



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	Adoption of Green building in Pakistan to achieve Pakistan's Nationally Determined Contribution
Technical assistance reference number	CTCN 22-015
Country / countries	Pakistan
NDE organisation	Ministry of Climate Change
NDE focal point	Ministry of Climate Change
NDE contact information	Saimashafique76@gmail.com
Proponent focal point and organisation	Dr. Saima Shafique, Ministry of Climate Change
Designer of the response plan	Daehee Jang, KICT(Korea institute of Civil Engineering and Building Technology), zzan1113@kict.re.kr
Implementer(s) of technical assistance	KRIEA(Korea Research Institute of Eco-Environmental Architecture), GGC(Green Growth Consultant. Pvt)
Beneficiaries	Pakistan Ministry of Climate Change, Pakistan Green Building Stakeholders,
Sector(s) addressed	CTCN Mitigation Sectors – Energy efficiency – Building
Technologies supported	Sustainable design, Building standards and codes
Implementation start date	01/01/2023
Implementation end date	30/09/2024

Total budget for implementation	250,000USD
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"> - Matching stakeholders for local expert input and training, conducting three semi-annual meetings, and producing reports - Reviewed the current status and standards of buildings in Pakistan, reviewed green building operations in Asia and Southeast Asia, and summarized future directions for Pakistan - Proposed a green building certification system for Pakistan, surveyed practitioners and found that awareness of green building is low, so a basic approach is needed - Proposed system for green building certification in Pakistan, including procedures, rating criteria, certification fees, and verification methods - Propose incentive and economic mechanisms for certification - Propose certification standards and training curriculum for green building in Pakistan - Propose future directions for a successful green building system in Pakistan
Methodologies applied to produce outputs and products	<ul style="list-style-type: none"> - Conducted a total of 30 expert meetings and consultations to drive work forward - Collaborated with GGC, a local consulting agency in Pakistan, to map stakeholders, organize meetings, and collect and analyze local data - Collaborated with KRIEA, a Korean consulting organization, to analyze best certification practices and discuss drafting a green building certification system - Proposed a green building certification system and system hosted by KICT, analyzed and organized relevant data, prepared reports, and prepared training curriculum - Conducted 3 meetings with local stakeholders, with KICT participating online in the first and second meetings, and holding local meetings and introducing the education curriculum in the third meeting
Reference to knowledge resources	<p>The Climate Technology Progress Report 2022</p> <p>Support for Climate Technologies Provided by the Operating Entities of the Financial Mechanism</p> <p>Policy brief on enabling environments and challenges to technology development and transfer identified in TNAs, NDCs and CTCN TA</p>
Deviations	The Suggested Certification System is not final version of Pakistan Green Building Certification, It must be reviewed and resettled by Pakistan Government and Experts.
Anticipated follow-up activities and next steps	<ul style="list-style-type: none"> • <i>Cooperation on establishment of Pakistan green building system</i> • <i>Follow-up on support projects related with green building in Pakistan (now preparing MoU with Pakistan Company)</i>



