

Country:	Pakistan
Request Identification Number:	2014-002/PAK-02

Title:	<i>Technical Guidance and Support for Conducting the Technology Needs Assessment (TNA)</i>
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Project summary

The objective of the CTCN assistance is to enable Pakistan to conduct their Technology Needs Assessment (TNA) process and develop their Technology Action Plan (TAP) according to the current best practice. The CTCN will provide targeted capacity building, technical guidance and support to enable the country to use the latest TNA tools and develop quality outputs. The Pakistan TNA will be integrated in the TNA Phase II project executed by the UNEP-DTU Partnership (UDP) and the country will benefit from the same technical support than the 25 countries participating in TNA Phase II. The outputs will be 3 reports: TNA, Barrier Analysis and Enabling Framework, and Technology Action Plan, the last one includes priority project concepts. The TNA and TAP will enable Pakistan to reach a national consensus on technologies for low carbon and climate resilient development in priority sectors and an agreement on actions to be implemented to respond to prioritized technology needs. The assistance will be provided for all stages of the TNA/TAP process and over a period of approximately 30 months. The TNA process will be managed and coordinated by the NDE and staff from the Climate Change Division. In-country partners and stakeholders will include ministries and government institutions, universities and research institutions, NGOs/CSOs, private sector, financial institutions and development partners operating in the country. The technical assistance, guidance and capacity building activities will be delivered by experts from UDP and the Asian Institute of Technology (AIT). National level activities are funded from Pakistan's GEF resources initially allocated to the country in 2004 (this funding was not used due to lack of necessary skills, capacities and expertise in the country to conduct such process).

1. Overview of the assistance

1.1 Objectives (outcomes)

The main objective is to provide technical assistance for Pakistan to assess their technology needs for both mitigation and adaptation and develop a national action plan to respond to their prioritized technology needs.

The main outcomes will be a national consensus on technologies for low carbon and climate resilient development in priority sectors and an agreement on actions to be implemented to respond to prioritized technology needs for low carbon and climate resilient development.

The TNA and TAP will also enable Pakistan to identify sound requests for the CTCN and develop new climate technology projects and strategies that are in line with their national objectives.

1.2 Results (outputs)

The main outputs will be:

- A TNA report that will contain detailed description of how the TNA assessment has been conducted, information on prioritized sectors and subsectors in need of mitigation and adaptation technologies and which methodologies have been used for the prioritization of technologies.
- A Barriers Analysis and Enabling Framework report that will include an in-depth analysis of the actual market and trade barriers that hinder the transfer of a prioritized selection of technologies followed by an assessment of the policy, institutional and finance options to overcome these barriers.
- A TAP report that will present action plans to respond to the country's prioritized technology needs for low carbon and climate resilient development. This report recommend an enabling framework for the development and transfer of prioritized technologies at the desired scale, and include proposals for pilot projects on selected technology priorities.
- A series of targeted policy briefs and advocacy papers to disseminate the TNA/TAP results to decision makers, donors and financial institutions.

1.3 Technology aspects

The assistance will support Pakistan to carry out an improved Technology Needs Assessment (TNA) within the framework of Article 4.5 of the UNFCCC which will be complemented by a Technology Action Plan (TAP) and facilitate the development and implementation of new climate technology projects and strategies.

2. Description of the Assistance

2.1 Activities

The technical assistance will focus on guiding and supporting the NDE and Climate Change Division to:

- (i) Set up their national TNA team and select appropriate local consultants to prepare the various reports;
- (ii) Identify and engage all relevant stakeholders;
- (iii) Develop a country tailored workplan, budget and framework for conducting the TNA/TAP process;
- (iv) Build the capacity of the national TNA team given in two regional capacity building workshops on the TNA process and methodologies;
- (v) Guide and advise the national TNA team for all stages of the TNA/TAP process through the TNA helpdesk;
- (vi) Review and quality control of TNA/TAP process outputs;
- (vii) Overall monitoring and follow-up of country activities;
- (viii) Outreach, advocate and disseminate TNA/TAP results (including intermediary results along the process) to decision makers, donors, as well as national and international financial and business communities in the country.

