timelines needed to be extended. 2. The key output is less of a prescriptive standards and more a guide of best practices in each individual component of buildings energy performance. 3. The estimations of energy performance and potential savings are the results of top-down statistics and well-accepted assumptions rather than bottom-up statistics and simulated data.

Anticipated follow-up activities and next steps	The national stakeholders intend to advance this topic: 1. Review options for implementation of the generated GBS. This includes mandatory and/or voluntary options, assessing possible timing, and related details. 2. Assess how the GBS can work with the ZERA Energy Conservation Regulations. 3. Determine roles and responsibilities for different actors. 4. Ultimately, to implement the GBS.

2. Lessons learned

	Lessons learned	Recommendations
Lessons learned from the CTCN TA process	• TAs should have the support of more than one line ministry. Especially where the topic has several areas of overlap between ministries. • The required reporting framework for the project adds significant effort for project delivery and duplication of effort in places. • TA would benefit from having a strong champion in the local government in the form of a senior official that believes in the topic and wants change. • The consulting rates currently used to estimate project budgets may need to be reviewed as they are out of date. • It is important to consider local customs when relating to development projects. In this case, workshop participants required a 'per diem' to be provided which was not accounted in the TA design.	1. Minimize reporting needs to essential documents. 2. Ensure that TAs will have significant presence and follow-up from a senior enough official to ensure results. This would increase participation and responsiveness from local SH. 3. Ensure that line ministries are engaged during the TA designed stage to ensure they know their roles and responsibilities. 4. Ensure that TA budgets are developed with greater understanding of the topic, local context, international consultants' context, etc.
Lessons learned related to climate technology transfer	• Barriers can take many shapes, and the lack of government cohesion on the	• Ensure domestic consultants play an important role in consultation processes to overcome communication barriers.

	topic if TA seemed to be significant. • Government champions at senior level can lend a strong impetus to the work. • Project leaders need to have the flexibility to address the needs of the projects with different methods and tools if most desirable options are not available. • Limited engagement from domestic stakeholders can arise as stakeholders may feel limited ability to challenge the ideas presented, or don't have needed seniority, etc.	• CTCN to encourage/require the assigning of high-level political champions to projects to overcome cooperation barriers.

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.

