



GEF-6 REQUEST FOR PROJECT ENDORSEMENT/APPROVAL

PROJECT TYPE: Full-sized Project

TYPE OF TRUST FUND: GEF Trust Fund

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PART I: PROJECT INFORMATION

Project Title: Technology Needs Assessments - Phase III (TNA Phase III)			
Country(ies):	23 countries – Afghanistan, Antigua and Barbuda, Benin, Central African Republic, Chad, Djibouti, Dominica, Eritrea, Fiji, Guinea, Haiti, Jamaica, Liberia, Malawi, Nauru, Niger, Myanmar, Sao Tome and Principe, Suriname, Trinidad & Tobago, Ukraine, Uganda and Vanuatu	GEF Project ID: ¹	9452
GEF Agency(ies):	UN Environment	GEF Agency Project ID:	01399
Other Executing Partner(s):	Technical University of Denmark – UDP (UNEP DTU Partnership), National Agencies	Resubmission Date:	December 20, 2017
GEF Focal Area (s):	Climate Change	Project Duration (Months)	36
Integrated Approach Pilot	IAP-Cities <input type="checkbox"/> IAP-Commodities <input type="checkbox"/> IAP-Food Security <input type="checkbox"/>	Corporate Program: SGP	<input type="checkbox"/>
Name of Parent Program	N/A	Agency Fee (\$)	589,950

A. FOCAL AREA STRATEGY FRAMEWORK AND OTHER PROGRAM STRATEGIES²

Focal Area Objectives/Programs	Focal Area Outcomes	Trust Fund	(in \$)	
			GEF Project Financing	Co-financing
CCM 3 Program 5	Policy, planning and regulatory frameworks foster accelerated low GHG development and emissions mitigation	GEFTF	6,210,000	2,745,000
Total project costs			6,210,000	2,745,000

B. PROJECT DESCRIPTION SUMMARY

Project Objective: Provide participating countries targeted financial and technical support to prepare new or updated and improved TNAs, including Technology Action Plans (TAPs), for prioritized technologies that reduce greenhouse gas emissions, support adaptation to climate change, and are consistent with Nationally Determined Contributions and national sustainable development objectives						
Project Components/ Programs	Financing Type ³	Project Outcomes	Project Outputs	Trust Fund	(in \$)	
					GEF Project Financing	Confirmed Co-financing
Component 1: Technology Needs Assessments (TNA) and development of Technology Action Plans (TAP)	TA	Outcome 1: TNA process conducted by national stakeholders, and TNA/TAP results are available to be integrated into national planning processes and to be	Output 1: Tools, methodologies and capacity building packages are further developed and applied to support the implementation of the TNA/TAP process	GEFTF	5,626,486	2,680,181

¹ Project ID number remains the same as the assigned PIF number.

² When completing Table A, refer to the excerpts on [GEF 6 Results Frameworks for GETF, LDCF and SCCF](#) and [CBIT programming directions](#).

³ Financing type can be either investment or technical assistance.

		funded and implemented by interested stakeholders.	Output 2: TNA and TAP reports completed, including project ideas, with national consensus on concrete actions for implementation			
			Evaluations	GEFTF	60,000	0
			Subtotal		5,686,486	2,680,181
			Project Management Cost (PMC) ⁴	GEFTF	523,514	64,819
			Total project costs		6,210,000	2,745,000

C. CONFIRMED SOURCES OF CO-FINANCING FOR THE PROJECT BY NAME AND BY TYPE

Please include evidence for co-financing for the project with this form.

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount (\$)
Recipient Governments	Governments	In-kind	575,000 ⁵
GEF Agency	UN Environment	In-kind	75,000
Others	UDP	In-kind	225,000
Others	CTCN	In-kind	1,870,000
Total Co-financing			2,745,000

D. TRUST FUND RESOURCES REQUESTED BY AGENCY(IES), COUNTRY(IES), FOCAL AREA AND THE PROGRAMMING OF FUNDS

GEF Agency	Trust Fund	Country Name/Global	Focal Area	Programming of Funds	(in \$)		
					GEF Project Financing (a)	Agency Fee ^(*) (b)	Total (c)=(a)+(b)
UNEP	GEFTF	Global	Climate Change	Global and regional set aside	5,940,000	564,300	6,504,300
UNEP	GEFTF	Ukraine	Climate Change	STAR allocation (Ukraine)	270,000	25,650	295,650
Total Grant Resources					6,210,000	589,950	6,799,950

(*) Refer to the Fee Policy for GEF Partner Agencies

⁴ For GEF Project Financing up to \$2 million, PMC could be up to 10% of the subtotal; above \$2 million, PMC could be up to 5% of the subtotal. PMC should be charged proportionately to focal areas based on focal area project financing amount in Table D below.

⁵ Each one of the 23 countries contributes with US\$ 25,000 of in-kind co-financing

E. PROJECT'S TARGET CONTRIBUTIONS TO GLOBAL ENVIRONMENTAL BENEFITS⁶

Provide the expected project targets as appropriate.

Corporate Results	Replenishment Targets	Project Targets
1. Maintain globally significant biodiversity and the ecosystem goods and services that it provides to society	Improved management of landscapes and seascapes covering 300 million hectares	<i>hectares</i>
2. Sustainable land management in production systems (agriculture, rangelands, and forest landscapes)	120 million hectares under sustainable land management	<i>hectares</i>
3. Promotion of collective management of transboundary water systems and implementation of the full range of policy, legal, and institutional reforms and investments contributing to sustainable use and maintenance of ecosystem services	Water-food-ecosystems security and conjunctive management of surface and groundwater in at least 10 freshwater basins;	<i>Number of freshwater basins</i>
	20% of globally over-exploited fisheries (by volume) moved to more sustainable levels	<i>Percent of fisheries, by volume</i>
4. Support to transformational shifts towards a low-emission and resilient development path	750 million tons of CO _{2e} mitigated (include both Direct and Consequential)	<i>metric tons</i>
5. Increase in phase-out, disposal and reduction of releases of POPs, ODS, mercury and other chemicals of global concern	Disposal of 80,000 tons of POPs (PCB, obsolete pesticides)	<i>metric tons</i>
	Reduction of 1000 tons of Mercury	<i>metric tons</i>
	Phase-out of 303.44 tons of ODP (HCFC)	<i>ODP tons</i>
6. Enhance capacity of countries to implement MEAs (multilateral environmental agreements) and mainstream into national and sub-national policy, planning financial and legal frameworks	Development and sectoral planning frameworks integrate measurable targets drawn from the MEAs in at least 10 countries	<i>Number of Countries:</i> 23
	Functional environmental information systems are established to support decision-making in at least 10 countries	<i>Number of Countries:</i>

F. DOES THE PROJECT INCLUDE A “NON-GRANT” INSTRUMENT? **No**

(If non-grant instruments are used, provide an indicative calendar of expected reflows to your Agency and to the GEF/LDCF/SCCF/CBIT Trust Fund) in Annex D.

N/A

⁶ Update the applicable indicators provided at PIF stage. Progress in programming against these targets for the projects per the *Corporate Results Framework* in the [GEF-6 Programming Directions](#), will be aggregated and reported during mid-term and at the conclusion of the replenishment period.

PART II: PROJECT JUSTIFICATION

A.0. Describe any changes in alignment with the project design with the original PIF

- a) Three (3) additional countries: Benin, Ukraine and Vanuatu

Several countries have repeatedly expressed their request to undertake a TNA and this happened again at COP22 in Marrakesh. In agreement with the Global Environment Facility (GEF) Secretariat we have invited these countries to submit their letter of endorsement specifying that Least Developed Countries (LDCs) and Small Island Developing States (SIDS) would benefit from GEF 6's global set-aside, and that other countries must commit funds from their country allocation. Three countries submitted endorsement letters within the two-week deadline.

Country	Type	Justification
Benin	LDC	Endorsement letter submitted on 20/02/2017. Benin's NDC emphasizes the importance of promoting technology transfer and research for climate change adaptation and mitigation. It also stresses the need to promote endogenous technologies and technology transfer (south-south and north-south). The NDC prioritizes the following sectors: Agriculture and Forestry, Energy, Waste Management and Transport, and includes a table with a preliminary list of technologies for each of these sectors.
Ukraine	Emerging Economy	Endorsement letter submitted on 28/02/2017. The economy of Ukraine requires significant structural changes, infrastructural development, technological modernization and recovery after military operations in eastern Ukraine. The INDC's key next steps include: (i) Development of a long-term action plan for climate change mitigation and adaptation; (ii) Designing and implementation of long-term actions aimed at reducing greenhouse gas emissions; and (iii) Development and implementation of measures aimed at increasing absorption of greenhouse gases. It is expected that the TNA will strongly contribute to these next steps.
Vanuatu	SIDS	Endorsement letter submitted on 20/02/2017. Vanuatu's NDC states that 'a Technology Needs Assessment (TNA) for Vanuatu is needed as a matter of priority to look at implementing a country driven process for identifying and analysing the priority technology needs for mitigating and adapting to climate change. Carrying out the TNA could provide an opportunity to realize the need for new techniques, equipment, knowledge and skills for mitigating greenhouse gas (GHG) emissions and reducing vulnerability to climate change.'

- b) Budget increase related to 3 additional countries

As for the other countries that already joined the TNA Phase III project, Benin, Ukraine and Vanuatu have submitted their endorsement letters with the \$295,650 GEF funds required per country to undertake the TNA process (with \$270,000 for the project and \$25,650 agency fee).

The inclusion of these 3 additional countries led to an increase of \$810,000 in the total project cost from \$5,400,000 in the PIF to \$6,210,000, and to an increase in the agency fee from \$513,000 in the PIF to \$589,550.

- c) Rewording of components/outcomes/outputs

Minor changes in the project design have been made as compared to the original PIF.

Logframe items	As written in the PIF	Revised version	Justification
Project Components	TNAs and TAPs	Component 1: Technology Needs Assessments (TNA) and development of Technology Action Plans (TAP)	For clarity.
Project Outcome	Technology Needs Assessment (TNA) process conducted by national stakeholders, and TNA/TAP results are available to be integrated into national planning processes and to be funded and implemented by interested stakeholders.	Outcome 1: TNA process conducted by national stakeholders, and TNA/TAP results are available to be integrated into national planning processes and to be funded and implemented by interested stakeholders.	For clarity.
Project Outputs	A Country capacity building package to support TNA/TAP national teams is developed and implemented in project countries	Output 1: Tools, methodologies and capacity building packages are further developed and applied to support the implementation of the TNA/TAP process	This output was reworded to better reflect what will be delivered. This still includes the country capacity building package to support TNA/TAP national teams
	TNAs and TAPs completed by countries with project support, including project ideas as concrete actions for implementation	Output 2: TNA and TAP reports completed, including project ideas, with national consensus on concrete actions for implementation	For clarity.

d) Additional co-financing

The amount of co-financing and number of co-financing partners has increased. For additional details, please refer to section A.1 4). Total co-financing at PIF stage was 750,000 \$, it has been increased to 2,745,000 \$.

Co-financing partner	Co-financing in PIF (in-kind)	Co-financing committed (in-kind)
National governments	500,000 \$	575,000 \$
UDP	200,000 \$	225,000 \$
UN Environment	50,000 \$	75,000 \$
CTCN	0	1,870,000 \$
Total	750,000 \$	2,745,000 \$

A.1. Project Description

Background

This project supports developing countries to conduct Technology Needs Assessments (TNAs). TNAs are central to the work of Parties to the United Nations Framework Convention on Climate Change (UNFCCC) and present an opportunity to track an evolving need for new equipment, techniques, practical knowledge and skills, which are necessary to mitigate GHG emissions and/or reduce the vulnerability of sectors and livelihoods to the adverse impacts of climate change. Since 2001, developing country Parties to the UNFCCC have been assessing their technology needs in the areas of climate change mitigation and adaptation within the framework of their national development plans and strategies.

In November 2009, UN Environment, in collaboration with the UN Environment DTU (Technical University of Denmark) Partnership Centre on Energy, Climate and Sustainable Development⁷ (UDP) started the implementation of a new GEF-financed Global TNA project (TNA Phase I) under the Poznan Strategic Programme on Technology Transfer, starting a second generation of Technology Needs Assessments (TNAs).

In the first generation of TNAs conducted between 2001 and 2007, the quality and scope of information provided in the submitted reports varied widely, many countries did not present a clear set of criteria for the prioritization of technologies nor applied the suggested methodologies in a consistent manner. In addition to this, the stakeholder participation when it comes to the identification of next steps and prioritizations of methodologies was limited. As a result, the main gaps identified in the reports included:

- (i) poor justification of selected sectors of the national economy;
- (ii) lack of justification for the choice of technologies;
- (iii) poor description of the assessment methodology and process;
- (iv) lack of clarity on stakeholder engagement, contribution and involvement;
- (v) lack of clarity on identified barriers and capacity building needs and;
- (vi) lack of follow-up action plans.

Countries also indicated the need for further refinement and updates of the guidance for preparing the TNA and further elaboration of the approaches and methodologies used to conduct TNAs, notably for adaptation.

To address these gaps, UN Environment and UDP introduced a new feature in the TNA process (Figure 1) to facilitate the implementation of follow-up actions - the Technology Action Plan (TAP) - and improved the methodologies, guidance and tools available to the countries.



Figure 1: the improved TNA process by UNEP

As a result, a clear improvement was observed when it comes to quality of submitted reports (notably on sector and technology prioritization, on barrier analysis and on the follow-up plan with the elaboration of TAPs). But also, when it comes to the involvement of stakeholders, this being an area UN Environment/UDP have strongly focused on; giving special attention to the establishment of clear implementation arrangements and institutional structures for TNA-TAP implementation at country level.

TNA Phase I country activities ended in April 2013 and in August 2014, the GEF approved a second phase of the Global TNA project (TNA Phase II) covering an additional 27 countries, which is currently under implementation.

⁷ UNEP DTU Partnership, hereinafter referred to as UDP is the former UNEP Risø Centre

This new and additional phase of the Global TNA project (TNA Phase III) aims to respond to the high demand for TNA support expressed by countries to UN Environment, UDP, the Regional Centres, the UNFCCC Secretariat, and the Climate Technology Centre and Network (CTCN) between 2013 and 2015.

This project contributes to UN Environment's Medium Term Strategy 2018-2021 and its Programme of Work 2018-2019, more specifically to its Climate Change Objective: Countries increasingly transition to low-emission economic development and enhance their adaptation and resilience to climate change, and Expected Accomplishment (b) Countries increasingly adopt and/or implement low greenhouse gas emission development strategies and invest in clean technologies, Output 3 Technical support provided to countries to develop tools, plans and policies for low-emission development.

1) Global environmental and/or adaptation problems, root causes and barriers that need to be addressed

In December 2015, countries across the globe adopted a historic international climate agreement at COP21 in Paris. In preparation to COP21, countries submitted their Intended Nationally Determined Contributions (INDCs) reflecting each nation's ambition for reducing emissions, taking into account its local context and capabilities. In their INDCs, all Parties included information on their mitigation contributions. The majority of these INDCs, also included an adaptation component. In addition, as one of the key outcomes of the Paris Agreement, Parties to the UNFCCC are engaged in the elaboration of the new Technology Framework to further promote and facilitate enhanced action on technology development and transfer, where the work on TNAs will play a key role in the implementation of environmentally sound technologies for mitigation and adaptation.

The TNA – as the national participatory process providing in-depth analysis of technology options and actions – offers a collection of information for decision-makers and planners to implement technology actions. The UNFCCC process defines the technology needs assessment (TNA) as *“a set of country-driven activities that identify and determine the mitigation and adaptation technology priorities of developing country Parties. The purpose of TNA is therefore to assist developing country Parties to the UNFCCC identify and analyze priority technology needs, which can form the basis for a portfolio of environmentally sound technology (EST) projects and programmes to facilitate the transfer of, and access to, the ESTs and know-how in the implementation of Article 4.5 of the Convention”*.

Although technologies have been identified as a key factor of success to reach climate change related targets, the information contained in INDCs and existing documents is generally not sufficient to plan and implement technology projects that will enable the countries to reach their targets. The twenty-three countries participating in this project explicitly mention in their policy documents (iNDCs or National Communications) and/or indicated through communication with UN Environment the need for external support to identify and implement the technology actions necessary to achieve their national development goals and NDC targets. Annex P provides collected excerpts from iNDCs and National Communications from each of these countries showing their need for a TNA.

Despite the global recognition of the need for technology transfer, many barriers remain to be addressed. Barriers such as high costs of new technology and lack of access to finance, lack of awareness and access to technical information, inadequate or restrictive government policies and regulations, lack of institutions to promote and implement new technologies, and lack of skilled human resources can all hinder efforts to transfer technologies from one country to another. Addressing those barriers in a holistic and complementary manner is necessary for leveraging technology investments and achieving more rapid diffusion of climate friendly technologies, and thereby achieving national climate change commitments and sustainable development goals.

This third phase of the Global Technology Needs Assessment project (TNA Phase III) funded by GEF will support participating countries in further defining the national technology barriers for their prioritised sectors and technologies, and in developing an action plan to overcome these. The project will therefore (i) strengthen national capacities for identifying and prioritizing technology actions, (ii) advocate for the integration of technology priorities into national planning processes, with a special focus on technologies for implementing NDCs, and (iii) promote national dialogue between policy makers and donors/investors to lay the foundation for further policy enhancement and investment for environmentally sound technology actions.

2) Baseline scenario or any associated baseline projects

Technology under the Paris Agreement

The Paris Agreement has underlined technology as a key area where developing countries need support, and in particular LDCs and SIDS. In its article 10, the agreement states that: *“Parties share a long-term vision on the importance of fully realizing technology development and transfer in order to improve resilience to climate change and to reduce greenhouse gas emissions”* (Para 1, article 10). In particular the decision calls for a technology framework that facilitates: (a) *The undertaking and updating of technology needs assessments, as well as the enhanced implementation of their results, particularly technology action plans and project ideas, through the preparation of bankable projects;* (b) *The provision of enhanced financial and technical support for the implementation of the results of the technology needs assessments;* (c) *The assessment of technologies that are ready for transfer;* (d) *The enhancement of enabling environments for and the addressing of barriers to the development and transfer of socially and environmentally sound technologies;* (para 68). The agreement also affirms the importance of building capacities of developing countries to *“facilitate technology development, dissemination and deployment”* and that *“Capacity-building should be country-driven, based on and responsive to national needs, and foster country ownership of Parties (...) guided by lessons learned, including those from capacity-building activities under the Convention, and should be an effective, iterative process that is participatory, cross-cutting and gender-responsive”* (article 11, para 1 and 2).

Among all developing countries, 54 Least Developed Countries (LDCs) and Small Island Developing States (SIDS) have not conducted TNAs yet (among those 41 are LDCs and 22 are SIDS, 9 being both LDCs and SIDS), a number of these countries requested support for conducting a TNA process under the second generation of TNAs. TNA Phase III targets 23 of these countries and is the continuation of the TNA Phase I and Phase II projects. It builds on lessons learnt and best practices from previous experience, mainly to ensure the project will produce outputs that will be effectively used by policy-makers and planners in the countries and recognized by national decision makers, donors and funding partners.

TNA and the UNFCCC Technology Mechanism

Since its establishment in 2010, the UNFCCC Technology Mechanism’s Technology Executive Committee (TEC) has shown very strong interest in the TNAs and TAPs and generated a series of guidance documents with recommendations for countries to move to TAP implementation. COP 20 requested the TEC to provide guidance on how the results of the TNAs, in particular the TAPs, could be developed into projects that can be ultimately implemented. This resulted in the new ‘Guidance for Preparing a Technology Action Plan’, which was produced by TEC with the technical support from the UNFCCC Secretariat and UDP, and, used and made available for the TNA Phase II countries.

As reflected in the modalities and procedures of the CTCN⁸, an important task of the CTCN – as the operational arm of the Technology Mechanism - is to provide support to developing countries in conducting TNAs and enhancing the implementation of TNA outputs in the form of technology projects, programmes or strategies. To date, about half of CTCN technical assistance requests are coming directly or indirectly from activities identified by the requesting countries during their TNA process.