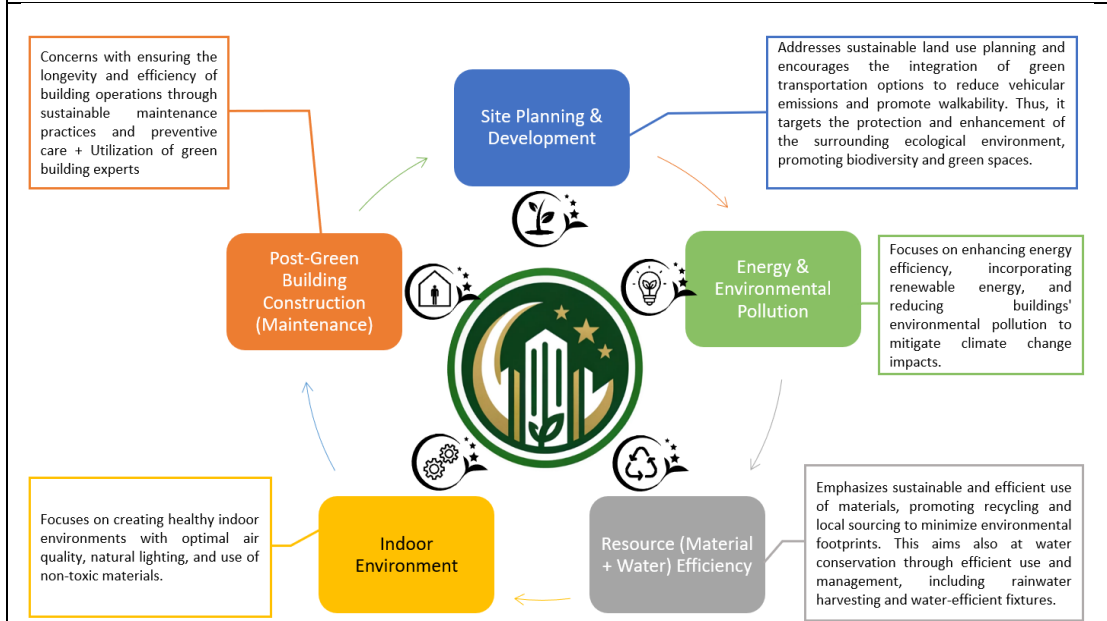
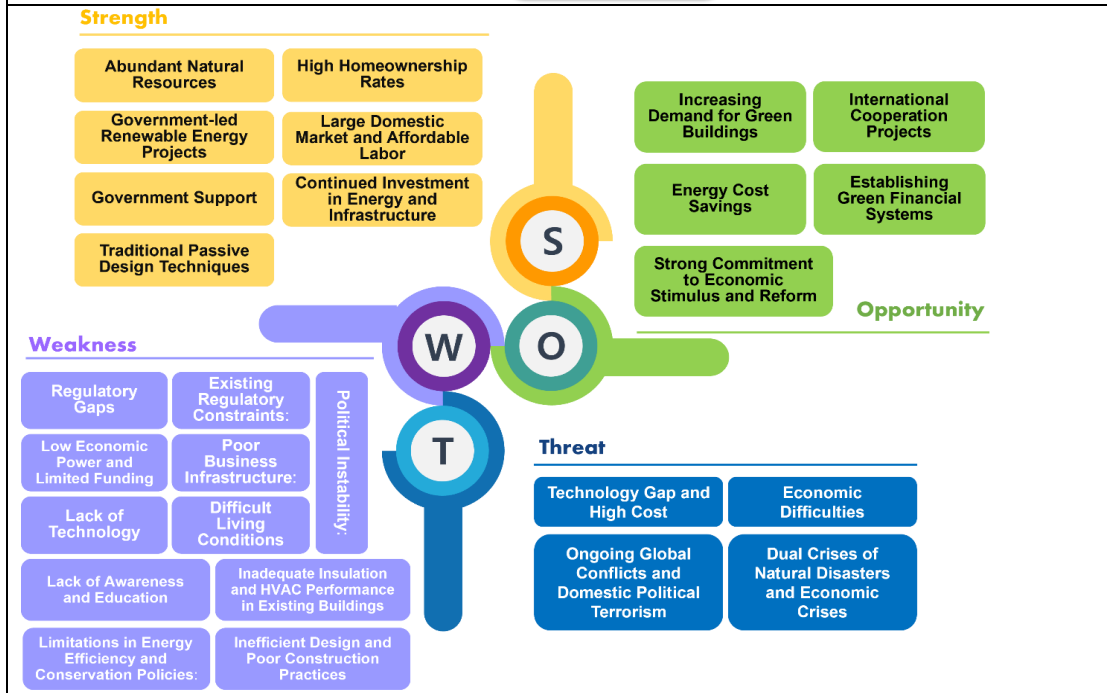
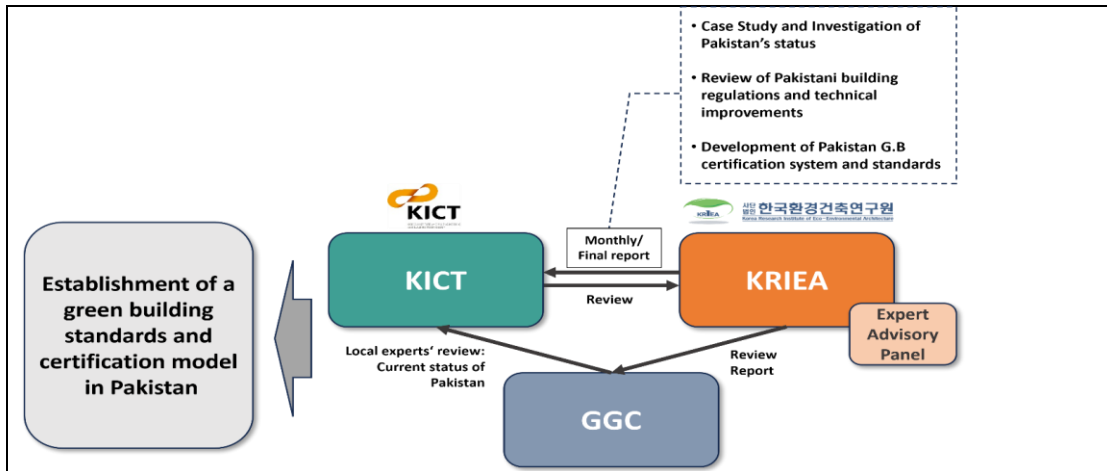
	<ul style="list-style-type: none"> • <i>Conducting related knowledge sharing workshops and area expansion studies (Pakistan World Bank, etc.)</i>
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2. Lessons learned