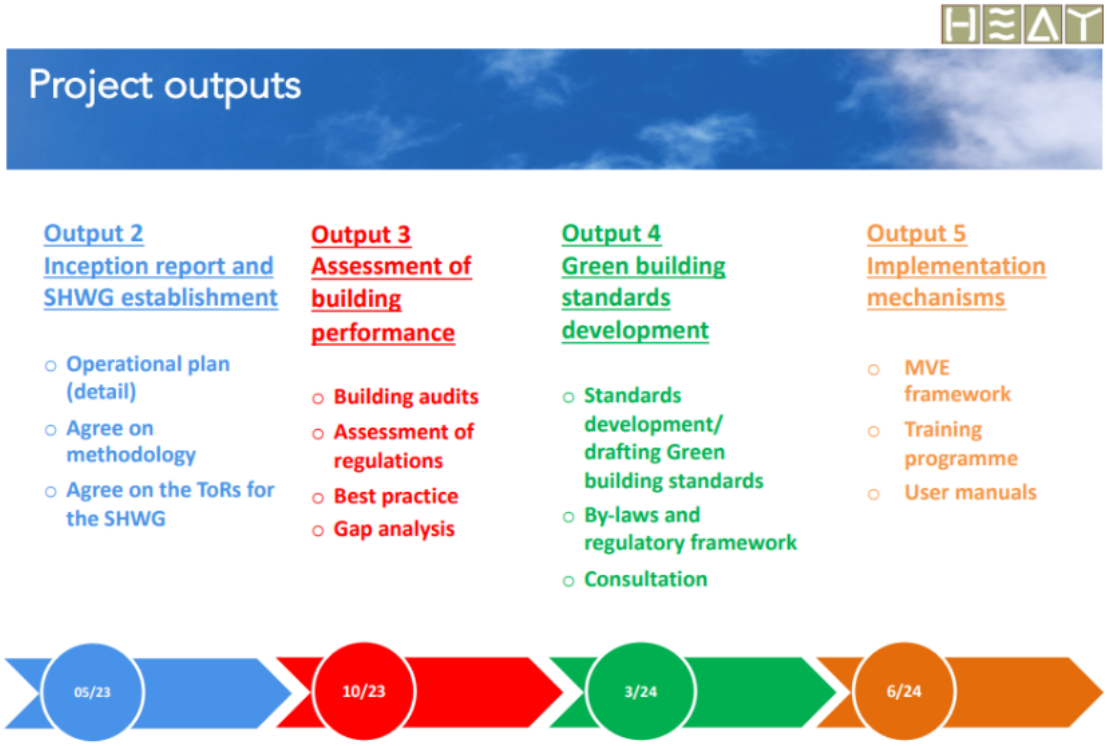

Figure 1 - Project process.

Figure 2 - Capacity building workshop

Table 1: Minimum energy performance indices for different types of buildings in Zimbabwe in kWh/m²/year. (Source: ZERA Draf Energy Conservation Code).

No,	Building type	BEEC minimum baseline energy performance (kWh/m²/yr)
1	Office	175
2	Retail	300
3	Hotel	300
4	Hospital	300
5	University	150
6	Industrial Park	150

Figure 3 - Table of minimum energy performance for different types of buildings frm the GBS.

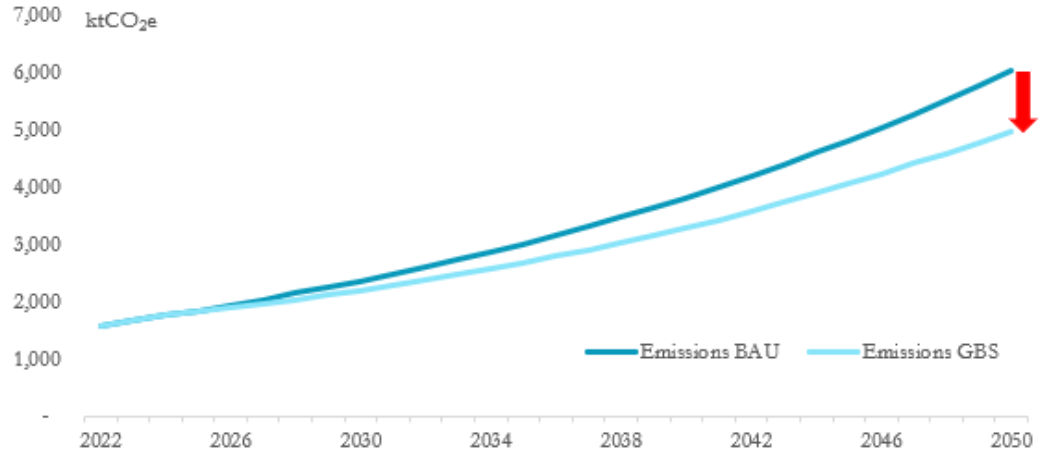

Figure 4 - Estimated emissions paths on a BAU and GBS implementation scenarios.

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	*The energy sector is currently the second biggest contributor to total GHG emissions in Zimbabwe, accounting for 33% of emissions in 2017. The built environment, including residential, office and commercial buildings are important sources of GHG emissions under this sector. Due to a lack of mandatory building standards in peri urban and rural areas, the increase in urban sprawl has seen the development of infrastructure which is not environmentally responsible and sustainable across the nation.*

