

Guidelines:

- This Request Submission Form should be completed by the organisation requesting technical assistance from the Climate Technology Centre & Network (CTCN) in collaboration with the National Designated Entity (NDE) of the country in question
- The Form must be signed by the NDE. Please see updated contact list of NDEs here: <http://unfccc.int/ttclear/support/national-designated-entity.html>
- The Form can be submitted as a Word file containing a digital signature or as a signed and scanned PDF file in combination with an un-signed Word file
- For requests submitted by multiple countries, all the NDEs of the respective countries shall sign identical Forms before official submission to the CTCN
- NDEs have the opportunity to submit CTCN requests in collaboration with National Designated Authorities (NDAs) for the Green Climate Fund (GCF) if targeting the GCF Readiness Programme.

Requesting country or countries:	Pakistan
Request title:	Adoption of Green buildings in Pakistan to achieve Pakistan's Nationally Determined Contribution
NDE	Dr. Saima Shafique Director, Ministry of Climate Change 4th Floor, Local Government Complex, G-5/2, Islamabad, 44000, Pakistan Saimashafique76@gmail.com
Request Applicant:	Ministry of Climate Change

Climate objective:

- Adaptation to climate change
- Mitigation of climate change
- Combination of adaptation and mitigation of climate change

Geographical scope:

- Community level
- Sub-national
- National
- Multi-country

If the request is at a sub-national or multi-country level, please describe specific geographical areas (provinces, states, countries, regions, etc.).

Problem statement related to climate change (up to one page):

This section should answer the question “what is the problem?” Please summarise the problem related to climate change and/or the negative impacts of climate change in the country that the request aims to address.

Pakistan’s energy sector contribution to greenhouse gas emissions has remained historically high where the recent inventory of 2018 estimated the contribution of 44%. Recognizing that energy efficiency plays a critical role in achieving mitigation targets in energy sector, the policies that guide Pakistan’s initiatives include Pakistan’s Nationally Determined Contribution 2021, National Climate Change Policy 2021 and Sustainable Energy For All (SEforAll) National Action Plan 2019 where the aim is to double the energy efficiency rate by 2030.

Being the most rapidly urbanizing country in Asia, Pakistan’s building sector offers great potential for transitioning to energy efficient sector. Considering global numbers, the construction sector is highly energy and carbon-intensive, currently producing between 25% and 40% of global carbon emissions. Around 8% of the overall global CO₂ emissions come from the production of steel and concrete, for example.

Due to a lack of green building standards and regulations, the rapid urbanization across Pakistan has seen an infrastructural development which is not environmentally sustainable and responsible. A major initiative is required to be taken towards implementing green building standards with a clear methodology, monitoring verification and enhancement MV&E and financing. Pakistan has so far been constrained by the lack of awareness among people about the importance and advantages of adopting green building practices, as well as limited access to financing.

Accordingly, this request for technical assistance aims at introducing green building standards in Pakistan. This includes a baseline assessment of current infrastructure (incl. commercial, office and residential buildings), as well as the development of standards for new green building infrastructure and the conversion of existing infrastructure to net zero buildings.

The suggested measures will help in devising policies and economic measures to promote the construction of green and environment-friendly buildings. At length, green building standards will lead to drastic reduction in demand for energy and considerable monetary savings, including for the common people.

Similarly, to gear up towards a nation-wide revolution, it is advisable to begin the drive from the governmental buildings. In the given context, it is worthwhile to mention the pivotal steps to revolutionize the governmental buildings to green buildings in Pakistan may include the following:

- Quantification of potential savings from green building initiatives such as water, electricity consumption, and incorporation of renewable energy sources etc. This is also an initiative for developing synergies between the systems and enabling the net zero buildings concept.
- Reduction of the overall carbon emissions from the building. Use of sustainable material consumption to further ensures sustainable design, hence reducing the overall footprint of the existing and new buildings.
- Incorporation of environmental design which helps in encouraging implementation of new technology and innovative measures.
- Enhancing building values and aesthetics through environmental design while helping to increase the land value and best practice measures for enhancing the life span of the building.

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

This section should answer the question “what has been done or is currently being done to address the problem?” Please describe past and on-going processes, projects or initiatives implemented in the country or region to tackle the climate problem as described above.