	Lessons learned	Recommendations
Lessons learned from the CTCN TA process	<p><i>Lack of understanding and access to the CTCN TA project, but it was able to fulfil the role well with the Secretariat's kind guidance and cooperation.</i></p>	<ul style="list-style-type: none"> • <i>Needed to have a preliminary meeting on required reporting and procedures prior to TA project implementation</i> • <i>Sharing of best practices</i> • <i>As it is a local supporting project, it is necessary to arrange an appropriate research partner, and to have substantial and frequent meetings with the research partner.</i>
Lessons learned related to climate technology transfer	<ul style="list-style-type: none"> • <i>Similar concerns and discussions were already taking place in the TA recipient country.</i> • <i>TA projects are not expected to provide final institutions and technologies, but rather to provide advice and guidance on areas that were already under consideration</i> 	<p><i>Recommendations include</i></p> <ul style="list-style-type: none"> • <i>Some special tools or algorithm is required for the expression about the CO2 reduction in the institutional and regulation TA</i> • <i>TA to support developing countries has many similar need(e.g. Jordan, Cambodia), and experience can be used to link relevant projects to countries outside of the donor country</i> • <i>Expanding from regional and national level support to include support to national coalitions and sharing seminars to build consensus on their NDCs and Carbon neutral target</i>

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.



Suggested Components of the GBC in "Vision 2030 for a Green Building Code in Pakistan"		Proposed Components of the GBC Standards by KICT and KRIEA		
Overview	Executive Summary	A- Site Planning & Development	A.1 Ecological value of existing land	
	General Provisions		A.2 Minimizing soil cut/fill in earthwork	
	Green Building Strategies		A.3 Validity of measures to prevent natural light interference	
A- Site Planning & Development	Site Sustainability		A.4 Heat wave response and heat island effect mitigation plan	
	Building Orientation		A.5 Building connected green space axes	
	Heat Island Mitigation		A.6 Ecological area ratio	
	Green Planning and Design		A.7 Accessibility to public transport and amenities	
	Effective Land and Space Use	B- ENERGY & ENVIRONMENTAL POLLUTION	B.1 Building Envelop & Opening	
B- Green Building Construction	Building Materials Sustainability		B.2 Prohibition of specific materials to protect ozone layers	
	Building Envelope and Openings		B.3 Use of renewable energy sources	
	Natural and Controlled Ventilation		B.4 Lighting energy saving (non-residential)	
C- Resource Efficiency	Fire Safety	C- Resource Efficiency	C.1 Building Material Substantiality	
	Roof Insulation		C.2 Water Efficiency	
	Water Efficiency		C.3 Rainwater Management	
	Rainwater Harvesting		C.4 Solid & Liquid Wastes Management	
D- Post-Completion Green Building Actions	Energy Efficiency	D- INDOOR ENVIRONMENTAL QUALITY	D.1 Use of low indoor air pollutant discharging materials	
	Solid and Liquid Wastes Management		D.2 Tobacco Smoke Control	
	Green Building Code Compliance & Informative References		References (to be Annexed or Quoted)	D.3 Natural lighting (residential buildings)
				D.4 Resting and refreshing area
				D.5 Natural & Controlled ventilation
		E. POST-COMPLETION GREEN BUILDING ACTIONS	E.1 Environmentally-friendly space planning and management	
			E.2 Construction site environment management	
			E.3 Operation and maintenance	
			E.4 Monitoring	