Pakistan will receive the same support than the countries participating in the TNA Phase II project executed by UDP with support from AIT for the Asia-Pacific region, and benefit from the improved tools and methodologies and related training workshops. Since the TNA/TAP is a country-driven process, the activities 1 to 6 described below are led by the National TNA team with technical support, guidance and advice from CTCN (UDP and AIT) apart from Activity 3 which is led by UDP and AIT.

Activity 1 – Inception mission: *CTCN partners will work in close collaboration with the national TNA coordinator and his team and provide technical support, guidance and advice for:*

Activity 1.1 – *Identifying and informing relevant stakeholders on the TNA/TAP process*

Activity 1.2 – *Developing the draft workplan*

Activity 1.3 – *Outlining the division of labour between national TNA team and national consultants*

Activity 1.4 – *Formulating draft ToRs for national consultants*

Activity 1.5 – *Identifying and selection of national consultants and focal persons / experts from relevant entities from public/private sector for data and expert support.*

Deliverables	Delivery date
Draft National TNA/TAP process implementation workplan	March 2015
ToRs for national consultants	March 2015
Note describing the National TNA team and division of labour	March 2015
List of stakeholders to engage in consultations and working groups	March 2015
List of institutions for data and expert support	March 2015
Inception mission report	March 2015

Activity 2 – National Inception Workshop: *CTCN partners will work in close collaboration with the national TNA coordinator and his team, and provide technical support, guidance and advice for:*

Activity 2.1 – *Developing a TNA/TAP process information note for national stakeholders (including decision makers)*

Activity 2.2 – *Planning the national inception workshop*

Activity 2.3 – *Finalizing the work-plan based on stakeholders feedback*

Deliverables	Delivery date
Information note on TNA/TAP process for national stakeholders	April 2015
National inception workshop report	May 2015
Final National TNA/TAP process implementation workplan	May 2015

Activity 3 – Pakistan participation in regional capacity building and experience sharing workshops: *CTCN partners will make the necessary arrangements for the participation of representatives from Pakistan to the regional TNA capacity building workshops and global experience sharing workshop planned in the context of TNA Phase II. Video conferencing facility shall also be ensured for technical team/stakeholders' participation who would not be able to participate in the regional capacity building workshops.*

Activity 3.1 – *Participation in 1st regional capacity building workshop*

Activity 3.2 – *Participation in 2nd regional capacity building workshop*

Activity 3.3 – *Participation in final experience sharing workshop*

Deliverables	Delivery date
Report from 1 st regional capacity building workshop	July 2015
Report from 2 nd regional capacity building workshop	March 2016
Report from final experience sharing workshop	October 2016

Activity 4 – Technology Needs Assessment: *CTCN partners will work in close collaboration with the national TNA coordinator and his team, and provide technical support, guidance and advice for:*

Activity 4.1 – *Planning Stakeholder consultation workshop for prioritizing sectors*

Activity 4.2 – *Setting-up sectoral/technology working groups*

Activity 4.3 – *Planning sectoral/technology working group meetings for technology prioritization*

Activity 4.4 – *Drafting the TNA report*

Activity 4.5 – *Revising the draft TNA report (2 rounds of reviews by UDP and AIT)*

Activity 4.6 – *Finalizing and validating the TNA report*

Activity 4.7 – *Developing targeted TNA briefings and advocacy papers*

Deliverables	Delivery date
Report from stakeholder consultation workshop	June 2015
Reports from sectoral/technology working group meetings	June 2015
Draft TNA report	September 2015
2 nd version of draft TNA report	November 2015
Final TNA report	January 2016

Activity 5 – Barrier analysis and enabling framework(BA&EF): *CTCN partners will work in close collaboration with the national TNA coordinator and his team, and provide technical support, guidance and advice for:*