Energy efficiency has been prioritized throughout various policies that guide Pakistan’s energy and climate initiatives include Pakistan’s Nationally Determined Contribution 2021, National Climate Change Policy 2021 and Sustainable Energy For All (SEforAll) National Action Plan 2019 where the aim is to double the energy efficiency rate by 2030. Pakistan has implemented minimum energy performance standards for a series of appliances. However, no green building standards or regulations exist to date.

At present there are about 18 to 20 buildings in Pakistan which are LEED Certified and registered with the US Green Building Council. These include British Council Library in Lahore, NCC Karachi, Mega Corporate Office – Karachi, Karachi Citiplan, World Bank Country Office – Islamabad, etc.

Specific technology¹ barriers (up to one page):

This section should answer the questions “what are the technology barriers that hinder national efforts described above” and “how will the CTCN technical assistance complement these efforts?” Building upon the problem statement and taking into consideration the existing efforts described above, please describe the specific technology barriers encountered by the requesting applicant to identify, assess or deploy climate technology(ies) in an effort to address the problem statement. The described barriers should be within the scope of the requested CTCN technical assistance (described in the section below).

In the support of spearheading the green buildings infrastructure implementation and conversion to net zero buildings, it is important to note that the major impediments for the country primarily include the lack of clear and mandatory guidelines, inadequate financial and institutional resources, lack of awareness, as well as lack of knowledge and availability of technology options. In more details, the largescale adoption of energy efficient technology in building sector is halted because of following reasons:

- Lack of clear and mandatory guidelines or standards for green buildings
- Lack of financial resources and incentives to develop green building projects or retrofit buildings
- Inadequate resources and support to manage the trial of innovative equipment in the design and construction processes
- Lack of availability of environmentally sustainable materials and products locally
- Lack of professional knowledge, qualified staff and technical expertise
- Lack of awareness of the benefits of green buildings

Sectors:

¹ “**any equipment, techniques, practical knowledge and skills** needed for reducing greenhouse gas emissions and adapting to climate change” (Special Report on Technology Transfer, IPCC, 2000)

Please indicate the main sectors related to the request:

- | | | | |
|---|---|---------------------------------------|---|
| <input type="checkbox"/> Coastal zones | <input type="checkbox"/> Early Warning and Environmental Assessment | <input type="checkbox"/> Human Health | <input checked="" type="checkbox"/> Infrastructure and Urban planning |
| <input type="checkbox"/> Marine and Fisheries | <input type="checkbox"/> Water | <input type="checkbox"/> Agriculture | <input type="checkbox"/> Carbon fixation |
| <input type="checkbox"/> Energy Efficiency | <input type="checkbox"/> Forestry | <input type="checkbox"/> Industry | <input type="checkbox"/> Renewable energy |
| <input type="checkbox"/> Transport | <input type="checkbox"/> Waste management | | |

Please add other relevant sectors:

Cross-cutting

Cross-sectoral enablers and approaches:

Please indicate the main cross-sectoral enablers and approaches

- | | | | |
|---|---|---|--|
| <input checked="" type="checkbox"/> Communication and awareness | <input checked="" type="checkbox"/> Economics and financial decision-making | <input checked="" type="checkbox"/> Governance and planning | <input type="checkbox"/> Community based |
| <input type="checkbox"/> Disaster risk reduction | <input type="checkbox"/> Ecosystems and biodiversity | <input type="checkbox"/> Gender | |

Technical assistance requested (up to one page):

Founded on the problem statement, past/on-going efforts and technology barriers, please describe the requested technical assistance. The technical assistance should clearly contribute to mitigation or adaptation to climate change as described in the problem statement and contribute to overcome the specific technology barriers.

Within a clearly defined scope, the description of technical assistance should be structured into the following:

- Overall objective
- Anticipated groups of activities to be performed by the technical assistance
- Anticipated products to be delivered by the technical assistance.

Please note that the CTCN facilitates technical assistance and is not a project financing mechanism.