CTCN Assistance	*Zimbabwe is constrained by an inability to fully implement sustainable building practices, adopt environmentally friendly technologies, and put appropriate measures in place to respond to climate change requirements. This is largely attributed to a lack of institutional and financial resources. Zimbabwe needs to develop sustainable building practices, there is a need to improve the environmental and economic performance of new and existing commercial, office, and residential buildings.* *This technical assistance developed an effective green building standards, policy guidelines and MV&E frameworks in order to introduce sustainable building practices nationwide.*
Anticipated impact	*Dependent on eventual implementation of the GBS, the main anticipated impacts from this TA focus on:* • *Energy demand reduction* • *GHG emissions reduction*
Co-benefits: Achieved or anticipated co-benefits from the TA	*It is also anticipated that the successful implementation of a GBS can also deliver several associated co-benefits:* • *Improved culture in the construction industry and housing/building markets towards improved quality of stock.* • *Reduced maintenance and running costs of the building stock resulting from higher quality and lower energy bills.* • *Improved housing quality is also associated with positive social outcomes such as improved health and wellbeing.* • *Increased capacity at the cutting edge of an industry that is vital to the economy of the country.* • *Increased adaptation capacity in the built environment communities.*
Gender aspects of the TA	*The TA's also engaged women and gender specialist in the development of the GBS and implementation tools.* *As a result of the technical assistance, the following co-benefits for women, youth and other vulnerable groups are expected:* • *Improved access to energy services at home which positively impacts women.*

	• *Improved housing quality is associated with social benefits including reduced incidence of domestic violence, and improved health.* • *Increased capacity, awareness, and skills on these sectors will increase economic opportunities for women to engage in this sector.* *Business opportunities for women in the buildings and construction sector will be set forth.*
Anticipated contribution to NDC	*Zimbabwe's NDC of 2021 calls for a 40% reduction of GHG emissions economy wide by 2030. For the build environment, the NDC mentions specific targets of 16% and 22% energy savings for the commercial and domestic subsectors respectively.* *With a strong focus on energy efficiency, the implementation of the GBS will directly support these targets through the reduction of energy demand.*
The narrative story	*The energy sector is currently the second biggest contributor to total GHG emissions in Zimbabwe, accounting for 33% of emissions in 2017. The built environment, including residential, office and commercial buildings are important sources of GHG emissions under this sector. As such, Zimbabwe's Low Emission Development Strategy (LEDS) 2020-2050 indicated that electricity and heat generation for the built environment contributed 47% of energy sector GHG emissions in 2015.* *Due to a lack of mandatory building standards in peri urban and rural areas, the increase in urban sprawl has seen the development of infrastructure which is not environmentally responsible and sustainable across the nation.* *The introduction of green building standards in Zimbabwe is constrained by a multitude of barriers, mainly related to a lack of institutional and financial resources which are elaborated in further details below:* • ***Regulatory challenges**: So far, there are no quantitative targets and a legislative force within the building and construction sector, which results in no incentives for the implementation of sustainable energy efficient buildings.*

	• ***Institutional barriers**: The buildings and construction sector involve a set of ministries and entities with limited coordination between them resulting in a lack of harmonized policies and regulatory frameworks.* • ***Lack of capacity and awareness**: Governmental agencies have limited capacity of experts and specialists to develop sustainable building codes. This also includes low building performance data availability (national building database).* • ***Financial challenges**: The perception by stakeholders of a high capital cost and slow return on investment resulting from a lack of knowledge limits investment into energy efficient equipment and technologies. Lack of financial instruments such as subsidies, tax rebates or a dedicated revolving fund are major barriers to enforcing energy efficiency standards in buildings.* • ***Technology limitations**: There is a lack of development and availability of sustainable building materials locally that are energy saving, emissions reducing, safe, convenient, and recyclable.* *This **technical assistance** sought to help Zimbabwe in the development of effective green building standards, policy guidelines and MV&E frameworks in order to introduce sustainable building practices nationwide to reduce the impact of the building stock on the climate:* • *Energy demand reduction* • *GHG emissions reduction*
Contribution to SDGs A complete list of SDGs and their targets is available here: https://sustainabledevelopment.un.org/partnership/register/	*SDG 7* • *Implementation of green building standards will contribute towards reducing energy consumption in existing buildings and energy demand in new buildings, thus making energy supply more reliable and sustainable.* • *Green building standards will facilitate the use of renewable energy and energy*

	efficiency technologies. This will contribute to making the national energy supply cleaner and modern. • *Implementation of the green building standards will generate new opportunities for international cooperation on energy efficiency and renewable energy technologies.* *SDG 11* • *Green buildings can include benefits beyond environmental performance, but also positive social contact, community development, and safe and inclusive interactions.* *SDG 13* • *Capacity building and awareness raising activities will facilitate implementation of green building standards in existing and new buildings, thus contributing to climate change mitigation.*