In the joint annual report of TEC and CTCN for the consideration of Parties at COP22, one of the TEC’s key messages emphasized the importance of support to countries for updating TNAs and implementing TAPs: *“Enhanced financial, technical and capacity-building support are needed to facilitate the implementation of TAPs and updating of TNAs, which will bring economic, environmental and social benefits to countries. Further funding*

⁸ The CTCN is to support requests that: (a) Support countries in developing draft proposals into fully articulated proposals, building on their technology needs assessments (TNAs)... to enable implementation and action...; and (b) Provide technical support and advice for development of TNAs, national technology road maps and actions plans, planning and implementation of climate technologies, and policies and measures in support of implementation” (UNFCCC, 2013).

to conduct TNAs and implement TNA results, beyond the current scope of the global TNA project funding, is encouraged.”⁹.

The TEC’s rolling workplan for 2016-2018, includes numerous activities aimed at analysing and disseminating TNA results, and to encourage TAP implementation, including: providing an overview of new TNA and TAP reports of the Phase II TNA project (2017-2018), providing recommendations to align TNAs with the process to formulate and implement National Adaptation Plans (NAP), providing recommendations to link TNA and NDC processes, and proposing a draft methodology on how to monitor the TNA results, including what such monitoring should include, with a view to showcasing success stories. The TEC’s rolling workplan for 2016-2018 also includes the organization of an event to showcase: (i) results from mapping of TNAs, NDCs and requests submitted to the CTCN; and (ii) policies and strategies to improve enabling environments and address barriers for technology development, transfer and deployment in developing countries.

Under TNA Phase II, UN Environment and UDP collaborate closely with the UNFCCC Secretariat’s technology team and the CTCN team, and are members of the TEC’s TNA Taskforce. These linkages and cooperation will continue under the TNA Phase III project to increase opportunities related to technical assistance, knowledge sharing and networking activities.

As for TNA Phase II, TNA Phase III countries will be encouraged to nominate their TNA coordinators from the same office as the main focal points in the countries for the Technology Mechanism of the UNFCCC: the National Designated Entities (NDEs) of the CTCN. The direct ownership of the TNA by NDEs will ensure the generation of CTCN technical assistance requests that support the implementation of priority actions and project ideas identified in TNA/TAP.

The TNA Phase III project will continue working closely with the CTCN in order for countries to receive support for taking their TNA/TAP results forward. UN Environment and UDP will also continue the collaboration with the Green Climate Fund (GCF) which was established during TNA Phase II, to increase awareness of TNA/TAP results and thereby enhance opportunities for funding their implementation.

3) The proposed alternative scenario, GEF focal area¹⁰ strategies, with a brief description of expected outcomes and components of the project

Like the two previous TNA phases, this project will provide targeted financial and technical support to assist participating developing countries to (i) carry out improved Technology Needs Assessments (TNAs) within the framework of Article 4.5 of the UNFCCC, and (ii) develop national Technology Action Plans (TAPs) for prioritized technologies that reduce greenhouse gas emissions, support adaptation to climate change, and are consistent with national sustainable development objectives.

Lessons learnt and planned improvements for TNA Phase III

The project builds on best practices and lessons learnt from previous phases, and takes into consideration the findings and recommendations from the TNA Phase I evaluation that was completed in October 2016 (see Annex O).

a) Mainstreaming TNA findings and results

This third phase of the TNA project will be further embedded into national planning processes. TNA/TAP outputs will support countries for the implementation of NDCs, and support the formulation of planning and reporting documents, including but not limited to the revised NDCs for 2020 (and possibly other planning processes mentioned in the Paris Agreement: low carbon development strategies and adaptation plans).

⁹ FCCC/SB/2016/1 para 59

¹⁰ For biodiversity projects, in addition to explaining the project’s consistency with the biodiversity focal area strategy, objectives and programs, please also describe which [Aichi Target\(s\)](#) the project will directly contribute to achieving.

b) Engaging development partners, donors and investors

Experiences from the previous TNA Phase I and II confirm that countries are motivated to take ownership and participate in the project activities when stakeholders see a strong possibility for the TNA/TAP process to enhance prospects for attracting investments from public and private sources. Therefore, the engagement of the development assistance partners and finance community at country level is critical to increase opportunities for support of TNA follow-up actions (i.e. TAP implementation).

The project will seek out and strengthen (or where necessary, help create new) implementation-focused networks and partnerships involving financial institutions such as regional development banks and donor organizations, as well as national, regional, sectoral and international technology centres during the preparation and finalization of the TNA and TAP reports. The project will also encourage the engagement of these actors at an early stage and throughout the whole process. As part of these efforts, key results and findings of the TNA process will also be summarized into targeted briefing notes/policy briefs to close the process and make the TNA findings accessible and user-friendly.

c) Training a wider group of national stakeholders

National trainings for a wider group of stakeholders would strengthen stakeholder engagement and thereby the quality of the different outputs resulting from the TNA process. A new capacity building package for national TNA teams will be developed and two national training workshops will be delivered for all stakeholders working directly on TNA. In order to use the available resources efficiently, these efforts will be conducted as part of technical support missions (which were also offered during Phase I and II).

d) Promoting peer-to-peer learning and exchange

Peer-to-peer exchange and south-south cooperation is seen as very beneficial by the participating countries, as it leads to improved knowledge sharing on TNAs and TAP implementation. The project will facilitate showcasing of best practices from countries that have conducted a TNA; create global TNA stakeholder networks through social media (such as Facebook group); and mentorship of participating TNA III country from a country that has conducted a TNA already, preferably from the same region or with similar climate change challenges and priorities.

e) Strengthening national capacities for project preparation and proposal writing

Further guidance for countries on preparation of bankable projects and proposal writing is required – as an extension of existing guidance on accessing international funding for technology projects. New guidance and training will be provided to help countries in writing proposals and in identifying which development partner, investment partner, donor or funding mechanism to target for their prioritized technology actions.

Tools will be further developed to facilitate the identification, engagement and connection with potential funders and investors especially those present and engaged at national level, and transform project ideas into ready-to-submit project concepts to specific donors and investors. Completely new guidance will be developed on gender considerations, access to finance, and dissemination of the information generated through the TNA/TAP process.

f) Ensuring strong stakeholder engagement

Proper stakeholder identification and engagement has also proved to be critical for conducting a successful TNA/TAP process since quality and success of the TNA/TAP process strongly depends on political will and stakeholder engagement. Attention is therefore needed to ensure a rigorous stakeholder mapping and a more targeted selection of the stakeholders to engage in the process.

The inception missions to the participating countries will aim to identify potential “TNA champions” - notably to form the National TNA Committee¹¹ that provides leadership to the project in association with the National TNA coordinator - among the decision makers and stakeholders that must be involved in the TNA/TAP process. In

¹¹ The National TNA Committee is the core group of decision makers and includes representatives responsible for implementing policies from concerned ministries, members familiar with national development objectives, sector policies, climate change science, potential climate change impacts for the country, and adaptation needs. Refer to Annex H for further description of the role and responsibilities of the National TNA Committee.

addition to existing guidance on stakeholder involvement, TNA Phase III will include a new guidance on gender considerations, both in terms considerations during selection, prioritization and assessment of technologies, but also during elaboration of action plans for the transfer and dissemination of technologies in local and national contexts.

g) Data and local expertise

Finally, local capacities and data availability strongly influences the quality and success of the TNA/TAP process and its outputs. While the project is not in a position to improve local data and information availability, there is a need to ensure more scrutiny in selecting the national TNA coordinator and local consultants, and to further improve or adapt tools, training and capacity building activities. The inception mission will aim to identify qualified national experts/consultants that would lead the different steps of the TNA/TAP process under the supervision of the national TNA coordinator.

In view of the above, the TNA Phase III project will offer countries the following new features:

- Two national training workshops per country to train a wider group of national stakeholders on the overall process and different steps for conducting the TNA, and on the participatory planning and prioritization tools (e.g. multi criteria assessment tool, stakeholder engagement tools, and approaches for gender inclusiveness). This will strengthen the engagement and commitment of stakeholders to support and inform the national TNA process and therefore contribute to increased quality and ownership of TNA/TAP outputs.
- More emphasis on peer-to-peer exchange in regional workshops to facilitate best practices and knowledge sharing between countries, including from TNA Phase I and II through the participation of national experts from the previous phases.
- National events and roundtables, as well as targeted policy briefs and advocacy papers, to present TNA/TAP outputs to potential donors, development partners and investors. This will facilitate the creation of partnerships between the government and these actors for the financing and implementation of prioritized technology actions. More specifically, the roundtable discussions will permit to identify a number of project ideas of common interest to be developed more in-depth (e.g. into project concepts for interested donors or development partners, into PIFs to submit to GEF or GCF concept notes).

Technical assistance for participating countries

The project will provide funding and technical assistance to countries to conduct their TNA/TAP process. The technical assistance will be provided from project start and will include guiding participating countries to: (i) set up their national TNA team and select appropriate local consultants to prepare the various reports, (ii) develop a country tailored workplan and framework for conducting the TNA/TAP process, (iii) identify and engage all relevant stakeholders, as well as (iv) 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.

The technical assistance, capacity building and guidance will be provided by UN Environment/UDP and the following partners referred to as Regional Centres (RCs): the Pacific Community (SPC) in the Asia and Pacific region; Environment and Development Action in the Third World (ENDA) and Energy Research Centre (ERC), University of Cape Town, in Africa; and Environmental Management Consultants for the Caribbean (see table below). In addition, technical assistance to Ukraine, Afghanistan and Myanmar will be supported by individual consultants with expertise in these countries.

The collaboration with Regional Centres of excellence has been crucial for the success of TNA Phase I and II. However, experience and feedback from participant countries tell us that it is crucial that regional centres have local expertise, hence it has been decided to collaborate with new regional centres for the Pacific and the Caribbean regions, which in both cases have experience with SIDS and local conditions of the respective countries. For the African countries participating in the project, the collaboration with ENDA for the Francophone group of countries, and ERC for the Anglophone countries will be continued. The table below shows the climate change expertise area and region for each RC collaborating with UDP for the execution of the project.

Regional Centre	Area of expertise		Region		
	Mitigation	Adaptation	Africa	Asia and Pacific	LAC
Pacific Community (SPC), New Caledonia	X	X		X	
ENDA, Senegal	X	X	X		
Energy Research Centre, South Africa	X	X	X		
Environmental Management Consultants, Guyana	X	X			X

Table 1: Regional Centres supporting TNA Phase III countries

Besides collaboration with regional centres, the project will contract experts from TNA Phase I and II, who have shown excellent leadership as technology champions in their respective countries. These experts will support countries as part of TNA Phase III through experience sharing and knowledge transfer based on their experiences with taking the TNAs/TAPs forward to implementation. One expert from each region will be contracted.

GEF focal area strategies

Support for enhanced TNAs was included in the GEF Strategic Programme on Technology Transfer approved by the GEF Council in November 2008 and endorsed by Parties to the UNFCCC at COP14 in Poznan.

The TNA Phase III project is in conformity with the GEF's strategy to support enabling activities and capacity development in climate change and is fully consistent with GEF-6 priorities of enhancing national ownership of climate change activities and strengthening countries' capacities to fulfil their reporting commitments under the Convention. This project falls under the GEF-6 climate change mitigation focal area strategy and is aligned to Objective CC 3: *Foster enabling conditions to mainstream mitigation concerns into sustainable development strategies*. This objective is supported by Program 5: *Integrate findings of convention obligations and enabling activities into national planning processes and mitigation contributions*. This includes providing support to countries for domestic preparations for their intended nationally determined contributions, and support activities responsive to other COP guidance in areas such as TNAs and capacity building.

Overall, the TNA process can provide a good starting point for understanding the needs for technology transfer in the country, initiating targeted actions and fostering the deployment of technologies. It constitutes a great source of information useful to plan removal of potential barriers and create the enabling environment for technology options prioritized by the countries (addressing risks and creating incentives for funders/investors). Therefore the TNA constitutes a major planning tool to bridge the gap between the national political targets, and the actions to be implemented in the countries, and can act as a connector between technology, policy and investor communities.

Project strategy

The Project Objective is to provide participating countries targeted financial and technical support to prepare new or updated and improved TNAs, including TAPs, for prioritized technologies that reduce greenhouse gas emissions, support adaptation to climate change, and are consistent with Nationally Determined Contributions and national sustainable development objectives.

The Project Outcome (Outcome 1) will be Technology Needs Assessment (TNA) processes conducted by national stakeholders in the twenty three participating countries, and TNA/TAP results available to be integrated into national planning processes and to be funded and implemented by interested stakeholders. Participating countries will also gain improved in-country capacity on the methodologies and process of conducting a TNA, including stakeholder engagement, multi-criteria analysis, barrier analysis, and preparation of project concepts.

To achieve its overall objective and main outcome, the project is designed around one component (Component 1: Technology Needs Assessments and development of Technology Action Plans) that will deliver two main outputs:

- Output 1: Tools, methodologies and capacity building packages are further developed and applied to support the implementation of the TNA/TAP process
- Output 2: TNA and TAP reports completed, including project ideas, with national consensus on concrete actions for implementation

If the outputs of the project are generated via a transparent participatory approach, with strong stakeholder engagement, national consensus will be reached on priority technologies and actions. The TNA in this project aims to support participating countries to implement their commitments under the Paris agreement and the revision of their NDC. Therefore, provided the political environment in supported countries is conducive to climate action, the project outputs will lead to policy changes and finance flows into priority technology areas. Finally, if this is successful and adequate support mechanisms are in place, the project can expect to contribute to increased deployment of technologies that reduce greenhouse gas emissions and/or improve resilience to climate change in the target countries. The full Theory of Change and Logical Framework for this project are provided in Annex A.

Outputs and activities

Output 1: Tools, methodologies and capacity building packages are further developed and applied to support the implementation of the TNA/TAP process

Output 1 will strengthen stakeholder involvement and capabilities (skills, knowledge, and tools) of key national actors/players in developing TNAs, TAPs and project concept notes. This will lead to the delivery of quality TNAs with a robust nationally driven technology prioritization process for both mitigation and adaptation, improved Barrier Analysis and Enabling Framework reports, TAPs to support accelerated implementation of technologies, and better articulated project ideas. Good communication and awareness raising of TNA/TAP results all along the process will increase interest among national and international institutions, including among private sector and other non-state actors for taking up TNA/TAP results for implementation.

The main objective under Output 1 is to provide participating countries with (i) methodologies, guidance and tools for conducting technology needs assessments and developing technology action plans covering both adaptation and mitigation aspects, (ii) strengthened national capacities for conducting the TNA/TAP process, and (iii) support to facilitate sharing information and results generated through TNA/TAP processes and secure buy-in for TNAs from senior officials and potential donors/financiers.

The activities under Output 1 will aim to improve existing methodologies, develop new guidance, build national capacities through national, regional and global level training workshops, and lastly to mobilize governments, development organizations, public and private financiers, and private sector actors for TAP implementation. For the latter, experiences from the Phase I and II of the TNA project confirm that getting the national, regional and international finance and technology transfer management communities talking to each other at an early stage in the technology action process can substantially increase the prospects of finding the right advisory and financial partners for a given technology action.

The activities under Output 1 are structured around three sub-outputs, corresponding to the three areas specified under the objective:

- 1. Output 1.1:** Methodologies, guidance and tools for technology needs assessments and action plans covering both adaptation and mitigation aspects are updated/developed.

Activity 1.1.1: Improvements to existing methodologies, guidance and tools

Step-by-step guide for countries conducting a Technology Needs Assessment: the guidance will be updated to reflect latest changes in methodology development, including on gender aspects, integrating linkages of TNAs and NDCs, and guidance on access to finance and project proposal development.

In addition to the updates specified above, there will be a general update of the various existing TNA guidance documents where needed.

Activity 1.1.2: Development of new methodologies, guidance and tools

Guidebook on gender considerations in conducting technology needs assessments: Most TNA/TAP processes do not integrate specific gender considerations or aspects in their analyses. UDP and UN Environment have observed this need and will develop a guidebook to elaborate on the aspects of how gender can be integrated into the assessments and why and how it is relevant to include such aspects when focusing on technologies. Currently no similar guidance on gender and technologies exists. The guidebook will include specific recommendations for how to identify, consider and integrate gender considerations throughout the TNA/TAP process.

Guidance on access to finance and proposal development based on TAPs and project ideas: There is an increasing demand for capacity building in developing project proposals for acquiring international funding of the TNA/TAP results. Building on the new guidance for developing TAPs, elaborated during TNA Phase II, this new guidance will build on the existing TNA guidance on accessing international funding for climate change mitigation and adaptation (2012). The new guidance will provide TNA stakeholders with recent development in opportunities for attracting funding for climate change projects. This guidance will help countries in identifying which development partner, investment partner, donor or funding mechanism to target for their prioritized technology actions.

Guidance on linking the TNA process with other national processes (NDCs, NAPs, etc): Countries developing TNAs are also preparing implementation plans for their NDCs as well as other national plans. UDP and UN Environment collaborate with the UNFCCC Secretariat to develop guidance for countries on linking these processes. This work will include suggestions for how to align processes, highlighting good examples from countries which have been successful in this to promote the best possible interaction between the various processes.

E-learning for Guidance on access to finance and proposal development based on TAPs and project ideas: UDP will develop e-learning training material based on the new guidance on access to finance and proposal development based on TAPs and project ideas.

E-learning for integrating gender considerations: UDP will develop e-learning training material based on new guidance on the aspects of how gender can be integrated into the assessments and why and how it is relevant to include such aspects when focusing on technologies.

2. Output 1.2: Strengthened national capacities for conducting the TNA/TAP process

Activity 1.2.1: Training of trainers workshop

Before any in-country activities, a training-of-trainers workshop will be held to ensure a unified understanding of processes, methodologies and approaches. This workshop is intended for UDP country coordinators & Regional Centre staff, who will subsequently be involved and responsible for delivering national and regional training workshops.

Activity 1.2.2: National workshops

Two (2) national training workshops per country will be conducted to facilitate a broader national capacity building on the technology needs assessment process and its participatory tools and related issues, including technology transfer and diffusion process. The national workshops will focus on the concept of technologies and their relevance for local contexts, multi criteria analysis methodology, stakeholder engagement approaches, gender inclusiveness and so forth. This is intended to build in-country capacities on technology transfer related issues, increase national ownership of the process as well as to encourage national stakeholders to integrate information and results generated through the TNA/TAP process into other national processes.

Activity 1.2.3: Regional workshops

The TNA Phase III will provide three (3) regional training workshops per region (separate for Francophone and Anglophone Africa), a total of 12 capacity building workshops. Peer to peer experience sharing will also be facilitated during the regional workshops, where TNA Phase I and II champions will be invited to share their experiences from conducting and implementing their TNAs. The experience from TNA I and II showed a need to increase the number of regional training workshops from two (2) to three (3) per region. Having three regional training workshops will allow more time for training on issues such as economic assessments, preparation of TAPs as well as more capacity building for the development of sound project concepts, which can be linked to other processes, including implementation plans for how to reach national NDC targets.

The regions for the capacity building workshops are as follows:

- Latin America and the Caribbean: Antigua and Barbuda, Dominica, Jamaica, Trinidad & Tobago, Suriname
- Asia-CIS: Afghanistan, Myanmar, Ukraine
- Pacific: Nauru, Fiji, Vanuatu
- Africa (Anglophone): Benin, Eritrea, Liberia, Malawi, Uganda, Sao Tome and Principe
- Africa (Francophone + Haiti): Central African Republic, Chad, Djibouti, Guinea, Niger, Haiti

3. Output 1.3: Information, lessons learnt and results generated through TNA/TAP processes are disseminated and communicated

Activity 1.3.1: Advocacy and networking actions to secure buy-in for TNA from senior officials and donors/financiers

At national level, activities will aim at reaching-out/communicating, advocating and networking to attract high-level governmental support and engage with donor coordination groups (including local representatives from the Multilateral Development Banks), local banks/financiers, Chambers of Commerce and private sector (such as business associations) all along the TNA/TAP process.