The overall objective of this technical assistance is to develop green building standards for enhanced energy efficiency and introduce effective mechanisms for their operationalization to achieve Pakistan' Nationally Determined Contributions. The outputs and activities are detailed below:

Output 1: Assessment of building groups and regulations in Pakistan

- Activity 1.1: Assessment of current infrastructure including existing technology baseline and diagnosis of technological needs through audit of commercial, office and residential buildings, with a focus on government buildings
- Activity 1.2: Capacity need assessment including finance, technology and human resource
- Activity 1.3: Assessment of legislative environment (policy, institutions, regulations and coordination)
- Activity 1.4: Identification of international best practices and technologies
- Activity 1.5: Gap analysis and evaluation of savings potential

Output 2: Development of green building standards and of effective mechanisms for implementation

- Activity 2.1: Development of standards and policy guidelines including list of feasible technology changes, fiscal measures and supporting legislations
- Activity 2.2: Development of an effective MV&E framework
- Activity 2.3: Development of user manuals
- Activity 2.4: Delivery of a training the trainers programme

Output 3: Development of financing mechanisms to implement green building standards in existing buildings

- Activity 3.1: Identification of business models and financing mechanisms to support green building transition
- Activity 3.2: Conduct of an economic feasibility study for most appropriate business models and financing mechanisms
- Activity 3.3: Development of final financing mechanism and implementation considerations

Anticipated products to be delivered:

1. Baseline assessment, including gaps and savings potential
2. Green building standards and policy guidelines
3. Green buildings product and material registry
4. MV&E Framework and user manuals
5. Training the trainers material and report
6. Financing mechanism report

Expected timeframe:

Please indicate the expected duration period for the requested technical assistance. Please note CTCN technical assistance is limited to a maximum duration of 12 months.

12 months

Anticipated gender and other co-benefits from the technical assistance:

Please describe the activities with gender linkages as well as the anticipated gender and other co-benefits (e.g. biodiversity, economic, social, cultural, etc.) that are likely to be generated as a result of the technical assistance.

For more information you can find guidelines on the CTCN's website here:

<https://www.ctc-n.org/technologies/ctcn-gender-mainstreaming-tool-response-plan-development>

Further reading on gender can be found on the CTCN website here:

<https://www.ctc-n.org/technology-sectors/gender>

Throughout the implementation of the CTCN technical assistance, gender and youth aspects will be integrated across all activities. In particular, women's equal participation will be facilitated in decision making, capacity building and awareness raising. Output 1 will include stakeholder interviews in which an equal representation of women should be targeted. Output 2 will include public consultations for policy development, as well as trainings in which women will be represented in a fair manner.

Key stakeholders:

Please list the stakeholders who will be involved in the implementation of the requested CTCN technical assistance and describe their role during the implementation (for example, government agencies and ministries, academic institutions and universities, private sector, community organizations, civil society, etc.).

Stakeholders	Role to support the implementation of the technical assistance
National Designated Entity (Ministry of Climate Change)	Technical assistance coordination, stakeholder engagement, standards shaping and development
Ministry of Housing and Works	Technical assistance coordination, stakeholder engagement, data and research input, standards shaping and development, action planning and operationalization of standards
Ministry of Energy	Data and research input, standards shaping and development
Other ministries <ul style="list-style-type: none"> • Ministry of Finance, Revenue and Economic Affairs • Ministry of Industries and Production • Ministry of Planning, Development and Reform • Ministry of Science and Technology 	Data and research input, standards shaping and development
Naya Pakistan Housing & Development Authority	Standards shaping and development, action planning and operationalization of standards
Universities and research institutions	Data and research input, stakeholder engagement
Media	Communication and knowledge distribution on standards and green buildings
Private Sector (Manufacturing industries)	Assisting in the identification of market needs and exploring new economic opportunities, input into financial measures and instruments to stimulate green building uptake
Commercial, Development and International Banks	Private sector mobilization and stakeholder input, input into financial measures and instruments to stimulate development of green buildings
Engineering, planning and	Policy shaping and development, action planning and

architecture institutions

operationalization of standards, research and implementation

Alignment with national priorities (up to 2000 characters including spaces):

Please describe how the technical assistance is consistent with national climate priorities such as: Nationally Determined Contribution, national development plans, poverty reduction plans, technology needs assessments, Low Emission Development Strategies, Nationally Appropriate Mitigation Actions, Technology Action Plans, National Adaptation Plans, sectorial strategies and plans, etc.

Reference document
(please include date of document)

Extract (please include chapter, page number, etc.).

Nationally Determined Contribution (2021)

The updated Nationally Determined Contribution from 2021 prioritizes energy demand and supply management and engagement of private sector as key mitigation priorities. Specific actions include green building codes and certification for new and refurbished buildings, including revolving guarantee mechanisms for energy efficient appliances (p34). Furthermore, Pakistan prioritizes mandatory energy audits of large energy consuming industries and companies.