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.	<p>Previous studies conducted in Pakistan include the name of green building, but they only provide the name of the items, not the actual system or evaluation criteria. Therefore, in this project, we prepared evaluation items and operating system for green building certification that can be piloted in Pakistan, and proposed a basic training curriculum for training related professionals, thus laying the initial foundation for the implementation of the system.</p>
CTCN Assistance	<p>- The stakeholders interested in green building are likely to be government agencies, basic material companies such as cement, and consulting organizations that support them.</p>
Anticipated impact	<p>- Based on the Korean case, government agencies should prepare to provide incentives for green building, prioritize the interest of consulting organizations and stakeholders, and finally benefit the public.</p> <p>- However, energy-related companies and businesses have not yet participated, and future collaboration with financial support organizations such as the World Bank should be</p>

	<p>encouraged to support the participation of more stakeholders in materials, equipment, design, etc.</p>
<p>Co-benefits: Achieved or anticipated co-benefits from the TA</p>	<ul style="list-style-type: none"> - The TA does not establish a finalized green building certification system for Pakistan. - However, it has proposed more progressive and practical criteria as an extension of existing green building and energy efficiency programs in Pakistan conducted by switchasia, NEECA, etc. - The existing research report was actually recognized by the government and experts in Pakistan, but it was not practical, and this study can be considered as a continuation because it proposed certification items reflecting the existing research. - This is a project outcome that has direction and consistency as a tool for the future operation of the green building system in Pakistan and the achievement of NDCs.
<p>Gender aspects of the TA</p>	<ul style="list-style-type: none"> - Gender balance and women's participation in the TA was emphasized. - Reflecting this, the representative of GGC, the main partner organization in Pakistan, was female, and discussions were held with female experts with experience in green building practice in Pakistan. - However, it is disappointing that the majority of policy makers and business representatives were male, the speakers were male-dominated, and the survey respondents were male. - Nonetheless, it was encouraging to see the inclusion of women among the leaders and practitioners of green building, and it is hoped that their participation in the future development of green building in Pakistan will increase.
<p>Anticipated contribution to NDC</p>	<ul style="list-style-type: none"> - According to the Updated Nationally Determined Contributions 2021 report on Pakistan's NDCs, the country's NDCs are centered on renewable energy, electric vehicles, fossil fuel reduction, and ecological environment creation and conservation. - However, since the NDC contains only outline methods and targets, it does not specify detailed items and



	<p>levels of application, but the green building section lists applied technologies and evaluation criteria, which can play a direct or indirect role in achieving the NDC.</p>
The narrative story	<p>In June 2022, Pakistan was hit by a torrential downpour that was about three times heavier than the country's 30-year rainfall average, submerging one-third of the country, displacing more than 33 million people and killing more than 1,300.</p> <p>The planet is sending us direct warning signals through climate disasters that are destroying homes and even lives.</p> <p>These climate disasters are caused by unplanned and explosive urbanization, which leads to reckless energy consumption and poor infrastructure, and Pakistan is a prime example of rapid and unplanned urbanization.</p> <p>The occurrence of climate change cannot force Pakistan to curb its national development and urbanization, but it is necessary to consider the development of more nature-friendly and adaptive cities and the creation of complementary architecture with local infrastructure.</p> <p>In addition, creating buildings that are friendly to the health of the people who actually use them and the managers who operate them is a necessary part of sustainable development that is not currently considered in developing countries.</p> <p>Therefore, green building certification includes not only energy saving, but also land selection and development, material selection and water resource management, building maintenance and indoor environment quality improvement, and provides a reference point for rating buildings and providing policy support.</p> <p>Through this project, we have prepared a certification system based on best support practices that can be reviewed by government agencies in Pakistan, and we hope that it will be used to operate a practical certification system in the future.</p>
Contribution to SDGs	<p>SDG7 : Ensure access to affordable, reliable, sustainable and modern energy for all</p>

A complete list of SDGs and their targets is available here:
<https://sustainabledevelopment.un.org/partnership/register/>

SDG11 : Make cities and human settlements inclusive, safe, resilient and sustainable
SDG12 : Ensure sustainable consumption and production patterns
SDG13 : Take urgent action to combat climate change and its impacts