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	*16*	*The activities of engagement included:* *Policy working group meetings* *Steering group meetings* *Inception meeting* *Consultation of Final outputs.* *Capacity building workshop* *On top of these meetings, there were a series of one-on-one meetings with a number of organizations from private sector and government to consult on data, policy, building practices, and more*
Number of participants in the events above	*~100*	*This figure is estimated as not all the meetings had official records. Specially one-on-one meetings and informal conversations.*
a) Number of men	*68*	
b) Number of women	*32*	
Number of training sessions and capacity strengthening activities	**1**	*One three-day capacity building workshop was held per the ToR.*
Number of people who received the training	**23**	
a) Number of men	**15**	
b) Number of women	**8**	
Total number of institutions trained	*9*	
a) Number of research organisations, laboratories and universities	**0**	
b) Number of private companies	**2**	Architect Consultant
c) Number of cities and local government	**1**	City of Harare
d) Number of communities	**0**	

e) Number of ministries	**3**	Ministry of National Housing Ministry of Local Government and Public Works Ministry of Energy and Power Development Climate Change Department
f) Number of specialised governmental institutions	**1**	Zimbabwe Energy Regulatory Authority.
g) Number of non-profit organisations	**2**	Green Building Council of Zimbabwe Zimbabwe Institute of Engineers
Percentage of participants reporting satisfaction with CTCN training (from CTCN training feedback form)	**N/A**	*Satisfied= 3+ on 5-pt scale* *Indicate breakdown of categories here based on the results of the CTCN training feedback forms*
Percentage of participants reporting increased knowledge, capacity and/or understanding as a result of CTCN training (from CTCN training feedback form)	**N/A**	*Increased knowledge, capacity and/or understanding= 3+ on 5-pt scale* *Indicate breakdown of categories here based on the results of the CTCN training feedback forms*
a) Number of men	**N/A**	
b) Number of women	**N/A**	
Total number of deliverables produced during the assistance (excluding mission, progress and internal reports)	*13*	
a) Number of tools and technical documents strengthened, revised or developed	**6**	1. *Baseline assessment report including policy review, stakeholder mapping, building performance review.* 2. *Green Building Standards Draft* 3. *Green Building Standards Final* 4. *MVE Framework* 5. *User Manual* 6. *Training PPTs from capacity building workshop*
b) Number of other information materials strengthened, revised or created (For example training and workshop reports, Power Points, exercise docs etc.)	**7**	7. *PWG ToR* 8. *PWG Quarterly meeting reports * 4* 9. *Inception report* 10. *Capacity Building Workshop Report.*
Total number of policies, strategies, plans, laws, agreements or regulations supported by the assistance	*1*	
a) Adaptation related		
b) Mitigation related		