<https://policy.asiapacificenergy.org/sites/default/files/Pakistan%27s%20Updated%20Nationally%20Determined%20Contribution%202021.pdf>

National Climate Change Policy (2021)

The updated National Climate Change Policy from 2021 explicitly mentions “Development and adoption of “Green Building Code” may be expedited to help reduce negative impacts of climate and natural environment” as a key policy measure.

<http://www.mocc.gov.pk/SiteImage/Policy/NCCP%20Report.pdf>

SE4ALL National Action Plan (2019)

The Sustainable Energy for All National Action Plan from 2019 targets the promotion of energy efficiency and conservation and more specifically, energy efficiency measures in buildings through energy building codes as a key component for a sustainable energy transition in Pakistan.

<https://www.undp.org/sites/g/files/zskgke326/files/migration/pk/National-Action-Plan---Final-28th-Nov-2019.pdf>

Add others here as relevant

Development of the request (up to 2000 characters including spaces):

Please describe how the request was developed at the national level and the process used by the NDE to approve the request before submitting it (who initiated the process, who were the stakeholders involved and what were their roles?) and describe any consultations or other meetings that took place to develop and select this request, etc.

This technical assistance request was initiated and developed by key stakeholders including the National Designated Entity (Ministry of Climate Change) and relevant ministries.

Background documents and other information relevant for the request:

- Please list all relevant documents that will help the CTCN analyse the context of the request and national priorities. Please note that all documents listed/provided should be mentioned in this request in the relevant section(s), and that their linkages with the request should be clearly indicated. For each document, please provide web-links (if available) or attach to the submission form. Please add any other relevant information as required.
 - Please indicate if this request has been developed with the support of the CTCN Request Incubator.
- <https://policy.asiapacificenergy.org/sites/default/files/Pakistan%27s%20Updated%20National%20Determined%20Contribution%202021.pdf>
 - <http://www.mocc.gov.pk/SiteImage/Policy/NCCP%20Report.pdf>
 - <https://www.undp.org/sites/g/files/zskgke326/files/migration/pk/National-Action-Plan---Final-28th-Nov-2019.pdf>

OPTIONAL: Linkages to Green Climate Fund Readiness and Preparatory Support

The CTCN is collaborating with the GCF in order to facilitate access to environmentally sound technologies that address climate change and its effects, including through the provision of readiness and preparatory support delivered directly to countries through their GCF NDA. These actions are in line with the guidance of the GCF Board (Decision B.14/02) and the UNFCCC, particularly paragraphs 4 and 7 of 14/CP.22 that addresses Linkages between the Technology and the Financial Mechanisms².

The CTCN is therefore implementing some of its technical assistance using GCF readiness funds accessed via the country's NDA. Any application for GCF support, including the amount of support provided, is subject to the terms and conditions of the GCF and should be developed in conjunction with the NDA.

Please indicate whether this request has been identified as preliminarily eligible by the NDA to be considered for readiness support from the GCF.

Initial engagement: The GCF NDA of the requesting country has been engaged in the design of this request and the NDA will be involved in the further process leading to an official agreement for accessing GCF readiness support.

Advanced engagement (preferred): The GCF NDA of the requesting country has been directly involved in the design of this request and is a co-signer of this request, the signature indicating provisional agreement to use readiness national funds to support the implementation of the technical assistance.

NDA name: Dr. Saima Shafique

² Please see:

https://unfccc.int/files/meetings/marrakech_nov_2016/application/pdf/auv_cop22_i8b_tm_fm.pdf

Date: 24-06-2022

Signature:



Monitoring and impact of the assistance:

By signing this request, I affirm that processes are in place in the country to monitor and evaluate the technical assistance provided by the CTCN. I understand that these processes will be explicitly identified in the CTCN Response Plan and that they will be used in the country to monitor the implementation of the technical assistance following standard CTCN procedures.

I understand that, after the completion of the requested assistance, I shall support CTCN efforts to measure the success and effects of the support provided, including its short, medium and long-term impacts in the country.

Signature:

NDA name: Dr. Saima Shafique

Date: 24-06-2022

Signature:



THE COMPLETED FORM SHALL BE SENT TO THE CTCN@UNEP.ORG

The CTCN is available to answer all questions and provide guidance on the application process.