At the inception stages, initial consultations will be undertaken with government and donor coordination groups to do some intelligence gathering, find a good entry point to anchor the TNA/TAP process and facilitate the engagement of donors and decision makers, i.e. for TNA/TAP results to feed-in a national planning process such as the NDC process, and identify opportunities to reach-out to public and private decision makers in the country (this was a successful approach that the national TNA coordinator from Lebanon has used in TNA Phase I to engage the decision makers in her country).

Building on the outcomes of these consultations, UN Environment /UDP will work with the national TNA teams to develop national project workplans that include a series of activities (with milestones) to foster interactions between practitioners in the fields of investment/finance, technology and policy, and to provide regular updates, briefings and disseminate results to key decision makers, the donor/development partner community, and financial and business communities in the country.

The outputs will include a series of targeted, tailored and country specific briefings and advocacy documents, as well as letters of intent from donors/financiers to support project ideas prioritized in the TAPs.

Activity 1.3.2: Regional and global level dissemination actions

At regional and global levels, activities will aim at disseminating tools, results and best practices; stimulating peer-learning and use of TNA results and promoting priority project ideas and technology actions identified by participating countries to donors, development banks and public and private investors.

At the regional level, the TNA Phase III project will link with existing technology transfer networking initiatives to disseminate results and promote priority project ideas and technology actions from countries to regional and global stakeholders such as regional development banks, business associations and chambers of commerce. For example, UN Environment and UDP will, in collaboration with the GEF and UNFCCC

work to engage with Asian Development Bank, Inter-American Development Bank, African Development Bank, European Bank for Reconstruction and Development, World Bank, International Finance Corporation, Green Climate Fund, Adaptation Fund and other international funding institutions to disseminate results.

At global level, while ‘traditional’ dissemination events such as COP side events, workshops, and conferences will be important tools for diffusion and learning, the project will also utilize information and communication technologies to reach out to the global community. During TNA Phase I a website for the TNA project (www.tech-action.org) was created. The website provides all important project information, such as country reports, technology prioritization factsheets as well as methodologies and tools for the TNA process. The website will be periodically updated to facilitate improved access to TNA/TAP results for development partners as well as public and private investors. In addition, newsletters will be prepared and disseminated regularly to TNA participants, partner institutions and networks.

Output 2: TNAs and TAP reports completed, including project ideas, with national consensus on concrete actions for implementation.

Output 2 will enable the twenty three (23) participating countries to reach (i) a national consensus on technologies for low carbon and climate resilient development in priority sectors, and (ii) a nationally endorsed agreement on actions to be implemented to respond to prioritized technology needs for low carbon and climate resilient development. Participating countries will conduct an in-depth analysis of the actual barriers, including economic and social, that hinder the transfer and uptake of priority technologies, followed by an assessment of the political, institutional and financial options to overcome these barriers. On this basis comprehensive national plans to create enabling framework conditions agreed by key stakeholders in the countries will be prepared in consistency with the domestic, regional, and global contexts.

The main objective of Output 2 is to provide technical assistance and funding for participating countries to assess their technology needs for both mitigation and adaptation and develop a national action plan to respond to these needs. When participating countries already conducted a TNA earlier, the objective is to review them and make them more strategic and useful in an operational sense, not least in the light of the recent development under the Paris Agreement and requirements for countries to meet their national targets set out in their NDCs.

The activities under this output enable participating countries to identify, prioritize and assess their technology needs, including the identification of enabling framework conditions, for both mitigation and adaptation and thereby support the development of national technology action plans to respond to the prioritized technology needs. As a result, it is expected that information on national needs and priorities related to climate technology is available through nationally supported TNAs and TAPs, to help countries meet UNFCCC commitments such as NDCs as well as other sustainable development priorities.

The activities under Output 2 are structured around five sub-outputs:

1. Output 2.1: TNA reports are developed/updated and approved

Activity 2.1.1: Setting up and preparing for the TNA Process

To achieve the objectives, outputs and expected outcomes of the TNA process, a **national TNA team must be formed**. This team will, under the leadership of a National TNA Coordinator, conduct the TNA process. The National TNA Team is an umbrella that refers to the TNA Committee, the sectoral working group and the national consultants (see Annex H).

Activity 2.1.2: Identification and prioritization of sectors and technologies

The first step is to prioritize sectors based on national development priorities and identification of key GHG emitting sector. For mitigation, sector prioritization has been conducted very recently for most countries as part of the development of their iNDC. For adaptation, some countries have already identified their priority sectors as part of their NAP process.

The prioritization of technologies, within the selected priority sectors, is the first analytical step in the TNA process. The conclusions of this step shall be reported in the first of the three deliverables: Technology

Needs Assessment report. The process for identifying and prioritizing technologies follows the approach for conducting Multi-Criteria Analysis. It includes the analysis of the current situation (local context, plans, strategies, policies), preparing technology factsheets and other information, defining criteria for assessing adaptation and mitigation technologies, and organizing stakeholder consultations.

2. Output 2.2: Barrier Analysis & Enabling Framework (BAEF) reports are developed and approved

Activity 2.2.1: Analyze the market conditions and diffusion barriers for each of the technologies selected under Output 2.1

The national TNA teams will identify all possible barriers to technology transfer and diffusion through literature survey, interviews and facilitated workshop brainstorming, screening their long-list of barriers to select the most essential ones, and classify their selected essential barriers into a hierarchy of categories.

Activity 2.2.2: Identifying measures to create an enabling framework for the technologies selected under Output 2.1

The national TNA teams will identify specific measures through facilitated workshops. This will include identification and analysis of successful policy measures from national experience and other countries, pre-assessing their potential feasibility in the local context.

The report for the BAEF is the second of the three deliverables that participating countries are expected to submit, and the one for which it is encouraged that countries dedicate most resources to prepare given the analytical requirements.

3. Output 2.3: TAP reports (including project ideas) are developed and approved

Activity 2.3.1: Setting the TAP ambition

Based on the results from outputs 2.1 and 2.2, the TNA team will describe the scale and context for technology deployment and diffusion, referred to as the country's TAP 'ambition'. The TAP ambition will be in line with national development goals and NDC targets.

Activity 2.3.2: Identifying actions and activities to include in the TAP

Based on the results from outputs 2.1 and 2.2, national TNA teams will summarize and prioritize the barriers to deployment and diffusion for each technology, as well as select possible measures for addressing these based on their cost and benefits, effectiveness, efficiency, suitability and applicability.

These selected measures will then be turned into a list of Actions, which are then expanded into a set of specific activities, i.e. the specific things to be done to realize an Action. For each activity: (i) the relevant stakeholders will be identified, (ii) a timeframe will be defined and (iii) human and financial resources needed will be estimated. In addition, countries will select some Actions and put these forward in project ideas.

The TAP is the third of the three deliverables that participating countries are expected to submit. It will include a management plan for reporting, risk management, corrective measures, and contingency plans. The preparation of a TAP is the responsibility of the TNA coordinator in collaboration with national consultants and the sectoral or technology working groups within the TNA team, in collaboration with a group of relevant stakeholders.

4. Output 2.4: Project concepts are developed and approved

Each country will identify the most promising project ideas (i.e. the ones raising the most interest from decision makers and development partners), and develop and submit at least 1 project concept note targeted at a specific donor, financier or fund. The targeted donor, financier or fund will be identified and selected during project implementation. The project concepts will include detailed information on the level of support required (i.e. Institutional/policy strengthening costs, cost of assessments and feasibility studies required, etc.) for a specific Action. These project concepts will be targeted at specific donors or funding organizations (e.g. GEF, GCF, Adaptation Fund...).

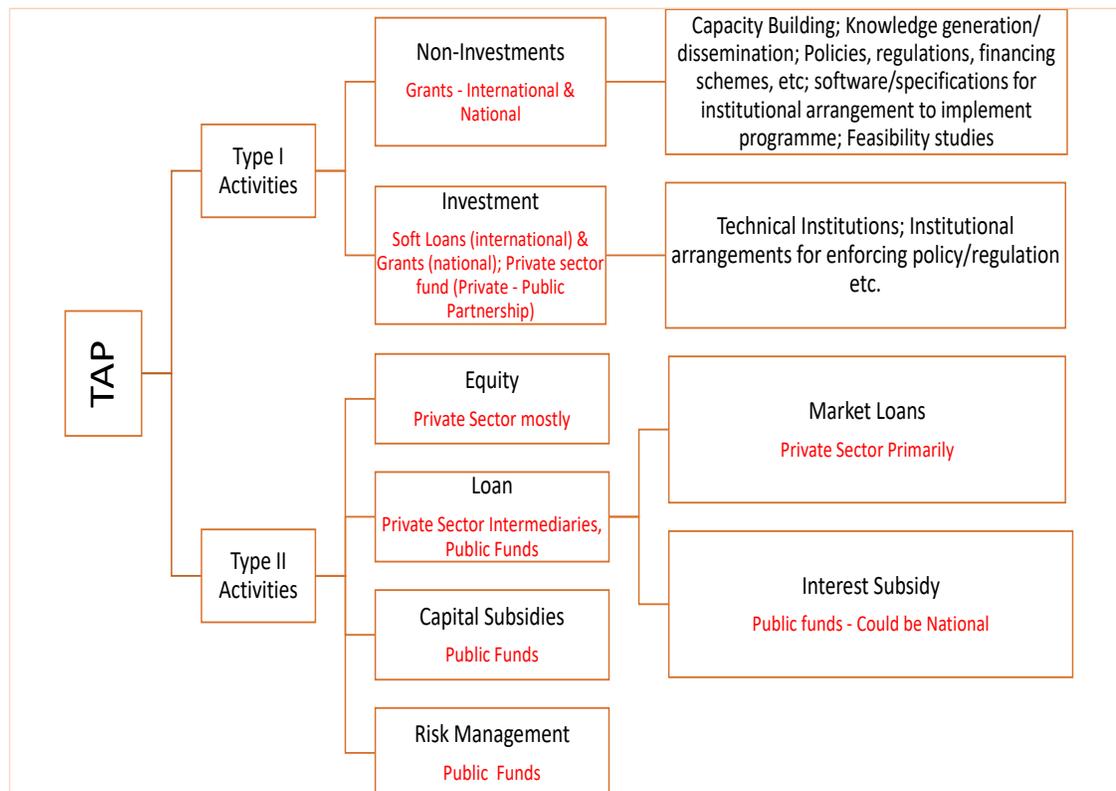


Figure 2: From TAP to implementation

In view of the nature of the TNA/TAP process and its outputs, project concepts will aim to address the barriers and establish the enabling frameworks for technology deployment and technology investments (i.e. Type I activities as per Figure 2 above). There may be opportunities to develop project concepts that include both a grant component and an investments component (i.e. a combination between Type I and Type II activities).

5. Output 2.5: TNA results are communicated and disseminated

Activity 2.5.1: National level communication and dissemination

During the TNA process planning stage, national TNA stakeholders will identify specific opportunities and activities for communicating on the TNA process and its results to decision makers and donors/financiers. Activities will include the development of national dissemination packages for disseminating the TNA results (including targeted briefs and documents for various audiences), the organization of national roundtables and national dissemination events

Activity 2.5.2: Global level communication and dissemination

A number of global workshops and events will be organized for sharing of experiences, and dissemination of results and best practices, including:

- TNA Phase III kick-off workshop in collaboration with UNFCCC: The objective of this workshop is to share not only the results of TNA Phase I and II, but also to share the experiences from TNA champions of Phase I and II. In addition to Phase I and Phase II champions, representatives from the regional and international funding community will be invited to participate.

- Global experience sharing workshop in collaboration with UNFCCC: An experience sharing workshop will be organised after the third regional training workshops and before the final preparations of national TAPs. Thus, participating countries will have the chance to interact with other participating countries and share experiences from the process. Similar to the kick-off workshop, TNA champions of Phase I and II as well as representatives from the funding community will be invited.

Deliverables

The deliverables under Output 1 will include:

- Updated and new methodologies and tools to complement existing guidance
- Country capacity building package to support national TNA teams
- Updated regional training package
- One (1) training of trainers workshop
- Two (2) national capacity building workshops per country for the members of national TNA committees, sector working groups and other relevant national stakeholders, a total of 46 workshops for the 23 countries
- Three (3) regional workshops per region for national TNA coordinators and TNA consultants, a total of 12 workshops
- Global workshops, peer-to peer, with champions from TNA Phase I and II, to facilitate inter-country collaboration and sharing of experience, lessons learnt and best practices
- Dissemination of tools and methodologies, including provision of the same to closely related initiatives and networks in order to support technology identification and prioritization work
- Outreach and awareness creation of TNA/TAP results, through preparation and distribution of outreach material and participation in international events, to increase funding and implementation of TNA/TAP results
- One (1) global kick-off workshop at the start of the project and one (1) experience sharing workshop at the TAP preparation stage.
- Three (3) side-events
- Newsletters

The main deliverables expected from countries under Output 2 will be a series of minimum 3 reports per country:

- A TNA report with a detailed description of how the TNA process 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. The report includes the results of the technology prioritization.
- A Barriers Analysis and Enabling Framework report that will include an in-depth analysis of the actual market, trade and other barriers that hinder the transfer, diffusion and uptake of the priority technologies identified in the first deliverable. In addition, the report includes an assessment of the policy, institutional and finance conditions required 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 will include project concept notes on selected technology priorities.
- At least one project concept based on selected TAP Actions
- A series of national TNA/TAP dissemination packages (i.e. targeted policy and advocacy briefs)

4) **Incremental/additional cost reasoning** and expected contributions from the baseline, the GEFTE, LDCF, SCCF, and **co-financing**

Successful implementation of the TNA project at national level will help countries prepare their NDC implementation plans and meet their NDC targets. The TNA project lays the ground to create the necessary frameworks for accelerated technology transfer and diffusion and the associated reduction in emissions and increased resilience. GEF involvement is justified as this is a response to UNFCCC reporting by countries.

Incremental cost reasoning

An overview of the incremental cost reasoning is reflected in the table below.

Strategy	Baseline	Alternative	Increment
<u>Project objective</u> : Provide targeted financial and technical support to prepare new or updated and improved TNAs, including TAPs, for prioritized technologies that reduce greenhouse gas emissions, support adaptation to climate change, and are consistent with national sustainable development objectives	No TNAs, or TNAs that are outdated/need improvement No TAPs to support decision making for national technology investments	Targeted financial and technical support to carry out new or improved TNAs and develop TAPs	Improved TNAs and development of TAPs to support decision making for national technology investments
<u>Outcome 1</u> : Technology Needs Assessment (TNA) process conducted by national stakeholders, and TNA/TAP results are available to be integrated into national planning processes and to be funded and implemented by interested stakeholders	Limited awareness may result in TNA results being insufficiently used by decision makers and financiers (public and private) to identify technology investments	Increased national capacities on technology assessments and high quality of TNA/TAP outputs, and strengthened relationships with donors and investors at national level, and thus increasing the likelihood of uptake of the TNA/TAP outputs.	National consensus on priority technologies, agreement on national action plans and identification of priority project concept notes
<u>Output 1</u> : Tools, methodologies and capacity building packages are further developed and applied to support the implementation of the TNA/TAP process	Limited in-country capacity to conduct TNAs and develop TAPs Limited cooperation for climate technology transfer	Improved capacities for conducting TNAs and designing TAPs Improved methodologies for conducting TNAs and designing TAPs (especially in the area of adaptation) Integration of climate technology needs and priorities into national development policies, plans, and strategies Targeted dissemination of TNA/TAP results to	Climate technology issues are better integrated into national development priorities to facilitate access to domestic finance for technology projects and programmes Technical advisory and finance networks support TNA development and engage with countries to facilitate TAP implementation

Strategy	Baseline	Alternative	Increment
		decision makers, development partners, donors and public and private investors at national, regional and global levels	
<u>Output 2: TNA and TAP reports completed, including project ideas, with national consensus on concrete actions for implementation</u>	Lack of information to prioritize technologies and identify related needs Lack of proper stakeholder engagement and consultation for the identification of national technology needs and priorities	Analysis of the current situation, barrier analysis, identification of enabling measures (based on assessments, analytical work, factsheets, peer-to-peer exchange, consultation workshops and other information collected or developed under the project) An institutional structure for TNA-TAP implementation put in place Enhanced stakeholder engagement process and consultation mechanisms for TNAs and TAPs	Consensus on priority technologies, agreement on a national action plan and identification of requests for submission to the CTCN Improved stakeholder engagement and consultation for the identification of national technology needs and priorities

Table 3: incremental cost reasoning

Co-financing

Total co-financing amounts to \$2,745,000 and is distributed between project partners as follows:

a) Recipient government co-finance

Participating countries will provide in-kind co-financing estimated to \$25,000 per country over the duration of the project i.e. \$575,000 in total for the 23 countries. This co-financing includes staff time from the national TNA coordinator and other government representatives engaged in the TNA process, as well as the provision of meeting space for working groups and workshops.

b) UDP co-finance

UDP will provide in-kind co-financing estimated at \$225,000 over the duration of the project. This co-financing will mainly consist of staff time/expertise for:

- Technical reviews of reports submitted by the countries: Technology Needs Assessments, Barrier Analysis & Enabling Framework, Technology Action Plans;
- Improving trainings, tools and methodologies;
- Developing and revising of guidebooks; and
- Database and website development for dissemination of project information, outputs and results.

c) UN Environment co-finance

UN Environment will provide in-kind co-financing estimated at \$75,000 over the duration of the project. This co-financing mainly consists of staff-time/expertise from UN Environment staff to:

- Provide strategic, technical and methodological support for project implementation under all project activities;
 - Support the dissemination of outputs and results, and engagement of donors/development partners to foster TAP implementation; and
 - Facilitate the synergies and collaboration with global partners (UNFCCC Secretariat, TEC, CTCN, GCF) and with other climate technology projects and initiatives undertaken by UN Environment and other global development partners.
- d) CTCN co-finance

The CTCN will provide in-kind co-financing estimated at \$1,870,000 over and beyond the duration of the project. This co-financing mainly consists of staff-time/expertise from CTCN, its consortium partners and network members to:

- Participate as resource persons in TNA related global and regional workshops and events;
- Respond to TNA related technical assistance requests submitted by participating countries (except for Ukraine);
- Facilitating access for participating countries to knowledge and information from different organizations and countries; and
- Disseminate TNA results and promote TAP implementation.

In addition, collaboration with the UNFCCC Secretariat's Technology team will include organizing joint events, developing TNA guidance papers and publications, disseminating tools and results, and promoting TAP implementation.

Cost-effectiveness

This project aims at analyzing the best available and appropriate technologies for transfer to developing countries and at providing an action plan to remove barriers and create the framework conditions for more cost effective transfer of both climate mitigation and adaptation technologies in the twenty three project countries. As proven in previous phases, the multi-country approach of this project is cost-effective as the tools and related trainings are designed for all the countries. The trainings for national coordinators and their lead consultants are delivered in each (sub-)region offering opportunities for countries to learn from each other along the process by sharing their experience, good practices and lessons.

5) Global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF)

Global environmental benefits will stem from policy changes to promote technology development, transfer, and deployment, and financial support gained for project implementation. These measures are expected to accelerate clean technology diffusion and bring about a reduction in greenhouse gas emissions and resilience to climate change effects as a result.

Other benefits expected to be delivered by the project include: better in-country coordination amongst institutions related to technology transfer and adoption; increased awareness of opportunities and associated benefits of technology adoption by decision makers buttressed by increased local capacity to assess adequate, priority technologies according to country needs, identify barriers to their adoption and recommend actions that are directly related to project activities.

The project will ensure that environmental safeguards are included in any TAPs that are developed. Moreover, the actions of the TNAs and TAPs will present the opportunity to mitigate GHG emissions and/or reduce the vulnerability of sectors and livelihoods to the adverse impacts of climate change, thus strengthening resilience to climate change. Cleaner technologies will also lead to reduced pollution which will result in improved health of the local population. The deployment of clean technologies will improve access to modern energy services, and increase water and food security in the countries.