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
Please note indicators below highlighted as anticipated	<i>Numerals only; disaggregates must sum to the total</i>	<i>List the various elements corresponding to the quantitative value as well as timelines and responsible institutions</i>
Total number of events organized by proponents and implementing partners	<i>List total number here</i> 3	<i>The local company(GGC) mainly hosted local stakeholders meeting(inception meeting (8th Aug, 2023), 2nd meeting(22nd Feb, 2024), Final meeting(11st Sep, 2024) At inception and 2nd meeting KICT joined by online, and at final meeting KICT was host.</i>
Number of participants in events organized by proponents and implementing partners	<i>List total number here</i> 136	<i>All stakeholders meeting occurred in Pakistan(Islamabad)</i>
a) Number of men	111	<i>Inception meeting : 25 2nd meeting: 34 Final meeting: 52</i>
b) Number of women	25	<i>Inception meeting: 9 2nd meeting: 6 Final meeting: 10</i>
Number of climate technology RD&D related events	-	
Number of participants in climate technology RD&D events	-	
a) Number of men	-	
b) Number of women	-	
Number of training organized by proponents and implementing partners	1	<i>Third Technical Working Group Meeting</i>
Number of participants in trainings organized by proponents and implementing partners	62	
a) Number of men	52	
b) Number of women	10	
Total number of institutions trained	62	
a) Governmental (national or subnational)	21	
b) Private sector (bank, corporation, etc.)	39	

c) Nongovernmental (NGO, University, etc.)	2	
Percentage of participants reporting satisfaction with CTCN training (from CTCN training feedback form)	-	
Percentage of participants reporting increased knowledge, capacity and/or understanding as a result of CTCN training (from CTCN training feedback form)	-	
a) Percentage of men	-	
b) Percentage of women	-	
Total number of deliverables produced during the assistance (excluding mission, progress and internal reports)	6	
a) Number of communication materials, including news releases, newsletters, articles, presentations, social media postings, etc.	-	
b) Number of tools and technical documents strengthened, revised or developed	2	<ol style="list-style-type: none"> 1. Green Building Practices in Pakistan(Energy, Architectural, Structural, Economic, Legal) 2. Draft Version of Pakistan Green Building Certification system and criteria
c) Number of other information materials strengthened, revised or created (For example training and workshop reports, Power Points, exercise docs etc.)	4	<ol style="list-style-type: none"> 1. (PPT) Introduction of KICT and G-SEED 2. (PPT) Green Building Scenario in Pakistan 3. (PPT) Result and Suggestion for Pakistan Green Building Certification 4. (Word Report) Pakistan Green Building Certification
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	<i>Pakistan Green Building Certification</i>
Anticipated number of policies, strategies, plans, laws, agreements or regulations proposed, adopted or implemented as a result of the TA		
a) Adaptation related		
b) Mitigation related		
c) Both adaptation- and mitigation related	1	<i>Pakistan Green Building Certification</i>
Anticipated number of technologies transferred or deployed as a result of CTCN support	3	<i>Sustainable design</i> <i>New building design</i> <i>Building standards and codes</i>
Anticipated number of collaborations facilitated or enabled as a result of technical assistance	3	Pakistan MoCC, World Bank, GGC etc.
a) Number of South-South collaborations	-	
b) Number of RD&D collaborations	1	<i>Pakistan World Bank</i>
c) Number of private sector collaborations	1	<i>Pakistan GGC(Green Growth Consultant)</i>
Number of countries with strengthened National System of Innovation as a result of CTCN support	-	-
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 ₂ e) 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 CO ₂ e reduced or avoided as a result of the TA on annual basis	Anticipated metric tons of CO ₂ e reduced or avoided as a result of the TA in total
Quantitative value (emissions reductions)	<i>Total number (numerals only, no rounding or abbreviations)</i>	<i>Total number (numerals only, no rounding or abbreviations)</i>
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	-	-
Methodology Explain the method or process of verifying the indicator and how data was gathered	-	-
Assumptions Describe assumptions made during calculation and quantification of GHG reductions	-	-

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
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	<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)	Strengthening flood and disaster response with green building standards and implementation
Ecosystems and biodiversity Anticipated increased ecosystem resilience (areas with increased resistance to climate-induced disturbances and with improved recovery rates)	Enhance biodiversity with green spaces that take into account local ecosystems
Economic Anticipated increased economic resilience (e.g. less reliance on vulnerable economic sectors or diversification of livelihood)	Leading the way for neighboring and developing countries by boosting green building projects
Health and wellbeing Anticipated increased health and wellbeing of target group (e.g. improved basic health, water and food security)	Improving health by making people's living spaces more comfortable

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		
Number of mitigation beneficiaries		
Number of adaptation-and mitigation beneficiaries	Direct – 134 people Indirect – 2,000,000 people	Direct – directly trained on the Pakistan Green Building Certification Scheme Indirect – 40,000,000 x 5% (40 million urbanized population in Pakistan in 2023(Pakistan Updated Nationally Determined Contributions 2021) – Acceleration urbanization rate – 5% increase in demand for new buildings(Pakistan Finally Devises an Energy Saving Plan to Save the Economy))

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.