- Activity 5.1** – *Conducting market assessments for priority technologies [Country lead]*
Activity 5.2 – *Conducting barrier analysis and developing enabling framework for deployment and diffusion of prioritized technologies*
Activity 5.3 – *Planning stakeholder consultations and working group meetings*
Activity 5.3 – *Drafting BA&EF report*
Activity 5.4 – *Revising of draft BA&EF report (2 rounds of reviews by UDP and AIT)*
Activity 5.5 – *Finalize the BA&EF report*
Activity 5.6 – *Develop targeted BA&EF briefings and advocacy papers*

Deliverables	Delivery date
Report from stakeholder consultation workshop	March 2016
ToRs sectoral/technology working group and member lists	March 2016
Reports from sectoral/technology working group meetings	April 2016
Draft BA&EF report	May 2016
2 nd version of draft BA&EF report	September 2016
Final BA&EF report	November 2016

Activity 6 – Technology action plan (TAP) and concepts for priority technology projects: *CTCN partners will work in close collaboration with the national TNA coordinator and his team, and provide technical support, guidance and advice for:*

- Activity 6.1** – *Developing TAP building on BA&EF report and concepts for priority technology projects*
Activity 6.2 – *Revising of draft TAP report including project concepts (2 rounds of reviews by UDP and AIT)*
Activity 6.3 – *Planning TAP validation workshop for political endorsement*
Activity 6.4 – *Finalizing the TAP report*
Activity 6.5 – *Developing targeted TAP briefings and advocacy papers to seek integration of the TAP into national/sectoral strategies/ development plans (as well as support for priority technology projects)*

Deliverables	Delivery date
Draft TAP report and project concepts	January 2017
2 nd version of draft TAP report and project concepts	March 2017
TAP validation/endorsement workshop report	April 2017
Final TAP report and project concepts	May 2017

2.2 Expertise required

The expertise required is as follows:

- Familiarity with the TNA process, set-up and tools
- Expertise in stakeholder engagement and consultation
- Expertise in Sector prioritisation
- Strong knowledge of technologies for mitigation and adaptation
- Expertise in Technology prioritisation
- Expertise in Multi-criteria assessment (MCA)
- Expertise in Financial and Cost Assessment Model (FICAM)

- Expertise in Barrier analysis, enabling framework design and Market Mapping Technique
- Expertise in developing action plans

Estimate of expertise resource requirements:

a) UDP TNA expert/country coordinator [covered by CTCN]

Inception mission	5 days
Coordination, guidance and follow-up	20 days
Review of TNA report ¹	3 days
Review of BA&EF ¹	3 days
Review of TAP and project ideas ¹	3 days
Capacity building workshops	<u>10 days</u>
	44 days

b) AIT TNA Expert [covered by CTCN]

Inception mission	5 days
Review of TNA report ²	3 days
Review of BA&AF ¹	3 days
Review of TAP and project ideas ¹	3 days
Help desk	<u>19days</u>
	33days

c) National consultants (facilitation of national stakeholder consultation process, research and analysis, and drafting of reports) – [covered by GEF 4 resources still available in UNEP for TNA Pakistan]

Mitigation experts*	230 days
Adaptation experts*	<u>230 days</u>
	460 days

** As per activity 1.5 (Days would be allocated by NDE, as per indication of experts)*

Note: GEF 4 resources still available in UNEP for TNA Pakistan (100 k\$) will cover the costs of the national consultants as well the TNA/TAP process related meeting/consultation costs at national level.

2.3 Main partners

In-country partners	Role
National Designated Entity (NDE), Climate Change Department, and selected national consultants	Overall execution, coordination and management of the TNA/TAP process Review and approval of draft reports Participation in regional workshops
Ministries and government institutions, grassroots/community groups, academia, representatives of civil society, research centres, private sector, financial institutions and development partners	Actively involved in the consultations and stakeholder workshops, and engaged in the Technology/Sector working groups

¹Two reviews are made on each report. The country is asked to address the comments and the report will be approved only if the comments have been satisfactorily addressed.