6) Innovation, sustainability and potential for scaling up

This project will innovate from previous TNA phases by taking into account lessons learned from TNA Phase I and II. Countries have requested national workshops in addition to regional trainings. Having national workshops will allow having more national stakeholders trained, including a larger number of staff at the coordinating entity and the technology/sector working groups. TNA Phase III will also include, as a new activity, donor roundtables at country level to increase peer-to-peer learning through establishment of country networks through social media. Lastly, in collaboration with the UNFCCC and its Technology Executive Committee, the project will track results implementation from TNA Phase I and II as a means for showing good examples and learning from countries carrying their TNA/TAP results forward after project completion. To complement these efforts and for resource-efficiency, the project will also use e-learning materials that have been tested and successfully used in TNA Phase II countries to strengthen national, regional and global training workshops.

Sustainability of impacts will come from policy change and funding for project proposals that follow the TNA process. If the project is successful in attracting funding and bringing about policy change there is an expectation that countries will be the recipients of more technologies. With the revision and enforcement of policy revisions, the increase in technology transfer would be sustained.

The project includes technical training for national consultants, national TNA coordinators as well as national stakeholders on identifying, prioritizing and assessing technologies, assessing barriers, identifying enabling framework conditions, and developing action plans to overcome these. This approach will promote sustainability beyond the lifespan of the project, since a wide range of national actors will have acquired knowledge and skills for technology assessments which are important for taking technology plans further to implementation. Moreover, it will increase capacity of the stakeholders to replicate the process and methodologies for assessing other technologies in detail, or in additional sectors, which may also be beneficial to the country, not least in terms of requirements for NDC implementation planning.

A.2. *Child Project?* If this is a child project under a program, describe how the components contribute to the overall program impact.

N/A

A.3. Stakeholders. Identify the key stakeholders and elaborate on how their engagement is incorporated in the preparation and implementation of the project. Mention whether they include civil society organizations and indigenous peoples.

The project involves a wide range of stakeholders both at the national level in the 23 countries supported and those within partner institutions including Regional Centres of excellence (RCs). One of the first tasks of each country team will be to draw-up a specific list of stakeholders for consultation. This will include relevant institutions and agencies as well as experts according to national circumstances who would be at the core of the project. Ministries of Environment, Water, Agriculture, Transport, Energy, National Planning, Technology and Science, Finance, Legal/Law/Policy formulation, Municipal/County Councils, grassroots/community groups representing households as potential technology users, academia, representatives of civil society as well as research centres linked to climate change mitigation and adaptation will be involved. Private enterprises importing and/or producing technologies for mitigation and/or adaptation will be associated, and so will potential in-country financiers, national focal points and agencies of climate funds (e.g. GEF OFPs, NDAs, NIEs), and international donors.

The experience from the TNA Phase I and II is that most of the relevant sectors have been represented in the TNA teams and therefore the same institutional setting will be suggested for countries in TNA Phase III. This applies also to National Steering Committees. Emphasis will be put on bringing on board decision makers from both public and private sectors. It should be emphasized that it is seen as utmost important to have commitment to the TNA/TAP process from the private sector. The private sector should be represented in the National Steering Committee as well as in the sectoral working groups, and should also be consulted during the various stages of the TNA/TAP process from the identification

of technologies and analysis of related barriers and enabling framework requirements to development of project ideas and concept notes.

The main stakeholders to be involved in project implementation are outlined in Table 4 below.

Stakeholder Role	Agencies	Comments
<i>Lead Agencies</i>	UN Environment, UDP	UN Environment is the implementing agency responsible implementation of the project, UDP is the executing agency and is responsible for the day-to-day technical execution.
<i>Executing Partners</i>	National Teams – National Designated Entities (NDEs) to the Climate Center and Network, Ministries of Environment, Water, Transport, Energy, National Planning, Technologies, Finance; grassroots/community groups, academia, representatives of civil society, research centres, associations (e.g.), private sector, e.g business associations	Stakeholders who have an active role in the execution of the project and are an integral part of project activities.
<i>Active consultation</i>	Donors, GEF OFPs, NDAs, NDEs, NIEs, other focal points, relevant NGOs, and so forth	
<i>Active Cooperation</i>	Regional Centres (RCs) – Pacific Community (SPC), New Caledonia; ENDA (Senegal), Energy Research Centre, University of Cape Town, South Africa; Environmental Management Consultants, Guyana, Regional consultants Other UN Environment projects and programs in related fields in the region (e.g. CTCN), UNFCCC, IEA	Stakeholders with whom the project will seek active cooperation and coordination (e.g. in avoiding duplicating research or other work)
<i>Communication and consultations</i>	Inter-governmental organizations, non-governmental organizations, bilateral agencies, multilateral agencies. These could USAID, World Bank, International Finance Cooperation, African Development Bank	Stakeholders who will be the targets for knowledge dissemination activities.

Table 4: Main project stakeholders

RCs have considerable local experience, knowledge and skills that enhance their proficiency in providing technical assistance to the countries included in TNA Phase III. The RCs receive targeted capacity building support from UDP to provide them with the recent developments in TNA methodologies and enable RC staff to provide technical assistance to national TNA teams. Experiences from the implementation of TNA Phase I and II show that the capacity of regional

centres needs continuous strengthening. To reflect the geographic distribution and include knowledge on local conditions of countries participating in TNA Phase III, it has been decided to include new RCs in the Pacific and Caribbean regions. These new regional centres will require capacity building which will be conducted during an internal training of trainers workshop in the beginning of the project with a representative from each of the RCs.

A.4. Gender Equality and Women's Empowerment. Elaborate on how gender equality and women's empowerment issues are mainstreamed into the project implementation and monitoring, taking into account the differences, needs, roles and priorities of women and men.

TNAs and associated outputs such as prioritized technologies, and identification and analysis of barriers to their transfer and uptake 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, including women.

While the capacity building elements are very strong and focused on producing high quality TNAs involving all relevant stakeholders at national levels as well as provide the roadmap for technology adoption, implications on gender on one hand and civil society on the other will be seen when implementing the identified measures. Gender analysis on technology transfer will be integrated in TNA guidance tools and methodologies in the TNA Phase III project. Specifically, new guidance on how to integrate gender considerations in the TNA process and outputs will be included into the series of existing guidebooks. A budget of \$39,863 has been budgeted for this new guidance, \$14,000 from GEF funding (included in budget line 1201) and \$25,863 in kind co-financing from UDP (included in budget line 1103). In addition, gender considerations will be taken into account in the engagement of various stakeholders in the process, in the identification of key decision-makers, target users and national champions.

The gender action plan below details how gender equality and women empowerment will be mainstreamed in the TNA Project.

Task	Gender Design Features/activities
Cross-cutting approaches	<ul style="list-style-type: none"> • Equal training opportunities will be available for men and women • Team member employment on the project will comply with equal opportunity policies for both genders
Output 1	<ul style="list-style-type: none"> • A specific deliverable of the project will be the guidance on gender aspects in the TNA process – to guide and assist the country teams and ensure gender is mainstreamed in country activities • All training materials, methodology, and dissemination will be gender sensitive • At least 30% of women trainees/participants in project workshops Feedback questionnaires and their results will be disaggregated by gender
Output 2	<ul style="list-style-type: none"> • Both male and female consultants will be encouraged to apply as consultants in countries • National TNA Coordinators will be encourage to diversify their committee and working groups, where appropriate, so competent experts of both genders are involved

A.5 Risk. Elaborate on indicated risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, the proposed measures that address these risks at the time of project implementation.(table format acceptable):

A key threat to the project is the fact that many developing country governments do not perceive climate change actions as a priority issue to channel their domestic and development finance which can significantly affect the stakeholder commitment to the TNA process. The weak commitment to climate change issues may result in countries not allocating adequate resources and commitment to secure the widest possible stakeholder engagement necessary for producing a good TNA and also for achieving consensus on a national technology action plan. There is therefore a risk that National partners may revert to the easier but less useful approach followed by many countries in conducting initial TNAs, which in many cases resulted in a list of technology needs without much analysis of what was needed to realize those technologies. Almost all participating countries being LDCs and SIDS, the impact of the risk and the likelihood of occurrence are medium to high.

To reduce this risk, the project partners will within 12 months of commencement of project activities, seek the strong commitment and involvement of national authorities, not only those in charge of climate change issues but also those in charge of planning, international cooperation and finance. As already indicated, recent developments from the climate convention including the Paris agreement and its NDCs, the GCF and the CTCN may lead to stronger commitment from countries to Climate Change related technology issues and therefore to the TNA/TAP process. In view of the role of NDEs, UN Environment and UDP will strongly advocate for NDEs (or a representative from their NDEs) to take part in the TNA/TAP process, and encourage the nominations of NDEs as National TNA Coordinators.

Overall, efforts will be made by national teams to foster a closer working relationship with the teams in charge of the NDC process, National communications preparations, NAPs and other relevant institutions and stakeholders such as Ministries of Finance and Planning, business associations, financial institutions, academia/research institutions and donors/development partners. Also, more efforts will be made to involve decision makers, donors/development partners, financial institutions and business representatives. The project will develop tailored approaches to fit with national conditions and support sustainable development priorities. The closer supervision and greater provision of guidance and technical support through various means will reduce the risk that country teams take an easier but less efficient path.

There is a risk that donors do not consider country concepts and ideas emerging from TAPs. This risk is closely linked to the country’s ability and capacity to (i) officially endorse their TAP or ultimately mainstream their TAP into their National Development Plans and (ii) translate the TAPs into attractive project concepts that will form the basis of project proposals.

To reduce risk of failure to attract donor funding, the project will support country-led consultations with potential donors, with a view to establishing a clear understanding of donor funding policies, as well as securing technical support from donors in the formulation of project ideas from the TAPs. Moreover, since bilateral aid constitutes the majority of aid flows to developing countries, the project will develop tailored approaches to attract the interest and support from bilateral donors operating at country level – which will reinforce the country ownership approach of the TNA process. To this end, the project implementation plan in each country will include specific provisions for periodic donor consultations focused on TNA-TAP activities, status updates, and next steps closely linked to national donor coordination mechanisms existing or planned in the country. The project will also establish close links with donor-supported National Development Plans, technology road-mapping and other processes that influence (and are influenced by) the direction of donor support initiatives in the country.

The Table 5 below summarizes the risks and risk management measures.

	Risk Description	Category	Impact Severity	Likelihood	Risk Management Strategy & Safeguards	When / By Whom?
1	Lack of strong political commitment to the TNA process as most developing countries do not perceive	Political and government risk	High	Medium to High	Within 12 months of commencement of project activities, seek strong political commitment and involvement along the TNA/TAP process of national authorities in charge of climate change	Project Partners

	climate change as a national development priority issue; therefore, there is a risk of inadequate financial and human resource allocation, as well as a risk that less useful approaches are undertaken (includes risk that no good entry point is identified and TNA/TAP is implemented as a parallel process to national planning processes)				issues as well as those in charge of planning, international cooperation and finance. Involve closely the NDEs in the TNA/TAP process (in some cases as the National TNA Coordinators) and foster a closer working relationship with the teams in charge of National communications preparations, NAPAs and other relevant institutions/stakeholders Develop tailored approaches to fit with national conditions and that support national sustainable development priorities by identifying entry points for TNA/TAP results to feed in (in collaboration with donors and government) Closer supervision and greater provision of guidance and technical support through various means to reduce the risk that country teams take an easier but less useful path	National Teams
2	Risk that donors do not consider country proposals emerging from TAPs	Institutional, governmental and organisational risk	High	Medium	Support country-led consultations with potential donors (e.g. by using national donor coordination mechanisms), with a view to establish a clear understanding of donor funding policies, as well as securing technical support from donors in the formulation of project proposals from the TAPs. Develop tailored approaches to attract the interest and support from bilateral donors operating at country level. The project implementation plan in each country will include specific provisions for periodic donor consultations focused on TNA-TAP activities, status updates, and next steps closely linked to national donor coordination mechanisms existing or planned in the country. Advocate for the integration of TAPs into National Development Plans, Establishment of close links with donor-supported technology road-mapping and other processes that influence (and are influenced by) the direction of donor support initiatives in the country.	Project Partners National Teams

Table 5: Risks and risk management measures

A.6. Institutional Arrangement and Coordination. Describe the institutional arrangement for project implementation. Elaborate on the planned coordination with other relevant GEF-financed projects and other initiatives.

Institutional arrangements for project implementation

Paragraphs below provide a summary of the project implementation arrangements for more detailed information on these refer to Annex H.

UDP is the executing agency for the project at the global level and its main task is to provide guidance to countries (i) on setting up national project implementation structures using the existing model from TNA I and II, and (ii) on conducting the TNA process. In this task, UDP will work with some selected regional institutions labelled as Regional Centres.

To achieve the outputs and outcomes of the TNA process at national levels, national TNA teams must be formed (see figure below). The national TNA team will, under the leadership of a National TNA Coordinator, conduct the TNA

process. The National TNA Team is an umbrella that refers to the TNA Committee, the sectoral working group and the national consultants.

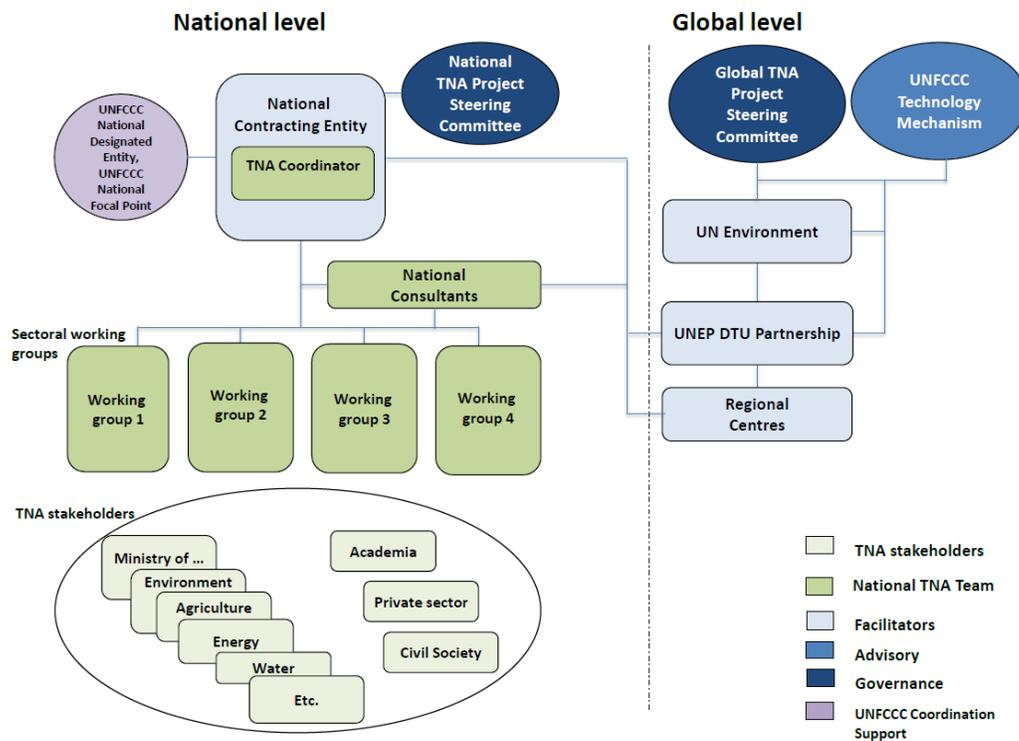


Figure 2: Institutional structure for TNA implementation

This institutional structure in the participating countries will enable the engagement of key sectoral actors, including experts and decision makers, in the TNA process, and facilitate their use of its results. Key actors include representatives from key ministries, e.g. ministries of finance, trade, industry, transport, forestry, energy, water, health, and agriculture. The TNA process will be conducted through a stakeholder driven approach lead by the national TNA team, composed by the National TNA Coordinator, the TNA consultants and the sector working groups.

The national consultants are selected by the National Contracting Entity, with approval by the National TNA Project Steering Committee, and with support, guidance and approval from UDP as well. The consultants will work in close collaboration with the National TNA Coordinator and the sectoral working groups. The consultants are reporting directly to the National TNA Coordinator. The consultants’ overall task is to support the entire TNA process from identification and prioritization of sectors and technologies throughout the preparation of TAPs and project ideas. The consultants are essential to the implementation of the TNA project at national level and preparing its deliverables. Together with the National TNA Coordinator, the consultants participate in the national and regional capacity building workshops, and with the skills gained during this training, they facilitate the work in the sectoral working groups and produces the TNA deliverables under the auspices of the National TNA Coordinator.

The Global TNA Project Steering Committee will be composed by a representative from the GEF but also from other organizations and institutions, e.g. the World Bank, the Green Climate Fund, the UNFCCC Secretariat, the UNFCCC Technology Executive Committee, the Climate Technology Centre and Network, IRENA, etc.

A full description of the TNA institutional set up is described in the TNA guide note on ‘Organising the National Technology Needs Assessment (TNA) Process’¹².

UN Environment’s Energy and Climate Branch, Economy Division, will provide in-kind backstopping services to UDP through strategic, technical and methodological support for project implementation; it will support the dissemination of results and engagement of donors/development partners to foster TAP implementation; and facilitate synergies and links

¹² Available at http://www.tech-action.org/-/media/Sites/TNA_project/Appendix-II-TNA-Explanatory-note-2015-Jan.ashx?la=da

between the project and UN Environment's other climate change programmes and projects. Also, UN Environment's GEF Climate Mitigation Unit, as the GEF Implementing Agency, will be responsible for project supervision to ensure consistency with GEF and UN Environment policies and procedures.

Coordination with other relevant projects and initiatives

a) GEF projects and initiatives

The project will seek synergies with the GEF's Poznan Strategic Plan projects notably the Climate Technology Finance Centres projects led by the regional development banks (ADB, AfDB, EBRD, IDB), promoting the TNA results to facilitate support for TNA follow-up actions (i.e. implementation of TAP). Other projects under the GEF's Poznan Strategic Plan and the SE4All accelerators supported by GEF can offer countries some highly relevant technology specific experience, information and lessons.

The project will also seek synergies with the GEF funded Global Support Programme for Preparation of National Communications and Biennial Update Reports for non Annex I Parties. This programme will provide guidance to national governments on utilizing already existing, and new additional reporting guidelines/processes, building on-going national and/or international processes that advance the realization of the objectives of the Convention. The preparation and submission of national climate reports is the most important provisions of the Convention that makes climate relevant information available to the CoP of the UNFCCC. The biennial update reports (BURs) contain updates of national greenhouse gas inventories, including a national inventory report and information on mitigation actions, needs and support received. These are expected to be submitted every two years, either as a summary of parts of their national communication in the year when national communication is submitted or as a stand-alone update report.

The project will also benefit from synergies with the NDC implementation support provided by UN Environment and UDP through two projects: UNEP-GEF INDC Support project and Global Support Programme (GSP) for INDC preparation. The NDC implementation support aims to enhance understanding of NDC implementation and institutionalization, to provide guidance to prepare NDCs readiness implementation plans, and to institutionalize NDCs preparation and implementation;

b) Non GEF projects and initiatives

The TNA Phase III envisages exploring and creating synergies with the Initiative for Climate Action Transparency (ICAT) implemented by UDP, which aims to help governments build capacity to measure the effects of their policies and report progress publicly. ICAT is building a methodological framework for countries to use to transparently measure and assess the impacts of climate policies and actions. This includes guidance for measuring the effects of policies and actions on reducing greenhouse gas emissions, adapting to climate change, responding to sustainable development needs and driving transformational change. The project will also seek to link up, in countries where relevant, the TNA process with activities implemented under the Adaptation Mitigation Readiness (ADMIRE) Project implemented by UDP. The ADMIRE project aims to develop commercially viable operational and financial frameworks engaging the private sector in climate mitigation and/or adaptation actions.

Through its Steering Committee, project activities will be coordinated with the Climate Technology Initiative (CTI) Private Financing Advisory Network managed by UNIDO, the World Bank's Climate Innovation Centres. Close collaboration with UNDP, UNIDO, the World Bank, the International Renewable Energy Agency (IRENA), the European Commission, Multilateral Banks and other organizations supporting technology transfer efforts will be sought with the intention of contributing to the attainment of project goal as defined under the Bali Strategic Plan.