c) Both adaptation- and mitigation related	**1**	Green Building Standards
Anticipated number of policies, strategies, plans, laws, agreements or regulations proposed, adopted or implemented as a result of the TA	**1**	
a) Adaptation related		*List the type of documents anticipated to be proposed, adopted or implemented*
b) Mitigation related		
c) Both adaptation- and mitigation related	**1**	Green Building Standards
Anticipated number of technologies transferred or deployed as a result of CTCN support	**Multiple**	*Low carbon cement* *Low carbon steel* *Energy Efficient Windows* *Energy Efficient building materials.*
Number of South-South collaborations enabled during or through CTCN TA support	**1**	Building Standards are based on the South African example which may foster cooperation between the two countries in the future.
Number of climate technology RD&D related outreach activities	**N/A**	
Number of participants in climate technology RD&D related workshops and events	**N/A**	*Disaggregate by country*
a) Number of men	**N/A**	
b) Number of women	**N/A**	
Anticipated number of cooperative research, development, and demonstration programmes facilitated as a result of CTCN TA	**N/A**	
Number of countries with strengthened National System of Innovation as a result of CTCN support	**1**	
Number of organizations engaged through CTCN support	**~15**	*Central government* *Customs department* *Private producers* *NGO* *Research institutes*
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 CO_2 equivalent (CO_2e) 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	0.98 $MtCO_2e$ per year by 2050 assuming enforcement from 2025.	Around 11 $MtCO_2e$ assuming 2025 enforcement.

Unit	Tons of CO2e	Tons of CO2e
Methodology Explain the method or process of verifying the indicator and how data was gathered	A market study using a stock and flow model was carried out which included: • projections of building rates based on GDP and population increase. • Baseline performance assumptions based on national averages. • Assumed improved performance of stock based on international experience on the implementation of GBS. Emissions reductions assumed at the current grid emissions factor based on the reduced electricity demand.	Annual emissions are added are added starting in 2026 from 2025 implementation of the GBS.
GHG assessment boundary Identify expected post-TA activities, associated effects and assess boundary for quantification of GHG emission reductions	Post TA, the Zimbabwe government is planning to have internal coordination discussions to assess how best to implement the GBS. This will require some of the following steps: • Engage the industry and the market. • Allocate resources for enforcement. • Allocate appropriate roles and responsibilities. • Ensure strong follow-up from central government.	
Baseline candidates Define alternative technologies or practises used in baseline calculation to represent possible alternatives to the project activities	Existing building practices as per the baseline report. This is generally assumed to be the use of poor performing building materials and low-quality building practices.	
Baseline emissions Describe baseline scenario and emissions calculated	As per the methodology described above. A stock and flow model were used to determine market dynamics while unit performance was determined by data collected from the market and averaged for capacity levels.	
Assumptions Describe assumptions made during calculation and quantification of GHG reductions	Assumptions were made for: • GDP growth • Population growth • Progressions of the electricity system. • Progressions of the GBS • Life of the building stock.	

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** *Please provide a **qualitative** description of the anticipated impacts on the categories below*
Infrastructure and built environment Anticipated increased infrastructure resilience (avoided/mitigated climate induced damages and strengthened physical assets)	GBS implementation is also associated with increases to the general quality of buildings and their associated uses. In terms of infrastructure, this means more resilient longer lasting buildings that will better adapt to climate change. Similarly, a market that is used to better quality of building is likely to demand better quality infrastructure to deliver improved results in beyond the buildings market.
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)	The access to high performing buildings will result in lower energy and maintenance bills for building owners while benefiting from improved quality of buildings. Reduced electricity demand from these consumers will also support an improved performance of the energy system and enable it to reach a greater proportion of the population at a reasonable cost.
Health and wellbeing Anticipated increased health and wellbeing of target group (e.g. improved basic health, water and food security)	Improved quality buildings are associated with a number of social benefits as improved comfort often translates to improved wellbeing, improved satisfaction, lower domestic violence, and lower incidence of health issues, specially of respiratory issues.

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			*Describe calculation methods and assumptions made*
Mitigation related			*Describe calculation methods and assumptions made*
Both adaptation-and mitigation related			*Describe calculation methods and assumptions made*

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	**Methods** Describe method use for quantification of funds leveraged including assumptions made and attention paid

		as expected timelines and responsible institutions	to causality, attribution and avoidance of double-counting
Total anticipated amount of funding/investment mobilised or leveraged (USD) as a result of the TA			
Anticipated amount of **public funding** mobilised from **national sources** (USD)			
Anticipated amount of **public funding** mobilised from **international and 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			
Anticipated amount of **private investment** mobilised (in USD) from **international and regional sources** as a result of the TA			

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.