2.4 Synergies

The TNA is seen as key tool for the country to foster the implementation of Pakistan's National Climate Change Policy (NCCP) approved by the Cabinet in September 2012. NCCP specifically emphasizes on the need of innovative technological solutions to solve the climate change challenges of both mitigation and adaptation by establishing a base for technology transfer. The TNA/TAP will support the implementation of the NCCP.

2.5 Timeline

For the timeline and milestones refer to Annex. 3

The estimated amount of financial resources required for the CTCN Assistance is 71,100 USD.

2.7 Risk identification and mitigation

Risks	Consequence	Probability	Mitigation
<i>Lack of strong political commitment to the TNA process</i>	<i>Inadequate financial and human resource allocation by government TNA/TAP is viewed as a parallel process to national planning processes (no support for integration)</i>	<i>Medium to high</i>	<i>Seek strong political commitment and involvement along the TNA/TAP process of national authorities in charge of climate change issues (including NDE) as well as those in charge of planning, international cooperation and finance. Link with teams in charge of National communications preparations, NAPAs and other relevant institutions/stakeholders Identify entry points for TNA/TAP results to feed in national/sectoral plans/strategies Close supervision and provision of guidance and technical support</i>
<i>Risk that donors do not consider country proposals emerging from TAPs</i>	<i>Follow-up actions to TNA/TAP process are not financed</i>	<i>Medium</i>	<i>Support country-led consultations with potential donors (e.g. by using national donor coordination mechanisms). Include specific provisions for periodic donor consultations focused on TNA-TAP activities, status updates, and next steps. Advocate for the integration of TAPs into National Development Plans (targeted briefings and advocacy papers).</i>

Identify risks that could jeopardize the realization of project outcomes and expected impacts, their probability and how the assistance will mitigate these perceived risks.

2.9 Monitoring and Reporting

The CTCN assistance will enable UDP to link the Pakistan TNA to the TNA Phase II project and follow the project's M&E plan which is consistent with the GEF Monitoring and Evaluation policy. The Project Results Framework presented includes SMART indicators for each expected outcome and end-of-project targets. These indicators along with the key deliverables and benchmarks will be the main tools for assessing project implementation progress and whether project results are being achieved. The M&E role and responsibilities of the national TNA team will be outlined in National TNA/TAP process implementation workplan.

3. Long-term impacts of the assistance

3.1 Expected climate benefits

The accelerated adoption of advanced technologies in developing countries is now recognized as essential to both achieving the global goal of reducing emission of greenhouse gases into the atmosphere and allowing those countries to adapt to the consequences of a changing climate.

A high quality TNA and TAP will enable Pakistan to:

- (i) Improve institutional processes, policies and regulations for climate technology deployment,
- (ii) Develop strong NAMAs, technology programmes and projects
- (iii) Develop more in-depth technology roadmaps or "technology specific" action plans
- (iv) Generate sound requests for CTCN responding to national priorities in terms of climate technologies

This will strongly contribute to sustainable, low carbon and climate resilient development in Pakistan.

3.2 Co-benefits

The technologies prioritized through the TNA/TAP process will be in line with the country's national development priorities and further lead the country on a low carbon and climate resilient development path in line with the country's National Climate Change Policy. The TNA and associated outputs such as prioritized technologies, and analysis of related technology transfer barriers, are expected to provide a powerful decision-support tool for technology transfer managers and development planners. Resulting technology actions are expected to yield social benefits linked closely to reduction of greenhouse gas emissions while reducing vulnerability of the society to climate change impacts, hence increasing climate resilience of most vulnerable groups and sectors.

3.3. Post-assistance plans and actions

Climate Change Division, Government of Pakistan has recently developed Framework for Implementation of National Climate Change Policy. The framework covers actions to address issues in various sectors such as water, agriculture, forestry, coastal areas, biodiversity, health and other vulnerable ecosystems. Based on this Framework, the provincial governments are being asked to develop and finalize their Provincial Climate Change Action Plans. The results from TNA/TAP will enable the integration of technology priorities in the Provincial Climate Change Action Plans.