The TNA Phase III project will also continue its close collaboration with the Climate Technology Center and Network (CTCN), to increase opportunities related to technical assistance, knowledge sharing and networking activities. There is already a correlation between NDEs and TNA focal points of previous phases. Out of the 36 countries that participated in TNA phase I, 16 TNA focal points are now NDEs, and 15 other NDEs are part of the same organization. Out of 27 countries participating in TNA phase II, 8 TNA focal points are also NDEs, and 6 other NDEs are part of the same organization.

Finally, the TNA Phase III will work to demonstrate the benefits of TNA priority actions to achieve Sustainable Development Goals (SDGs) while achieving their national Climate Goals. This will support the “2030 Agenda”¹³ agreed upon by the United Nations in September 2015, which calls for the design of a new international cooperation policy based on the concept of “enhanced global partnership”. Technology, science and capacity building are major pillars of the Means of Implementation of the 2030 Agenda. In order to eradicate poverty and reorient current unsustainable development trajectories over the period 2015 to 2030, affordable technological solutions have to be developed and disseminated widely in the next fifteen years. Paragraph 70 of the 2030 Agenda for Sustainable Development announced the launch of a "Technology Facilitation Mechanism" (TFM) in order to support the implementation of the Sustainable Development Goals (SDGs).

A.7 Benefits. Describe the socioeconomic benefits to be delivered by the project at the national and local levels. How do these benefits translate in supporting the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCF/SCCF)?

Technology Needs Assessments and associated outputs such as prioritized technologies, and analyses 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. Direct benefits expected to be delivered by the project include: better in-country coordination amongst institutions related to technology transfer and adoption; increased awareness of opportunities and associated benefits of technology adoption by decision makers buttressed by increased local capacity to assess adequate, priority technologies according to country needs, identify barriers to their adoption and recommend action that are directly related to project activities. The TNA in this project aims to support participating countries to implement their commitments under the Paris agreement and the revision of their NDC. Hence, some of the indirect benefits expected from the project include establishment of stable policy environments featuring strong incentives for increased flows of domestic and foreign investments in prioritized adaptation and mitigation technologies.

A.8 Knowledge Management. Elaborate on the knowledge management approach for the project, including, if any, plans for the project to learn from other relevant projects and initiatives (e.g. participate in trainings, conferences, stakeholder exchanges, virtual networks, project twinning) and plans for the project to assess and document in a user-friendly form (e.g. lessons learned briefs, engaging websites, guidebooks based on experience) and share these experiences and expertise (e.g. participate in community of practices, organize seminars, trainings and conferences) with relevant stakeholders.

The experience, lessons learnt and best practices will be documented along project implementation notably with a view to better respond to the needs of financiers and decision makers and improve the TNA/TAP methodology. Interactions with donors and development assistance partners will facilitate feedback on the TNA process and related methodologies. The project team (comprising UN Environment, UDP and Regional Centre staff as well as internationally recruited consultants with experience from TNA I and II), together with national TNA teams will use any concerns/recommendations to design and implement improvements that will, in turn, lead to better quality TNAs, TAPs and specific project concepts for funding consideration.

The project will put a strong emphasis on the dissemination of the outputs produced at national, regional and international level. The efforts for national communication will be reinforced compared to previous phases of TNAs, to ensure that outputs will be reaching out and used by the target beneficiaries and users. The project will also enable stronger inter-country cooperation, beyond the current regional training support, as this could lead to better co-ordination of TNAs and requests for international support. The project will create links with successful TNAs to ensure

¹³ Transforming our World: The 2030 Agenda for Sustainable Development
<https://sustainabledevelopment.un.org/content/documents/7891Transforming%20Our%20World.pdf>

up-to-date information dissemination, such as lessons learned and knowledge exchange between country teams and experts (South-South cooperation).

The website Tech-Action hosted by UDP keeps track of TNA project activities and impacts and includes all materials needed to do a TNA and TAP (<http://www.tech-action.org/>). In addition, the UNFCCC has recently updated its website on technologies (TT:CLEAR), including information on TNAs where all TNA reports are also uploaded and information on TNAs is shared (<http://unfccc.int/ttclear/tna>). Both websites will serve for TNA Phase III also.

B. DESCRIPTION OF THE CONSISTENCY OF THE PROJECT WITH:

B.1 Consistency with National Priorities. Describe the consistency of the project with national strategies and plans or reports and assessments under relevant conventions such as NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.:

The national TNA teams will link the TAP technology priorities and actions to the relevant priorities from national plans and strategies of participating countries, the United Nations Development Assistance Framework (UNDAF), country partnership strategies of other development partners.

Efforts on technologies have been identified by most developing countries as one of the main conditions for the implementation of their respective Nationally Determined Contributions (NDCs). Of the 113 non-Annex I Parties that submitted INDCs (representing almost 75% of all NAI Parties) 94% mention technology. Overall, SIDS and LDCs raised technology issues more frequently than non-Annex I Parties. Nearly half of the LDCs have listed the identification of technology needs as an area of efforts. The preparation of the NDCs has in many countries incentivized exploration of linkages between development and climate, as well as development of new national climate policies, and can be seen as an important step in a transition towards low carbon economies and resilient countries.

Since COP20 in 2014 there has been much discussion about the Nationally Determined Contributions (NDCs), and how TNAs can and should relate to NDCs. In short, NDCs are (on the mitigation side) detailed post-2020 emissions reduction pledges, intended to feed into a new international climate change agreement mandated by the UNFCCC at COP21 in Paris, December 2015. As such, it makes sense for countries conducting a TNA to explicitly link this process to their NDC commitments, and to focus on the same priority sectors and use the quantified emissions reduction targets as an input into clarifying the decision context for the mitigation assessment (section 3.1.1.). The TNA Phase III project proposes to build on (i)NDCs developed by participating countries, to support their implementation, revisions, as well as supporting other ongoing planning processes, under or outside the framework of the UNFCCC. Therefore the work will be embedded in and tailored to country priorities.

Many countries are taking steps to follow a low carbon and climate resilient development path as reflected in their respective National Communications to the UNFCCC, National Climate Change Strategies and related action plans (Low Carbon Development Plans, NAPs, NAMAs, NAPAs), National Energy Plans and Strategies, National Investment Plans (NIPs), Medium-Term Expenditure Frameworks (MTEFs), Poverty Reduction Strategy Papers (PRSPs) or National Development Plans (NDPs) etc. At the national level, many countries have highlighted their need for assistance in determining both technology priorities and the measures needed to overcome barriers that prevent them from acquiring these technologies under market or near-to-market conditions. Annex P provides an overview of how countries have expressed their need for TNAs and linkages to other national processes, including (i)NDCs.

For adaptation, NAPAs provide a process for Least Developed Countries (LDCs) to identify priority activities that respond to their urgent and immediate needs to adapt to climate change - those for which further delay would increase vulnerability and/or costs at a later stage (UNFCCC, 2015). In addition, NAPs are used as a means of identifying medium- and long-term adaptation needs and developing and implementing strategies and programmes to address those needs. It therefore makes sense, for LDCs that are in the process or have already conducted or are being close to completing the NAPs and NAPAs, to use the TNA process as a means to address the issues identified in the NAP and/or NAPA. As such, the TNA/TAP process should result in a set of actionable conclusions that provide practical solutions to the climate risks and vulnerabilities detailed in the country's NAP and/or NAPA.

For NAMAs the situation is reversed: the mitigation project concepts detailed in the TAP report have the potential to be formally registered as NAMAs by participating countries, thus improving their chances of securing external financial support from various international climate funds, including the Green Climate Fund and the Climate Investment Funds as well as other multi-lateral funding agencies.

C. DESCRIBE THE BUDGETED M&E PLAN:

The project will follow UN Environment standard monitoring, reporting and evaluation processes and procedures. Substantive and financial project reporting requirements are summarized in Annex G. Reporting requirements and templates are an integral part of the UN Environment legal instrument to be signed by the executing agency and UN Environment.

The project M&E plan is consistent with the GEF Monitoring and Evaluation policy and UN Environment's Evaluation Policy and Programme Manual. The Project Logical Framework presented in Annex A-1 includes SMART indicators for each expected outcome and end-of-project targets. These indicators along with the key deliverables and benchmarks included in Annex I will be the main tools for assessing project implementation progress and whether project results are being achieved. The means of verification and the costs associated with obtaining the information to track the indicators are summarized in Annex G. Other M&E related costs are also presented in the Costed M&E Plan and are fully integrated in the overall project budget.

The M&E plan will be reviewed and revised as necessary following the project inception missions in the 23 new TNA countries to ensure project stakeholders understand their roles and responsibilities vis-à-vis project monitoring and evaluation. Indicators and their means of verification may also be fine-tuned following the project inception missions in the 23 countries. Day-to-day project monitoring is the responsibility of the project management team but other project partners will have responsibilities to collect specific information to track the indicators. It is the responsibility of the Project Manager to inform UN Environment and the Project Steering Committee (PSC) of any delays or difficulties faced during implementation so that the appropriate support or corrective measures can be adopted in a timely fashion. Like with the implementation of Phase I, the Project Manager and UN Environment will have regular consultations with the PSC. The PSC will receive periodic reports on progress and will be asked to make recommendations to UN Environment concerning the need to revise any aspects of the Results Framework or the M&E plan.

The Project Steering Committee will receive periodic reports on progress and will make recommendations to UN Environment concerning the need to revise any aspects of the Results Framework or the M&E plan. Project oversight to ensure that the project meets UN Environment and GEF policies and procedures is the responsibility to the Task Manager in UN Environment-GEF. The Task Manager will also review the quality of draft project outputs, provide feedback to the project partners, and establish peer review procedures to ensure adequate quality of scientific and technical outputs and publications.

Project supervision will take an adaptive management approach. The Task Manager will develop a project supervision plan at the inception of the project which will be communicated to the project partners during the inception workshop. The emphasis of the Task Manager supervision will be on outcome monitoring but without neglecting project financial management and implementation monitoring. Progress vis-à-vis delivering the agreed project global Environmental benefits will be assessed with the Project Steering Committee at agreed intervals. Project risks and assumptions will be regularly monitored both by project partners and UN Environment. Risk assessment and rating is an integral part of the Project Implementation Review (PIR). The quality of project monitoring and evaluation will also be reviewed and rated as part of the PIR. Key financial parameters will be monitored quarterly to ensure cost-effective use of financial resources.

Findings from the TNA Phase II Terminal Evaluation will be considered where relevant and feasible for TNA Phase III as soon as the results from the evaluation are available to the project team.

In-line with UN Environment Evaluation Policy and the GEF's Monitoring and Evaluation Policy the project will be subject to a Terminal Evaluation. Additionally, a Mid-Term Review will be launched by the Project Manager before the project reaches its mid-point. If project is rated as being at risk, a Mid-Term Evaluation will be conducted by the Evaluation Office instead of a MTR. The MTR and Terminal Evaluation will take into account the recommendations

and findings from the Terminal Evaluation of TNA Phase I and from the Terminal Evaluation of TNA Phase II. The Project Steering Committee will participate in the MTR and develop a management response to the evaluation recommendations along with an implementation plan. It is the responsibility of the UN Environment Task Manager to monitor whether the agreed recommendations are being implemented.

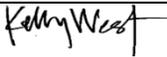
The Evaluation Office will be responsible for the Terminal Evaluation (TE) and will liaise with the Task Manager and Executing Agency(ies) throughout the process. The TE will provide an independent assessment of project performance (in terms of relevance, effectiveness and efficiency), and determine the likelihood of impact and sustainability. It will have two primary purposes: (i) to provide evidence of results to meet accountability requirements, and (ii) to promote learning, feedback, and knowledge sharing through results and lessons learned among UN Environment, the GEF, executing partners and other stakeholders. The direct costs of the evaluation will be charged against the project evaluation budget. The Terminal Evaluation will be initiated no earlier than six months prior to the operational completion of project activities and, if a follow-on phase of the project is envisaged, should be completed prior to completion of the project and the submission of the follow-on proposal. Terminal Evaluations must be initiated no later than six months after operational completion.

The draft Terminal Evaluation report will be sent by the Evaluation Office to project stakeholders for comments. Formal comments on the report will be shared by the Evaluation Office in an open and transparent manner. The project performance will be assessed against standard evaluation criteria using a six point rating scheme. The final determination of project ratings will be made by the Evaluation Office when the report is finalised and further reviewed by the GEF Independent Evaluation Office upon submission. The evaluation report will be publicly disclosed and may be followed by a recommendation compliance process.

PART III: CERTIFICATION BY GEF PARTNER AGENCY(IES)

GEF Agency(ies) certification

This request has been prepared in accordance with GEF policies¹⁴ and procedures and meets the GEF criteria for CEO endorsement under GEF-6.

Agency Coordinator, Agency Name	Signature	Date	Project Contact Person	Telephone	Email Address
Kelly West Senior Programme Manager & Global Environment Facility Coordinator Corporate Services Division UN Environment		December 20, 2017	Ruth Coutto, Task Manager Climate Mitigation Unit UN Environment	+33144371634	ruth.coutto@unep.org

¹⁴ GEF policies encompass all managed trust funds, namely: GEFTF, LDCF, SCCF and CBIT
GEF6 CEO Endorsement /Approval Template-August2016

ANNEX A: PROJECT RESULTS FRAMEWORK

Project Objective	Objective level Indicators	Baseline	Targets and Monitoring Milestones	Means of Verification	Assumptions & Risks	UNEP MTS reference
Provide targeted financial and technical support to prepare new Second Generation TNAs, including TAPs, for prioritized technologies that reduce greenhouse gas emissions, support adaptation to climate change, and are consistent with national sustainable development objectives	<p>Indicator 1: Number and status of TNAs and TAPs</p> <p>Indicator 2: Number of TAP follow-up project concepts with letters of intents from the Government and financiers</p>	<p>Baseline 1: 0 Second Generation TNAs or TAPs endorsed by governments</p> <p>Baseline 2: 0 technology project concepts available from TAPs</p>	<p>Target 1: 23 Second Generation TNAs and TAPs endorsed by governments (by end of project)</p> <p>Target 2: 23 project concepts prepared based on TAPs (by end of project)</p>	<p>Indicator 1: TNA reports, including TAPs</p> <p>Indicator 2: Letters of intent from government, donors and/or financiers to support implementation of project concepts based on TAPs</p> <p>Reporting and final evaluation requested by UNEP</p>	Competing national and political priorities	<p><i>UN Environment Medium Term Strategy 2018-2021</i></p> <p><i>Programme of Work 2018-2019 Climate Change Objective: Countries increasingly transition to low-emission economic development and enhance their adaptation and resilience to climate change</i></p>

Project Outcome	Outcome Indicators	Baseline	Targets and Monitoring Milestones	Means of Verification	Assumptions & Risks	MTS Expected Accomplishment
Outcome 1: TNA process conducted by national stakeholders, and TNA/TAP results are available to be integrated into national planning processes and to be funded and implemented by interested stakeholders.	<p>Indicator 1: Number of national institutional structures for TNA established, operational and strengthened to conduct the TNA-TAP process</p> <p>Indicator 2: Number of national TNA/TAP dissemination and donor engagement workshops with prepared advocacy materials for policy makers, donors and investors</p>	<p>Baseline 1: 0 national institutional structures for TNA</p> <p>Baseline 2: 0 national dissemination and donor engagement workshops with prepared advocacy materials</p>	<p>Target 1: 23 national institutional structures for TNA established, operational and strengthened to conduct the TNA-TAP process (by end of project)</p> <p>Target 2: 23 national dissemination and donor engagement workshops (by end of project)</p>	<p>Indicator 1: Nominations of national TNA coordinators, contracts of national experts, official government circulars establishing the national TNA committees, lists of members of TNA working groups 9 regional TNA/TAP capacity building workshop reports and feedback questionnaires and 46 national TNA/TAP capacity building workshop reports</p> <p>Indicator 2: 23 Reports from national TNA teams on national dissemination events (including lists of participants, letter of submission of projects from TNA/TAP to funders)</p>	<p>Assumptions:</p> <ul style="list-style-type: none"> - Adequate national support to the process - Interested and active stakeholders - Access to data and relevant information - Availability of finance <p>Risks:</p> <ul style="list-style-type: none"> - Inadequate human resources and partnerships - Inactive stakeholders in countries - Low data availability and access to data - Competing national priorities 	<p><i>Expected Accomplishment (b) Countries increasingly adopt and/or implement low greenhouse gas emission strategies and invest in clean technologies</i></p>

Project Outputs	PoW Output
<p>Output 1: Tools, methodologies and capacity building packages are further developed and applied to support the implementation of the TNA/TAP process</p> <ul style="list-style-type: none"> • Output 1.1: Capacity building workshops are conducted • Output 1.2: Guidebooks/methodologies are further developed • Output 1.3: Tools and guidebooks/methodologies are disseminated 	<p><i>Output 3: Technical support provided to countries to develop tools, plans and policies for low-emission development.</i></p>
<p>Output 2: TNA and TAP reports, including project ideas, with national consensus on concrete actions for implementation</p> <ul style="list-style-type: none"> • Output 2.1: TNA reports are developed/updated and approved • Output 2.2: Barrier Analysis & Enabling Framework reports are developed and approved • Output 2.3: TAP reports (including project ideas) are developed and approved • Output 2.4 Project concepts are developed and approved • Output 2.5: TNA results and communicated and disseminated at national level 	<p><i>Output 3: Technical support provided to countries to develop tools, plans and policies for low-emission development.</i></p>

ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF).

Response to GEF Sec Reviews (PIF stage)

The GEF Sec Review sheet from the PIF stage is attached in a separate file.

Responses to US Council comments

Council member comments	UN Environment response
<p>1) How does the funding level compare with those of previous years? If there are differences, are they on account of changes in demand or another factor?</p> <p>2) Benefits 5 and 6 go beyond climate. Is this consistent with previous TNA funded projects from the GEF? There are concerns that going beyond a climate focus will divert funds away from climate-related TNA (and related Technology Action Plan) development and implementation. How can these tools inform INDC development going forward?</p> <p>3) Is it possible to include Cameroon or Equatorial Guinea in this concept?</p>	<p>1) The funding was increased from 245k\$/country to 270k\$/country. Previous and current TNA countries have indicated that more capacity building and notably in-country capacity building would be very beneficial to the TNA process (also highlighted in the TNA Phase I evaluation) - therefore the TNA Phase III proposal has included national capacity building workshops on top of the regional networking workshops that were also seen as very beneficial for exchanging between countries conducting the TNA process. In addition, it should be noted that the countries for TNA Phase III are all LDCs and SIDS (also travel costs notably for the Pacific Islands will be very costly).</p> <p>2) The focus is climate change (not PoPs or capacities for MEAs which are just part of the template) and of course development i.e. the priority technologies and actions must be in line with national development plans (social and economic development goals), and climate change adaptation and mitigation priorities. As indicated in the prodoc: In the continuation of the previous phases, and in the view of the Paris Agreement, this third phase of TNAs will be further embedded into national planning processes. TNA outputs will support the implementation of INDCs to help countries reach their targets, and support the formulation of planning and reporting documents, including but not limited to the revised INDCs for 2020 (and possibly other planning processes mentioned in Paris agreement : low carbon development strategies and adaptation communications). With this we mean that the TNA and TAP will aim to help countries to identify technologies and actions responding their INDCs priorities.</p> <p>3) Both countries informally expressed interest to join and had been invited to join at PIF stage but did not submit any letter of endorsement. After US comments were received, both countries were contacted a second time - as soon as GEF had agreed to include additional countries after the PIF had been approved - but again they did not submit any endorsement letters and therefore could not be included. If one country drops out by any reason, we will consult with the GEF Sec and the countries to include one of the suggested countries.</p>

<p>4) How will the funding of the project flow in Haiti? Will any funds go directly to the interim government? Also, what level of interaction with the interim government will take place? Will the project simply entail the engagement of technical experts in the country vs. high-level government officials? Finally, will any formal commitments be needed in the near future while Haiti still has an interim government, and can the GEF provide any information on the project implementation timeline.</p>	<p>4) The funds to Haiti will flow through UNEP Post Conflict and Disasters Management Branch, who will support project execution. The formal adoption or approval of the TNA and TAP will take place only after the full and complete multi-stakeholder/participatory consultation process. This bottom-up process can be timed to complete after a permanent government is elected, if this happens in a reasonable time period.</p>
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Responses to Germany Council comments

Council member comments	UN Environment response
<p>Germany welcomes the proposal which aims at enhancing technology transfer in 20 countries through improved Technology Needs Assessments (TNA) and national Technology Action Plans (TAPs). Suggestions for improvements to be made during the drafting of the final project proposal: Germany recommends providing further clarification on the paragraph on partners supporting TNA (6.5): Does this also include the partners which have local projects in place but do not officially engage in TNA?</p>	<p>TNA is a country driven and participative process, some partners having local projects in place that do not officially engage in TNA (i.e. development partners active in the countries, donors, NGOs, universities/research centres...) are also consulted and engaged in workshops, committees and working groups. For example, in Mauritania (TNA Phase II), GiZ as the lead of the Environment donor coordination group and UNDP as the lead of the Climate Change donor coordination group are part of the national TNA Committee.</p>

ANNEX C: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS¹⁵

Not Applicable (no Project Preparation Grant was requested for this project).

¹⁵ If at CEO Endorsement, the PPG activities have not been completed and there is a balance of unspent fund, Agencies can continue to undertake the activities up to one year of project start. No later than one year from start of project implementation, Agencies should report this table to the GEF Secretariat on the completion of PPG activities and the amount spent for the activities. Agencies should also report closing of PPG to Trustee in its Quarterly Report.

ANNEX D: CALENDAR OF EXPECTED REFLOWS (if non-grant instrument is used)

Provide a calendar of expected reflows to the GEF/LDCF/SCCF/CBIT Trust Funds or to your Agency (and/or revolving fund that will be set up)

Not Applicable

ANNEX E: CONSULTANTS TO BE HIRED

Position Titles	\$/ Person Week*	Estimated Person Weeks**	Total costs	Tasks To Be Performed
For Technical Assistance				
<i>Local</i>				
Local consultants to be hired by the countries with funding provided under the agreements signed between UDP and beneficiary Governments. (budget line 2201)	1,250	1,690	2,112,500	Support to the identification and categorization of the country's priority sectors and identification and prioritization of climate technologies through a participatory process. Facilitate the analysis of implementation barriers and enabling framework and the identification of ways to address them. Facilitate the preparation of technology action plans and project concept notes. Ensure stakeholder engagement
<i>International</i>				
TNA Phase I/II peer expert – LAC (budget line 1203)	1,750	4.6	8,050	Participation and presentations in regional and global workshops, sharing experiences & good practices with country participants
TNA Phase I/II peer expert – Asia (budget line 1203)	1,750	4.6	8,050	Participation and presentations in regional and global workshops, sharing experiences & good practices with country participants
TNA Phase I/II peer expert – Francophone countries (budget line 1203)	1,750	4.6	8,050	Participation and presentations in regional and global workshops, sharing experiences & good practices with country participants
TNA Phase I/II peer expert – Anglophone Africa (budget line 1203)	1,750	4.6	8,050	Participation and presentations in regional and global workshops, sharing experiences & good practices with country participants
Gender expert (budget line 1201)	3,500	4	14,000	Preparation of guidance on gender considerations in the TNA process
Translator (budget line 1201)	3,500	8	28,000	Translation of guidance documents, newsletters, etc. to French
Layout and printing (budget line 1201)	3,200	2.5	8,000	
Website IT support (budget line 1202)	3,500	4	14,000	
Editing & proofreading (budget line 1202)	3,000	1	3,000	
Justification for travel, if any: For the TNA I/II representatives to be approachable and accessible to all the countries, their participation in regional and global events is key. This is more cost-effective & practical than travel to national events.				

ANNEX F-1: DETAILED GEF BUDGET

ANNEX F-1 - RECONCILIATION BETWEEN GEF ACTIVITY BASED BUDGET AND UNEP BUDGET LINE (GEF FUNDS ONLY US\$)										
Project title: Technology Needs Assessment Phase III										
Project number: 9452										
Project executing partner: UNEP DTU Partnership (UDP)										
Project implementation period:										
From: 2018										
To: 2020										
UNEP Budget Line		Expenditure by project Component				Expenditure by calendar Year				
		Component 1	Evaluations	PMC	Component 2	Total	Year 1	Year 2	Year 3	Total
10	PERSONNEL COMPONENT									
1100	Project personnel									
1101	Project management - staff			503,514		503,514	167,838	167,838	167,838	503,514
1102	Country support - staff	647,658				647,658	215,886	215,886	215,886	647,658
1103	Capacity building & methodology development - staff	407,274				407,274	187,132	125,100	95,042	407,274
1104	Dissemination - staff	93,114				93,114	14,325	19,169	59,620	93,114
1199	Sub-total	1,148,046	-	503,514	-	1,651,560	585,181	527,993	538,386	1,651,560
1200	Consultants									
1201	Tools and Methodology Development experts	50,000				50,000	10,000	40,000	-	50,000
1202	Communication and Outreach experts	17,000				17,000	2,615	3,500	10,885	17,000
1203	Capacity Building experts	32,200				32,200	14,795	9,891	7,514	32,200
1299	Sub-total	99,200	-	-	-	99,200	27,410	53,391	18,399	99,200
1600	Travel on official business									
1601	Travel Project management			20,000		20,000	5,500	5,500	9,000	20,000
1602	Travel Capacity Building	103,210				103,210	47,422	31,703	24,085	103,210
1603	Travel Dissemination	11,760				11,760	1,809	2,421	7,530	11,760
1699	Sub-total	114,970	-	20,000	-	134,970	54,731	39,624	40,615	134,970
1999	Component total	1,362,216	-	523,514	-	1,885,730	667,322	621,008	597,400	1,885,730
20	SUB-CONTRACT COMPONENT									
2200	Sub-contracts (MOUs/LOAs for supporting organizations)									
2201	Country sub-contracts	3,036,000				3,036,000	1,012,000	1,012,000	1,012,000	3,036,000
2202	Regional centres	582,590				582,590	267,685	178,951	135,954	582,590
2299	Sub-total	3,618,590	-	-	-	3,618,590	1,279,685	1,190,951	1,147,954	3,618,590
2999	Component total	3,618,590	-	-	-	3,618,590	1,279,685	1,190,951	1,147,954	3,618,590
30	TRAINING COMPONENT									
3200	Group training									
3201	National workshops (incl. inception & tech.support)	23,000				23,000	11,500	8,625	2,875	23,000
3202	Regional workshops	498,000				498,000	166,000	166,000	166,000	498,000
3299	Sub-total	521,000	-	-	-	521,000	177,500	174,625	168,875	521,000
3300	Meetings/Conferences									
3301	Global Knowledge sharing Workshop & kick-off	123,680				123,680	61,840	-	61,840	123,680
3302	Regional centres workshop	1,000				1,000	1,000	-	-	1,000
3399	Sub-total	124,680	-	-	-	124,680	62,840	-	61,840	124,680
3999	Component total	645,680	-	-	-	645,680	240,340	174,625	230,715	645,680
50	MISCELLANEOUS COMPONENT									
5500	Evaluation									
5501	Evaluation costs		60,000			60,000	-	10,000	50,000	60,000
5599	Sub-total	-	60,000	-	-	60,000	-	10,000	50,000	60,000
5999	Component total	-	60,000	-	-	60,000	-	10,000	50,000	60,000
99	GRAND TOTAL	5,626,486	60,000	523,514	-	6,210,000	2,187,347	1,996,584	2,026,069	6,210,000

ANNEX F-2: DETAILED CO-FINANCE BUDGET

ANNEX F-2 - RECONCILIATION BETWEEN GEF BUDGET AND CO-FINANCE BUDGET (TOTAL GEF & CO-FINANCE US\$)													
Project title: Technology Needs Assessment Phase III													
Project number: 9452													
Project executing partner: UNEP DTU Partnership (UDP)													
Project implementation period:													
From:		2018											
To:		2020											
#	Title	GEF grant	Co-finance per Component		Co-finance per calendar Year			Co-finance contributions by partner				Total project co-finance	Total project budget
			PMC	Component 1	Year 1	Year 2	Year 3	UDP (in kind)	UNEP (in kind)	Governments (in-kind)	CTCN (in-kind)		
10	PERSONNEL COMPONENT												
1100	Project personnel												
1101	Project management - staff	503,514	59,819		21,785	18,785	19,248	44,356	15,463	-	-	59,819	563,333
1102	Country support - staff	647,658		111,074	10,000	50,537	50,537	81,074	30,000	-	-	111,074	758,732
1103	Capacity building & methodology development - staff	407,274		99,570	27,156	59,135	13,278	99,570	-	-	-	99,570	506,844
1104	Dissemination - staff	93,114		-	-	-	-	-	-	-	-	-	93,114
1199	Sub-total	1,651,560	59,819	210,644	58,941	128,458	83,063	225,000	45,463	-	-	270,463	1,922,023
1200	Consultants												
1201	Tools and Methodology Development experts	50,000		-	-	-	-	-	-	-	-	-	50,000
1202	Communication and outreach experts	17,000		-	-	-	-	-	-	-	-	-	17,000
1203	Capacity Building experts	32,200		-	-	-	-	-	-	-	-	-	32,200
1299	Sub-total	99,200	-	-	-	-	-	-	-	-	-	-	99,200
1600	Travel on official business												
1601	Travel Project management	20,000		-	-	-	-	-	-	-	-	-	20,000
1602	Travel Capacity Building	103,210		-	-	-	-	-	-	-	-	-	103,210
1603	Travel Dissemination	11,760		-	-	-	-	-	-	-	-	-	11,760
1699	Sub-total	134,970	-	-	-	-	-	-	-	-	-	-	134,970
1999	Component total	1,885,730	59,819	210,644	58,941	128,458	83,063	225,000	45,463	-	-	270,463	2,156,193
2200	Sub-contracts (MOUs/LOAs for supporting organizations)												
2201	Country sub-contracts	3,036,000		2,415,000	350,000	350,000	1,715,000	-	-	575,000	1,840,000	2,415,000	5,451,000
2202	Regional centres	582,590		-	-	-	-	-	-	-	-	-	582,590
2299	Sub-total	3,618,590	-	2,415,000	350,000	350,000	1,715,000	-	-	575,000	1,840,000	2,415,000	6,033,590
2999	Component total	3,618,590	-	2,415,000	350,000	350,000	1,715,000	-	-	575,000	1,840,000	2,415,000	6,033,590
30	TRAINING COMPONENT												
3200	Group training												
3201	National workshops (incl. inception & tech support)	23,000		-	-	-	-	-	-	-	-	-	23,000
3202	Regional workshops	498,000		23,000	8,500	8,500	6,000	-	18,000	-	5,000	23,000	521,000
3299	Sub-total	521,000	-	23,000	8,500	8,500	6,000	-	18,000	-	5,000	23,000	544,000
3300	Meetings/Conferences												
3301	Global Knowledge sharing Workshop & kick-off	123,680		30,537	8,500	9,500	12,537	-	5,537	-	25,000	30,537	154,217
3302	Regional centres workshop	1,000		1,000	1,000	-	-	-	1,000	-	-	1,000	2,000
3399	Sub-total	124,680	-	31,537	9,500	9,500	12,537	-	6,537	-	25,000	31,537	156,217
3999	Component total	645,680	-	54,537	18,000	18,000	18,537	-	24,537	-	30,000	54,537	700,217
50	MISCELLANEOUS COMPONENT												
5500	Evaluation												
5501	Evaluation costs	60,000	5,000	-	-	3,000	2,000	-	5,000	-	-	5,000	65,000
5599	Sub-total	60,000	5,000	-	-	3,000	2,000	-	5,000	-	-	5,000	65,000
5999	Component total	60,000	5,000	-	-	3,000	2,000	-	5,000	-	-	5,000	65,000
99	GRAND TOTAL	6,210,000	64,819	2,680,181	426,941	499,458	1,818,600	225,000	75,000	575,000	1,870,000	2,745,000	8,955,000

ANNEX G: MONITORING AND EVALUATION BUDGET AND WORKPLAN

M&E Activity	Description	Responsible Parties	Timeframe	Indicative budget (USD)
Global Project Steering Committee Meeting reports	Reports from the project Steering Committee Meetings describing main discussions, recommendations and action points	Execution: UDP Support: UN Environment	Once a year	GEF: 0 Co-fin: 900
Half-yearly progress report	Part of UNEP procedures for project monitoring. - Analyzes project performance over the reporting period UNEP; - Describes constraints experienced in the progress towards results and the reasons. - Describes Work Plan for the next period in an Annex and the detailed budget divided per output and inputs (budget lines)	Execution: UDP Support: UN Environment	Two (2) half-yearly progress reports for any given year (July 31 and January 31)	GEF: 0 Co-fin: 3,000
Quarterly expenditure reports	Detailed expenditure reports (in Excel), with justification of any change	Execution: UDP Support: UN Environment	Four (4) quarterly expenditure reports for any given year (January 31, April 30, July 31 and October 31) Final financial Report within 60 days of project completion	GEF: 0 Co-fin: 6,000
Project Implementation Review (PIR)	Analyzes project performance over the reporting period UNEP. Describes constraints experienced in the progress towards results and the reasons. Draws lessons and makes clear recommendations for future orientation in addressing the key problems in the lack of progress. The PIR is discussed at PSC meetings.	Execution: UDP, UN Environment Support:	Yearly, by 31 July latest	GEF: 0 Co-fin: 9,000
Co-financing Report	Report on co-financing (cash and/or in-kind) fulfilled contributions from all project partners that provided co-finance letters.	Execution: UDP Support: UN Environment	Yearly, by 31 July latest	GEF: 0 Co-fin: 300

M&E Activity	Description	Responsible Parties	Timeframe	Indicative budget (USD)
Final Report	The project team will draft and submit a Project Final Report, with other docs (such as last PIR), at least two weeks before the PSC meeting for their review and comments; this meeting decides whether any action is needed to achieve the sustainability of project results; and draws lessons to be captured into other projects; Comprehensive report summarizing all activities, achievements, lessons learned, objectives met or not achieved structures and systems implemented, etc. Lays out recommendations for any further steps that may need to be taken to ensure the sustainability and replication of project activities.	Execution: UDP Support: UN Environment	Final report no later than three (3) months after the technical completion date	GEF: 0 Co-fin: 10,000
Mid-Term Review	A Mid-Term Review will be initiated by the Project Manager before the project reaches its mid-point. If project is rated as being at risk, a Mid-Term Evaluation will be conducted by the Evaluation Office instead of a MTR.	Execution: UDP Support: UN Environment	To be initiated latest 18 months after the start of the project (mid-point)	GEF: 10,000 Co-fin: 5,000
Terminal Evaluation	Further review the topics covered in the mid-term evaluation. Looks at the impacts and sustainability of the results, including the contribution to capacity development and the achievement of global environmental goals.	Execution: Evaluation Office/ Independent evaluator Support: UDP, UN Environment	Can be initiated within six (6) months prior to the project's technical completion date	GEF: \$50,000 Co-fin: 0
Audits	Financial audits (An external Audits by DANIDA is conducted each year on the UDP projects and activities)	Execution: Independent auditor Support: UDP	Annually	GEF: 0 Co-fin: 5,000
TOTAL M&E COST			GEF: US\$ 60,000	Co-fin: US\$ 39,200 (in-kind)

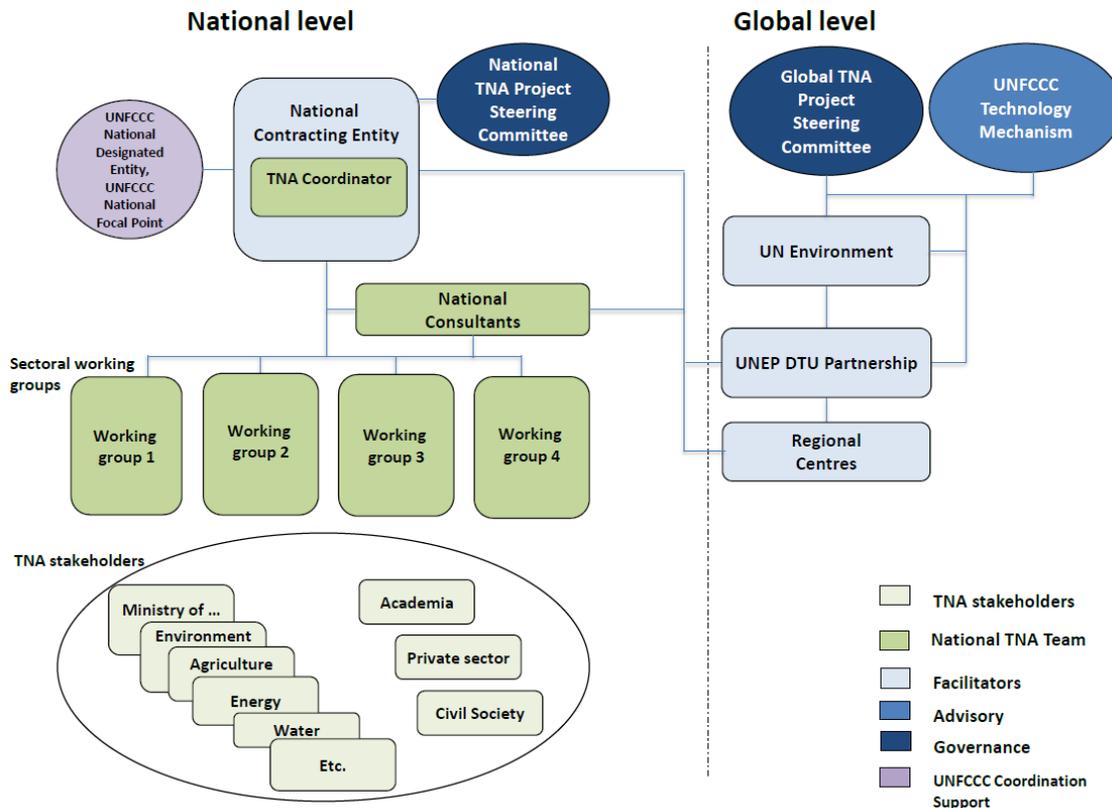
ANNEX H: PROJECT IMPLEMENTATION ARRANGEMENTS

The project will be implemented in 23 new countries that have submitted their letters of endorsements for this project. To ensure that activities at the country level respond to the priorities identified in the relevant United Nations Development Assistance Framework and national strategies, participating countries, with the support of a national TNA project team, will prepare a costed national work plan based on a simplified format, but will include timelines, benchmarks, and indicators to show how each output supports the overall TNA process at the national level. During the start-up of project activities in each country, inception missions will be undertaken to each of the countries involved, to assess the level of political and administrative effort needed to establish favorable institutional conditions for subsequent project activities.

UN Environment Economy Division will be the Implementing Agency for this project and the UDP, a separate legal entity, will be the Executing Agency for this project.

Drawing on its experience in supporting the National Communications and the Global TNA Project, UDP will take the lead in identifying and securing the support of key stakeholders in each country, including the structuring of legal agreements with appropriate government institutions (Memorandum of Understanding), in close consultation with UN Environment Economy Division. Once the necessary agreements are in place, UDP will provide guidance to countries on setting up the national project management implementation structures (using a model developed under the previous TNA project Phase I and II).

The institutional structure proposed for carrying a successful TNA is shown in the figure below. The National TNA Team will include a National TNA Coordinator, the National Consultants, and Working Groups. Roles for each of them are clearly defined. Once the national team has been established, national capacity will be strengthened through national and regional capacity building workshops. National consultants will receive training on methodologies and tools for conducting the TNA. The in-country institutional elements and their exact nomenclature would depend on countries. For example, a country may decide to call the project steering committee a “National Advisory Committee”. However each element of the in-country institutional structure is designed to play an important role.