4. Formal agreement and signatures

Signatures of the requesting country

For the NDE

Name: Mr. Sajjad Ahmad
Title: Director General (Env. & CC)
Climate Change Division
Date: 26th Jan 2015

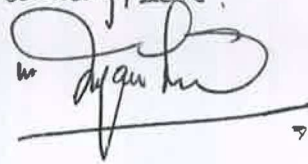
Signature:



For the Request Applicant

Name: Mr. M. Irfan Tariq
Title: Director (UA)
Climate Change Division
Date: 26th January, 2015.

Signature:



Signatures of the CTCN

For the CTCN Director

Name: Mr Jukka Uosukainen
Title: Director
Date: 30 January 2015

Signature:



For the Climate Technology Manager

Name: Mr Jonathan Duwyn
Title: Climate Technology Manager
Date: 30th January 2015

Signature:



Annex 1: Logframe

Activity	Output and deliverables	Expected outcome	Objectively Verifiable Indicator	Responsible person/organization
Activity 1 – Inception mission	Note describing the National TNA team and division of labour List of stakeholders to engage in consultations and working groups	Agreement on National TNA team and division of labour Agreement on stakeholders to engage	Note Approval of note List Approval of list	NDE/DCC CTCN NDE/DCC CTCN
Activity 2 – National Inception Workshop	National TNA/TAP workplan	Agreement on TNA/TAP workplan	Workplan Approval of workplan	NDE/DCC CTCN
Activity 3 – Pakistan participation in regional capacity building and experience sharing workshops	Workshop reports	Capabilities of key national actors/players in developing TNAs and TAPs built or strengthened	Feedback forms Report	NDE/DCC CTCN
Activity 4 – Technology Needs Assessment	Final TNA report Briefing notes	National consensus on technologies in priority sectors established	Validation workshop report Approval of report	NDE/DCC CTCN
Activity 5 – Barrier analysis and enabling framework (BAR&E)	Final BAR&E report Briefing notes	Agreement on barriers and enabling framework	Report Approval of report	NDE/DCC CTCN
Activity 6 – Technology action plan (TAP) and concepts for priority technology projects	Final TAP report Briefing notes	Endorsement of TAP and project concepts	Validation workshop report Approval of report	NDE/DCC CTCN

Annex 2: TNA Pakistan workplan and milestones

Act. no.	Activity	Year											
		2015			2016			2017					
		Month	1-3	4-6	7-9	10-12	13-15	16-18	19-21	1-3	4-6	7-9	10-12
Activity 1: Inception mission													
1.1	Appoint a TNA Coordinator and Establish the National TNA Committee		■										
1.2	Organise Stakeholders		■										
1.4	Develop a detailed draft work plan		■										
1.5	Identify institutions for data and expert support			■									
Activity 2: Inception workshop													
1.6	Hold National Inception Workshop and finalize the work-plan based on stakeholders feedback and contract consultants			■									
Activity 3: TNA Phase II capacity building and experience sharing workshops													
1.7	Participate in Regional Workshops (a) Capacity Building workshops (b) Experience Sharing Workshop			■			■				■		
Activity 4: Technology Needs Assessment													
1.8	Prioritizing Sectors and Technologies			■			■						
1.9	Finalise the prioritized technologies report (TNA report)					■							



Activity 5: Barrier analysis and enabling framework										
1.10	Carry out market assessment- analyze barriers and develop an Enabling Framework for deployment and diffusion of prioritized technologies									
1.11	Finalise the BA&EF report									
Activity 6: Technology Action Plan and priority project concepts										
1.12	Preparation of TAP + project ideas report									
1.13	Seek political endorsement and integration of the TAP into national energy policy/ development plans									
1.14	Finalise TAP + project ideas report									
1.15	Conduct techno-economic appraisal and develop proposals for a few selected projects									
1.16	Prepare and implement official launches of selected (high-profile) project proposals (set of proposals).									
1.17	Prepare and submit the Final Report									