The TNA process will be conducted through a stakeholder driven approach lead by the national TNA Coordinator in collaboration with selected national experts (National consultants). A wide range of stakeholders should be consulted, including the involvement of working groups. The TNA team can come out with policy recommendations but if those are to be implemented, they need to be vetted by policy makers, who constitute the National Steering Committee. A more detailed description of the various national bodies and their corresponding role is described below.

In-country

1. National Steering Committee

National Steering Committee is envisaged as the top most decision making body of the project. The National Steering Committee should be comprised of members responsible for policy making from all relevant ministries as well as key stakeholders from the private sector. The National Steering Committee provides political acceptance to the TNA process within a country and will be responsible for political endorsement of the Technology Action Plan

2. National TNA Team

The National TNA Team will be the main decision making body for the project with the National TNA Coordinator acting as a focal point. The National TNA Team includes the National TNA Coordinator, the National Consultants, and the Working Groups. The National TNA coordinator will play a key role and coordinate amongst the different groups to ensure that they work together as a team.

3. National TNA Coordinator

The appointment of the National TNA Coordinator is the responsibility of the Signing entity (responsible ministry). The National TNA Coordinator will be the focal point for the effort and manager of the overall TNA process. In view of the role of NDEs, UN Environment and UDP will strongly advocate to have countries select their NDEs (or a representative from their NDEs) as their National TNA Coordinators. This will involve providing vision and leadership for the overall effort, facilitating the tasks of communication with the National TNA Committee members, National Consultants and stakeholder groups, formation of networks, information acquisition, and coordination and communication of all work products. The leadership of the National TNA coordinator is critical for the success of the TNA in each country. It is therefore recommended that the skill set of the TNA Coordinator includes facilitation skills, project management, and some scientific or engineering background, as these are likely to be advantageous in terms of familiarity with technology specifications and performance requirements.

4. National Consultants/Experts

The national consultants are national experts, selected by the National signing entity with support and guidance the TNA Steering Committee and from UDP. They will work in close collaboration with the various working groups, and would be directly responsible to the National TNA Coordinator. The national consultants' overall task is to support the entire TNA process. The national consultants will be an important component of the global TNA project and participate in capacity building workshops to be organized by UDP at regional level together with the RCs. They will be responsible for providing process-related and technical advisory services needed for conducting TNAs and developing Technology Action Plans (TAPs) at the country level. The role of the national consultants will thus be to lead and undertake activities such as research, analysis and synthesis in support of the TNA exercise. The national consultants will assist the TNA coordinator in applying a participatory approach to the TNA process by facilitating the tasks of communication within the national TNA team, outreach to stakeholders, formation of networks, and coordination and communication of work products. The national consultant is expected to:

- Provide support to the identification and categorization of the country's priority sectors, and identification and prioritization of technologies for mitigation through a participatory process with a broad involvement of relevant stakeholders;

- Facilitate the process of analyzing with the working groups how the prioritized technologies can be implemented in the country and how implementation circumstances could be improved by addressing the barriers and developing an enabling framework;
- Elaborate on the essential elements of an enabling framework for technology transfer consisting of market development measures, institutional, regulatory and financial measures, and human and institutional capacity development requirements. This includes a detailed plan of actions in order to implement the proposed policy measures and estimate the need for external assistance to cover additional implementation costs.
- Prepare the TNA and TAP reports and the final report for the country.

5. Sectoral working groups

The Stakeholders are central to the TNA process. A network of stakeholders needs to be established to carry forward an implementation plan after completion of the TNA. Therefore, to give an active role to the stakeholders in the TNA process, constitution of working groups composed of these stakeholders is necessary. The working groups are in most cases established as sectoral groups, but could also be created based on technology types.

The working groups should include stakeholders from government departments with responsibility for policy formulation and regulation, private and public sector industries, electric utilities and regulators, technology suppliers, finance, technology end users (e.g., households, small business, farmers, technology experts (e.g., from universities, consultants, etc.) and others (international organizations, donors).

6. UNFCCC Coordination support

The national entry point for a TNA is the UNFCCC focal point office. As for TNA Phase II, TNA Phase III countries will be encouraged to nominate their TNA coordinators from the same office as the main focal points in the countries for the Technology Mechanism of the UNFCCC: the National Designated Entities (NDEs) of the CTCN. In cases where NDEs are not TNA Coordinators, they should have continuous collaboration with the TNA Coordinator and take actively part in the TNA process through participation in meetings etc. The direct ownership of the TNA by NDEs will ensure the generation of CTCN technical assistance requests that support the implementation of priority actions and project ideas identified in TNA/TAP.

Regional

7. Regional Centres (RCs)

In the previous TNA phase I and II, the project engaged one to two RCs in each of the regions (Africa and the middle East, and Asia and CIS, Latin American and Caribbean), to create a greater awareness about technology needs of the countries at regional level, and to enhance capacities within the region. Based on the group of countries to be part of TNA Phase III, and the increased number of SIDS it has been decided to include new RCs for the Latin America and the Caribbean and for the Asia Pacific. The new RCs will be based in the Caribbean and the Pacific Islands, respectively. In addition, individual consultants will be hired to support Afghanistan, Ukraine and Myanmar, so all countries receive support from a consultant which is knowledgeable about local context.

Like in TNA I and II, the RCs and consultants will, in cooperation with the staff at UDP, play a substantial role in providing technical support to the national TNA teams. The main responsibilities of the RCs and consultants will be the following:

- Partner UDP in the organization and facilitation of regional training workshops where participants from countries will be imparted training on methodology for conducting the TNA.
- Provide technical and process support to the countries within the region during the whole project implementation. For this, the RCs will undertake supporting missions to countries depending on the needs expressed by the countries.

- Provide countries with advice/guidance (help desk) requested by the countries after country missions, workshops and throughout project implementation.
- Provide technology descriptions for technologies not found on the Climate Techwiki3 based on requests made by the countries.
- Partner UDP in the organization and facilitation of regional experience sharing workshops for countries.
- Partner UDP in the organization and facilitation of regional experience sharing workshops for countries.
- Review and comment technology needs assessment (TNA) and technology action plan (TAP) reports from countries to help improve quality of outputs and compile a synthesis report.

Global

8. Project Steering Committee (PSC)

The PSC plays a central role in the implementation of the project. During TNA Phase I and Phase II, the PSC provided strategic guidance and advice on various issues requesting corrective measures or interaction with participating countries along project implementation. The PSC will receive periodic reports on progress and will be asked to make recommendations to UN Environment concerning the need to revise any aspects of the Results Framework or the M&E plan.

The PSC provides guidance and advice to the project by:

- Participating in annual PSC meetings and provide strategic guidance and advice based on the project update (during Phase I, these meetings have been organized in conjunction with TNA side events at COPs);
- Contacting national TNA coordinators or signing ministries in case of delays in initiating activities or failure to deliver expected outputs in time (this has proven to be useful for some countries during Phase I);
- Maintaining regular communication with representatives of National Steering Committees (NSC). To facilitate this, UDP and UN Environment will present the constituted PSC to the NSC of each of the participating countries during inception missions;
- Providing feedback regarding selection of national coordinators. Experience from Phase I shows some of the delays in delivering outputs from participating countries or the non-completion of the TNA work could have been prevented if the PSC had been consulted on the selection of national TNA coordinators beforehand;
- Providing suggestions regarding external participation/collaboration in regional training workshops and global experience sharing workshop;
- Helping in the identification of relevant representatives from the international, regional and local funding community so those can be involved from project implementation's start.

9. UDP (Executing Agency)

UDP (the UNEP-DTU Partnership) is the **Executing Agency** for the project at global level and is responsible for day-to-day management and execution of the project, including financial management and project reporting. The main roles of the Executing Agency are the following:

- Ensure technical execution according to the execution plan laid out in the project document;
- Ensure technical quality of products, outputs and deliverables;
- Ensure compilation and submission of progress, financial and audit reporting to IA;
- Submission of budget revisions to IA for approval;
- Addressing and rectifying any issues or inconsistencies raised by the IA;

- Bringing issues raised by or associated with clients to the IA for resolution;
- Facilitating Steering Committees and other oversight bodies of the project;
- Day to day oversight of project execution;
- Submit all technical reports and completion reports to IA (realized outputs, inventories, verification of co-finance, terminal reporting, etc.)

UDP will also provide support to the countries in the TNA exercises. UDP, through a team working under the supervision of the TNA Project Manager, facilitates the TNA/TAP process by:

- Providing guidance and assistance to the countries to set-up the institutional structures required for conducting the TNA/TAP process.
- Providing methodological inputs.
- Providing support to the countries for data related to technologies on mitigation and adaptation. This support would be rendered by developing/improving existing guidebooks and through the on-demand help desk facility available with the RCs.
- Providing training in methodological tools and databases which will be provided in regional capacity building workshops.

The TNA Project Manager at UDP will be responsible for:

- Overall project coordination and managing the TNA team in UDP (in line with the tasks for UDP listed above).
- Following up, and communicating with national TNA country coordinators and other local stakeholders such as national consultants, representatives from signing ministries and the local funding community.
- Reporting on project activities to UN Environment and the PSC (this includes financial reporting and preparing the annual Project Implementation Review (PIR) report for GEF in collaboration with the UN Environment Task Manager).

In addition, UDP will, in consultation with national executing agencies evaluate training needs for national TNA team members aimed at enhancing the quality of TNA/TAP reporting (i.e. knowledge, skill and behavioral gaps) and feed these into the development of a comprehensive capacity building strategy in the context of the overall project implementation plan. Based on country needs, suitable support will be provided by collaborating RCs implying that a national team will be able to access services from more than just one regional center during the project life span. UDP will also assist countries (i) evaluate their TNA/TAP capacity needs/constraints, (ii) identify, if needed, additional regional training centers to train national teams (iii) provide an oversight role to regional centers supporting all participating countries (QA/QC), as well as provide targeted technical assistance to Regional Centers to help address adaptation and/or mitigation areas capacity constraints.

Countries will receive grant financing for in-country activities and participation in regional and global capacity building events, while qualified RCs will be used to provide as much of the technical guidance and support, as their capacities allow, based on a participatory evaluation of their capacities by UDP. The project will network and promote exchange of experience and information between countries. This will not only aid in the preparation of TNAs but will also establish the basis for cooperative arrangements for eventual implementation of measures identified in TNAs. A steering committee will be established to provide strategic guidance to the programme on technology transfer. This will be further elaborated during the project preparatory phase.

10. UN Environment (Implementing Agency)

The project **Implementing Agency (IA)** is the UN Environment Climate Mitigation Unit. It is responsible to the GEF for the project's oversight, the use of resources as written in the Project Document, or any amendments agreed to it by all donors. The main roles of the Implementing Agency are described hereafter:

- Ensure timely disbursement/sub-allotment to the Executing Agency, based on agreed legal document and in accordance with UN Environment and GEF fiduciary standards;
- Follow-up with Executing Agency (EA) for progress, equipment, financial and audit reports;
- Provide consistent and regular oversight on project execution and conduct project supervisory missions as per Supervision Plans and in doing so ensures that all UN Environment and GEF criteria, rules and regulations are adhered to by project partners;
- Technically assess and oversee quality of project outputs, products and deliverables – including formal publications;
- Provide no-objection to main TORs and subcontracts issued by the project, including selection of project managers or equivalent;
- Attend and facilitate inception workshops, field visits where relevant, and selected steering committee meetings;
- Assess project risks, and monitor and enforce a risk management plan;
- Regularly monitors project progress and performance and rates progress towards meeting project objectives, project execution progress, quality of project monitoring and evaluation, and risk;
- Monitor reporting by project executing partners and provides prompt feedback on the contents of the report;
- Promptly informs management of any significant risks or project problems and takes action and follows up on decisions made;
- Apply adaptive management principles to the supervision of the project;
- Review of reporting, checking for consistency between execution activities and expenditures, ensuring that it respects GEF rules;
- Clearance of cash requests, and authorization of disbursements once reporting found to be complete;
- Approve budget revision, certify fund availability and transfer funds;
- Ensure that GEF and UN Environment quality standards are applied consistently to all projects, including branding and safeguards;
- Certify project operational completion;
- Link the project partners to any events organised by GEF and UN Environment to disseminate information on project results and lessons;
- Manage relations with GEF.
- Review and finalize PIR;
- Develop portfolio level consolidated report and submit to GEF (and contribute to all GEF-level report);
- The UN Environment Evaluation Office ensures that independent evaluations are carried out according to GEF and UN Environment requirements (dedicated budget, TOR, mission planning), and review evaluation reports;
- Work with EA to develop management response to evaluation reports and Steering Committee recommendations;
- Manage relations with the GEF Evaluation Office and GEF Secretariat on all M&E products;
- Ensure OFPs obtain all M&E products and respond to information requests.
- Lead project closure process using information provided by EA;
- Inform Trustee and GEF Sec of closure;

- Return any unspent GEF funds to Trustee;
- Conduct post-facto evaluations or lessons learnt exercises.

11. UNFCCC Technology Mechanism

Under TNA Phase II, UN Environment and UDP collaborate closely with the UNFCCC Secretariat's technology team and the CTCN team, and are members of the TEC's TNA Taskforce. These linkages and cooperation will continue under the TNA Phase III project to increase opportunities related to technical assistance, knowledge sharing and networking activities.

The two bodies of the UNFCCC Technology Mechanism, the TEC and the CTCN, will serve as an advisory role of the TNA Phase III project, since both are members of the TNA Project Steering Committee. Also, the TNA Phase III project will continue working closely with the CTCN in order for countries to receive support for taking their TNA/TAP results forward.

ANNEX J: TRACKING TOOL FOR GEF-6 CCM PROJECTS

The GEF Tracking Tool is attached in a separate excel file.

ANNEX K: OFP ENDORSEMENT LETTERS

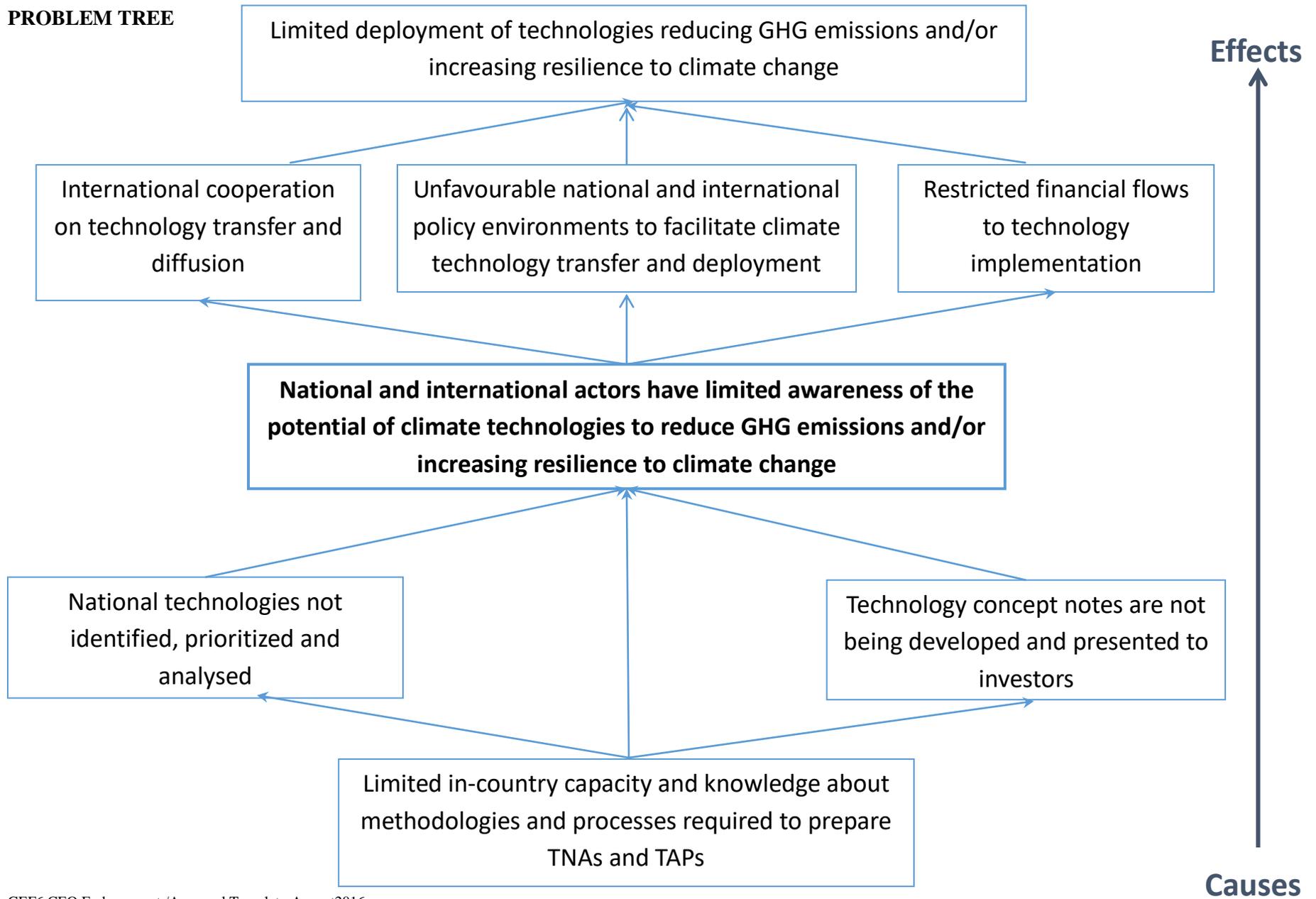
The OFP endorsement letters are attached in a separate zip file.

ANNEX L: CO-FINANCE LETTERS

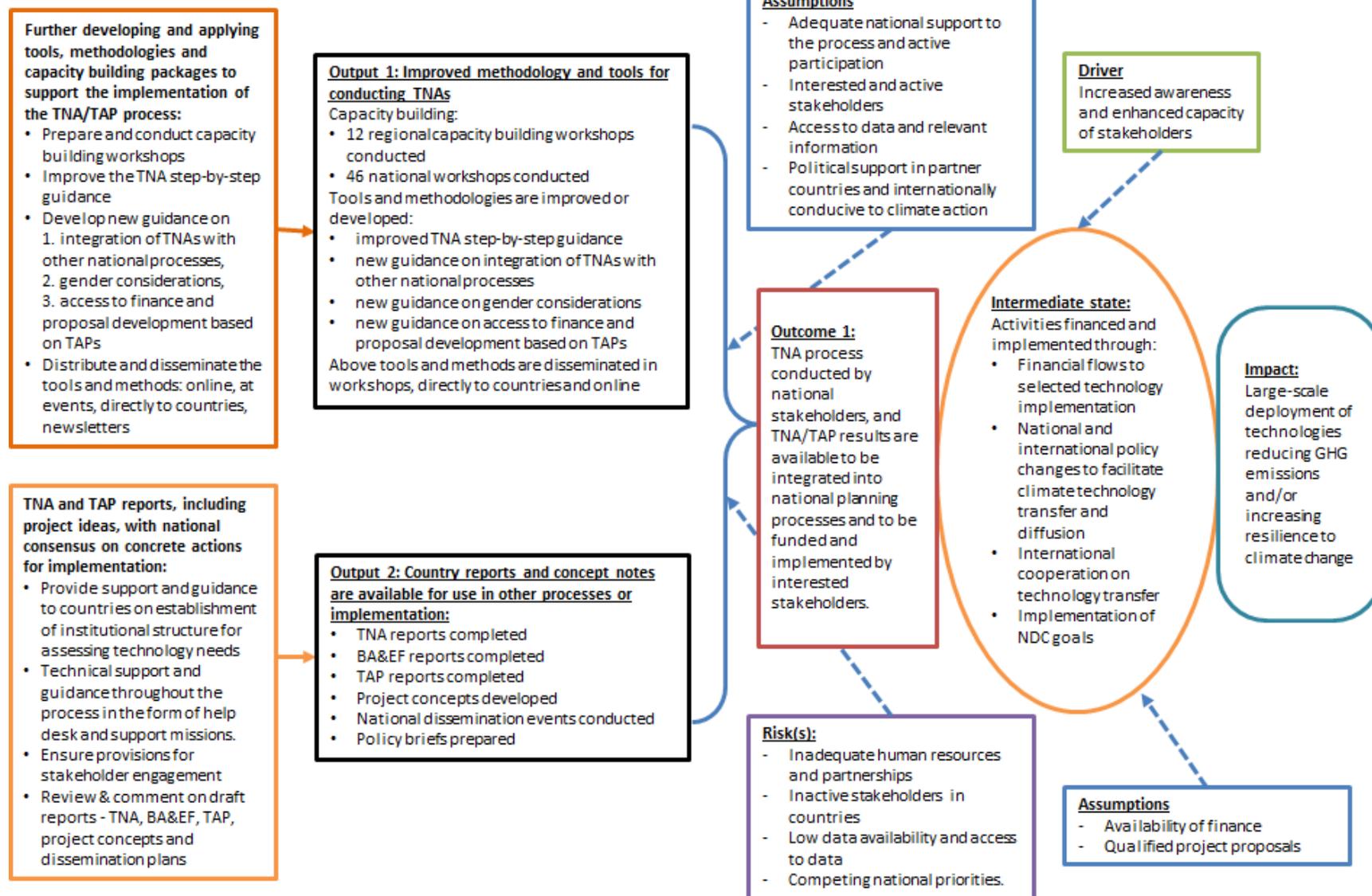
The co-finance letters are attached in a separate zip file.

ANNEX M: PROBLEM TREE AND THEORY OF CHANGE

PROBLEM TREE



THEORY OF CHANGE



ANNEX N: ENVIRONMENTAL AND SOCIAL SAFEGUARDS

The project Component 1: Technology Needs Assessments (TNA) and development of Technology Action Plans (TAP) will ensure dissemination of Environmental and social safeguards through tools and network activities and, the production of TNAs and TAPs offers the opportunity to ensure the strengthening of, and compliance with, Environmental and social safeguards in the technology transfer market.

The project will ensure that Environmental and social safeguards are included in any TAPs that are developed. Moreover, the actions of the TNAs and TAPs will present the opportunity to mitigate GHG emissions and/or reduce the vulnerability of sectors and livelihoods to the adverse impacts of climate change, thus strengthening Environmental and social safeguards.

In addition, the project will include a broad range of long term social contributions. The introduction of new technologies will generate new markets and thus lead to job creation. Cleaner technologies will lead to reduced pollution which will result in improved health of the local population and reduce its vulnerability to the adverse impacts of climate change. The deployment of clean technologies will improve access to modern energy services, and increase water and food security in the countries.

The impact of the present project on civil society, or gender is limited during project execution while indirect impacts, which could be provided by effective technology transfer to support NDC implementation, can be substantial. The classical example is the replacement of fuel wood, usually gathered by women, by modern energy. Studies demonstrate that the time dedicated by women to cooking and household tasks can be divided by 5 through introduction of modern energy, hence leaving time for self-education, productive activity and children education.

However, the present project is focussed on reporting to the UNFCCC on technology needs, and identifying barriers as well as remedial actions, which would allow technology transfer to take place. Hence, while the capacity building elements is very strong and focussed on producing high quality TNAs involving all relevant stakeholders at national levels as well as provide the roadmap for technology adoption, implications on gender on one hand and civil society on the other will be seen when implementing the identified measures.

UNEP/GEF Environmental and Social Safeguards Checklist

Project Title:	Technology Needs Assessment – Phase III		
GEF project ID and UNEP ID/IMIS Number	9452	Version of checklist	2
Project status (preparation, implementation, MTE/MTR, TE)	Preparation	Date of this version:	01/03/2017
Checklist prepared by (Name, Title, and Institution)	Jonathan Duwyn, Programme Officer, UN Environment		

In completing the checklist both short- and long-term impact shall be considered.

Section A: Project location

If negative impact is identified or anticipated the Comment/Explanation field needs to include: Project stage for addressing the issue; Responsibility for addressing the issue; Budget implications, and other comments.

	<i>Yes/No/N.A.</i>	<i>Comment/explanation</i>
- Is the project area in or close to -		
- densely populated area	N.A.	
- cultural heritage site	N.A.	
- protected area	N.A.	

	<i>Yes/No/N.A.</i>	<i>Comment/explanation</i>
- wetland	N.A.	
- mangrove	N.A.	
- estuarine	N.A.	
- buffer zone of protected area	N.A.	
- special area for protection of biodiversity	N.A.	
- Will project require temporary or permanent support facilities?	N.A.	
<i>If the project is anticipated to impact any of the above areas an Environmental Survey will be needed to determine if the project is in conflict with the protection of the area or if it will cause significant disturbance to the area.</i>		

Section B: Environmental impacts

If negative impact is identified or anticipated the Comment/Explanation field needs to include: Project stage for addressing the issue; Responsibility for addressing the issue; Budget implications, and other comments.

	<i>Yes/No/N.A.</i>	<i>Comment/explanation</i>
- Are ecosystems related to project fragile or degraded?	N.A.	
- Will project cause any loss of precious ecology, ecological, and economic functions due to construction of infrastructure?	N.A.	
- Will project cause impairment of ecological opportunities?	N.A.	
- Will project cause increase in peak and flood flows? (including from temporary or permanent waste waters)	N.A.	
- Will project cause air, soil or water pollution?	N.A.	
- Will project cause soil erosion and siltation?	N.A.	
- Will project cause increased waste production?	N.A.	
- Will project cause Hazardous Waste production?	N.A.	
- Will project cause threat to local ecosystems due to invasive species?	N.A.	
- Will project cause Greenhouse Gas Emissions?	N.A.	
- Other Environmental issues, e.g. noise and traffic	N.A.	
<i>Only if it can be carefully justified that any negative impact from the project can be avoided or mitigated satisfactorily both in the short and long-term, can the project go ahead.</i>		

Section C: Social impacts

If negative impact is identified or anticipated the Comment/Explanation field needs to include: Project stage for addressing the issue; Responsibility for addressing the issue; Budget implications, and other comments.

	<i>Yes/No/N.A.</i>	<i>Comment/explanation</i>
- Does the project respect internationally proclaimed human rights including dignity, cultural property and uniqueness and rights of indigenous people?	N.A.	
- Are property rights on resources such as land tenure recognized by the existing laws in affected countries?	N.A.	
- Will the project cause social problems and conflicts related to land tenure and access to resources?	N.A.	
- Does the project incorporate measures to allow affected stakeholders' information and consultation?	Yes	TNA/TAP process is driven by stakeholder consultations
- Will the project affect the state of the targeted country's (-ies') institutional context?	N.A.	
- Will the project cause change to beneficial uses of land or resources? (incl. loss of downstream beneficial uses (water supply or fisheries)?	N.A.	
- Will the project cause technology or land use modification that may change present social and economic activities?	N.A.	
- Will the project cause dislocation or involuntary resettlement of people?	N.A.	

	<i>Yes/No/N.A.</i>	<i>Comment/explanation</i>
- Will the project cause uncontrolled in-migration (short- and long-term) with opening of roads to areas and possible overloading of social infrastructure?	N.A.	
- Will the project cause increased local or regional unemployment?	N.A.	
- Does the project include measures to avoid forced or child labour?	N.A.	
- Does the project include measures to ensure a safe and healthy working Environment for workers employed as part of the project?	N.A.	
- Will the project cause impairment of recreational opportunities?	N.A.	
- Will the project cause impairment of indigenous people's livelihoods or belief systems?	N.A.	
- Will the project cause disproportionate impact to women or other disadvantaged or vulnerable groups?	No	
- Will the project involve and or be complicit in the alteration, damage or removal of any critical cultural heritage?	N.A.	
- Does the project include measures to avoid corruption?	Yes	Clause on external auditing in agreements with the countries
<i>Only if it can be carefully justified that any negative impact from the project can be avoided or mitigated satisfactorily both in the short and long-term, can the project go ahead.</i>		

Section D: Other considerations

If negative impact is identified or anticipated the Comment/Explanation field needs to include: Project stage for addressing the issue; Responsibility for addressing the issue; Budget implications, and other comments.

	<i>Yes/No/N.A.</i>	<i>Comment/explanation</i>
- Does national regulation in affected country (-ies) require EIA and/or ESIA for this type of activity?	N.A.	
- Is there national capacity to ensure a sound implementation of EIA and/or SIA requirements present in affected country (-ies)?	N.A.	
- Is the project addressing issues, which are already addressed by other alternative approaches and projects?	No	Project responds to a UNFCCC requirement
- Will the project components generate or contribute to cumulative or long-term Environmental or social impacts?	Yes	Beneficiary countries will come up with TAPs that, if implemented, will lead them on a low carbon and climate resilient development path
- Is it possible to isolate the impact from this project to monitor E&S impact?	Yes	If the TAPs are implemented in the countries

ANNEX O: LESSONS LEARNT FROM TNA PHASE I EVALUATION

The Terminal Evaluation (TE) of the “Technology Needs Assessment Project (TNA)- Phase I” (supported by the Global Environment Fund (GEF), implemented by the United Nations Environment Programme (UNEP) and executed through the UNEP DTU Partnership) was initiated in October 2015 and completed in September 2016. It has been undertaken in accordance with the UNEP Evaluation Policy, where a TE is undertaken after completion to assess project performance in terms of its relevance, effectiveness and efficiency, and to determine the outcomes, impacts, and their sustainability.

The evaluation provides the findings of an independent evaluation undertaken with a participatory approach involving relevant stakeholders, together with Expert/Peer Review processes and (limited) feedback from potential users, within the time frame and resource constraints.

The methods used included a desk review of project documents; semi-structured interviews (individual and groups) undertaken with primary stakeholders; country visits for in-depth interviews in 10 selected case study countries and electronic surveys distributed to all country coordinators, and with their assistance, a selection of national stakeholders. The survey results were synthesized and aggregated by issue, country, region, and, at the global level, to provide an overview of the national partners’ views on the project performance.

The country visits, interviews and the survey, combined to provide evidence of later outcomes and impacts, subsequent to the project termination. Triangulation from the several streams of evidence was used, the evaluation team cross-referenced its findings and areas of recommendation, keeping in mind areas of convergence and divergence. The findings are fact-based and informed by the evidence, and they integrate the views and perspectives of key stakeholders.

Challenges/weaknesses

- The evaluation recognizes that the **project seeks to address a highly complex set of issues** (climate change) with limited resources. It notes specifically that **more funding would be required** notably to respond to requests by countries to do **more on experience sharing between countries, engagement of the financial/funding community, and the provision of more support at national level including for capacity strengthening**: 25% would have preferred additional support for the work done in the country, a higher budget allocation for national work and increased technical support and backstopping by the teams from UDP and the regional centre. Also, some increased cooperation across countries was cited as being valuable, the project’s efforts for establishing and/or using regional and international networks and sharing knowledge and experience between countries must be strengthened. Many participants wished to have more time for these activities and specifically for inter-country experience sharing than the time and budget allowed.
- Overall, **private sector and the banking and investments sectors were under-represented** in most countries. But challenge is that **private sector and investors engagement depends on their business interests**. Further development of the TNA/TAP priorities should be accompanied by greater private sector involvement –it might then be easier to engage these stakeholders as the work gets more concrete/focussed.
- Almost all countries highlighted the **need for improved data and analysis** at multiple levels as one key priority in their country and in all regions. Many countries needed better socioeconomic data and analyses also for determining their mitigation options and priorities.
- A few countries noted, that they had some difficulty with the task, due to **low national capacity** and as they were undertaking such analysis for the first time.

- More than half of the respondents indicated they needed **additional support, especially on economic and cost-benefit analysis of selected technologies, improvement on prioritization process, and support after the project completion.**
- Many countries found a **need to customize the methodologies to their national circumstances** to ensure relevance.
- One possible shortcoming, where the **economic and financial issues could most likely require more attention** for further action in many reports.
- **Insufficient efforts by the project on engagements with financial agents** such as bilateral and other-multilateral initiatives.
- In the **African region**, most interviewed national stakeholders recognized that they are **not sufficiently equipped to prepare funding requests** to these funding channels and TNA communication tools need to be improved.
- **Lack of linkages** within the TNA to **other key work on technology and its financing, transfer, diffusion which have been funded by UNEP and GEF** during the same period as the TNA project.
- **Weak steering committee:** steering committee meetings to coincide with other global events, in particular other COP events. The minutes reflect poor participation at the meetings as most non-UNEP participants prioritized their own workplans as it related to the main event and this allowed the discussions on the TNA project to be cursory and not as useful as it could have been.
- **The budget did not allow time or resources to fully address all issues, but within those limits it was an initiative that provided useful contributions.** In Asia, there was a strong comment that international funding agencies too often only focused on “building capacity” and not on the future requirements of implementation.

Successes/strenghts

- **High dedication and competence of the project staff** and the regional centre partners. The evaluation rates the strategic relevance of the TNA project as highly relevant and it is to the **credit of UDP and the Regional Centres to be able to adapt and make this project of relevance to 87% of those who participated**, there by marrying global issues to national ones, and successfully supporting a largely country driven process.
- The project was **highly or mostly relevant to the national priorities.**
- Broadly, the **TNA project teams nationally have gained methodological experience on technology assessment.**
- **Regional workshops** provided a very useful opportunity for experience and information sharing, learning, providing support by experts and to reference sources. These also provided a **regular forum** for discussing each country's progress and country-specific issues with regional and international experts. The regional workshops have provided an **excellent vehicle for experience and information sharing, learning between countries**, and of course, for discussing progress and country-specific issues with regional experts.
- All countries took **considerable efforts to have relatively wide stakeholder participation**, especially at the levels of experts, academics and government agencies, though there were often gaps in the participation of

financial institutions and some relevant private sector firms or representatives. The **participatory and consultative process that was used was hailed as an important achievement** by many for ongoing and future work in the country. The process of **wide stakeholder engagement and consultations and some cooperation between countries were the additional main elements for change in capacity and behaviour** by the different stakeholders.

- Very often the **national teams were able to secure high-level stakeholder awareness and political buy-in** – reporting to bodies chaired by the Head of State and/or key ministers, and national steering committee membership included high-level Ministry representatives. More successful countries provided regular updates and meetings, to review progress and findings. The positive emphasis in the project on stakeholder participation, public awareness and the need perceived by the countries for this work, enhanced country ownership and driven-ness, and in turn many of the successes.
- In many countries the **TNA process was closely linked to the UNFCCC meetings and negotiations**, as for example in the case of Thailand.
- The nature of the agreements reached in COP 21 Paris, support an increasingly bottom up, country led process, where many of the activities of the TNA will necessarily be sustained as they provide rudimentary building blocks for country strategies and for their submissions to UNFCCC. **The evaluation rates the overall sustainability of the TNA Project outcomes to be highly likely.**
- **Over 90% stated that they had made efforts for the use of the results of the TNA in their country.**
- **Use of TNA and TAP reports to inform national and sectoral policies: 20 countries have reported that TAP, TNA reports have been used to inform national and sectoral policies**, 10 out of 11 countries in Asia and 7 out of 9 countries in Africa reported use, 3 countries from Latin America. Examples included in the form of INDCs and NAMAs (Vietnam), submission to ministry of agriculture and sectoral agencies to inform sectoral policies and sectoral action plans (Moldova), national climate change policy (Ghana); for national seminars and workshops (Ivory coast); National action plans (Mali); planning for energy efficiency in public buildings (Dominican Republic).
- **Use of TNA and TAP reports in the planning process of national and sectoral policies: 19 countries reported actual use.** Use was in the form of INDCs, piloting of NAMAs (Lebanon), Low Emissions Development Strategy (Moldova), National climate change action plan (Thailand), National action plan (Mali), Energy sector (Rwanda), National Research program- (Colombia); National adaptation and sectoral plans (Dominican Republic); National plan on Climate change (El Salvador).
- **National mechanisms institutionalized/established to carry on the TNA/TAP implementation: Only 10 countries** of the 25 countries have reported having established national mechanisms to carry on TNA/TAP implementation. 6 out of 11 Asian countries and 4 out of 9 African countries reported having national mechanisms. Example: REDD+ office in Laos, MONRE in Vietnam. However, no country in the Latin American region reported establishment of national mechanisms.
- **Application to international funding agencies for priority actions; Allocation of financial resources to support the implementation of the priority projects identified from international sources: 16 countries have reported that they have applied to international funding agencies and 13 have reported that financial resources have been allocated to support implementation of priority projects identified from international sources.** Many countries reported as waiting for funding and only 3 countries out of 9 countries

in Africa, 3 countries out of 11 countries in Asia could provide details on allocation of funding. In the LAC region, 3 out of 5 countries reported allocation. Examples include GHG and Mitigation projects (Cambodia), US support to wind power related projects (Vietnam), Solar Fort project (Kenya), Resources from Sweden for the GEDEFOR II project (Mali), GIZ support to projects related to agroforestry and forest galleries (El Salvador). In addition it was noted from the requests registered with CTCN, that 9 countries had registered specific requests for follow up support for technology – Ghana (1), Ivory Coast (2), Kenya (3), Mali (4), Sénégal (3), Viet Nam (4), Colombia (3) and Dominican Republic (2). (The differences between the survey and the CTCN requests are likely to be due to insufficient information with the survey respondents)

- **Allocation of financial resources to support the implementation of the priority projects identified from domestic sources: 10 countries reported having allocated financial resources to support the implementation of the priority projects identified from domestic sources.** 3 countries out of 11 Asian countries, 4 African countries out of 9 and 3 out of 5 countries in the LAC region reported allocation. Examples include No-till implementation (Moldova); Domestic Investment Fund (Vietnam); Consolidated Investment Budget (Senegal); support of ministry of agriculture in PICC-PMV project (Morocco); Ministry of Environment support for agroforestry and forest restoration projects (El Salvador).
- Within the broader factors, **it was seen in many countries that the leadership of the national coordinator has often been a highly critical factor in the success or its lack** within the countries reviewed.

Recommendations and responses

Recommendation	Accepted (Yes/No)	What will be done?	Measures Taken	Expected completion date
<p>Recommendation 1:</p> <p>Recognize and reach out to ongoing/completed projects on technology for climate change funded by UNEP, GEF and now CTCN, the multilateral financial institutions, and others, (for example en.lighten on efficient lighting technologies) which can provide concrete lessons for TNA. Explore mechanisms to link to such projects, and their results to the TNA Phase II, to add additional stakeholders, financial institutions and where appropriate private sector representatives, and as appropriate, additional expert inputs and for the governance) of work.</p>	<p>Amended</p> <p>The budget is limited and this would require a lot of additional coordination for which we do not have the resources.</p>	<p>Countries will be provided with a selective list of relevant UN Environment projects that have a clearly defined technology focus and include links to websites and contact persons. This will enable national TNA teams to benefit from the resources and publications and possibly contact these initiatives.</p>	<p>UN Environment developed a webpage to reference all its technology projects with links to respective websites:</p> <p>http://www.unep.org/technology/</p> <p>http://www.unep.org/technology/search-portfolio</p>	<p>Completed</p>
<p>Recommendation 2:</p> <p>Work with UNFCCC to ensure all TNA reports are</p>	<p>Yes.</p>	<p>All reports from TNA Phase I are already available:</p>	<p>The UNFCCC Secretariat's Technology Team has</p>	<p>Completed</p>

Recommendation	Accepted (Yes/No)	What will be done?	Measures Taken	Expected completion date
also available at the UNFCCC website - Link to communication/public awareness in the section on factors affecting performance		http://unfccc.int/tclear/tna/reports.html	already made available completed TNAs, TAPs, as well as some TNA analysis reports on their website/technology portal: http://unfccc.int/tclear/tna/reports.html TNA Phase II reports will be displayed on the UNFCCC website when TNA Phase II is completed.	
<p>Recommendation 3:</p> <p>Explore options with the key partners – countries and regional centres and the stakeholders to enhance and improve dissemination of key issues, public policy and coverage about technology issues related to climate change in more and different forums, including the mass media by providing relevant information, promoting evidence-based results of government and international programing and contributing to on-going needs for public policy formulation; explore additional options to find ways of influencing and engaging with civil society and academics on the issues.</p>	Yes.	In TNA Phase II, countries are encouraged to disseminate the TNA results to high level decision makers and relevant donor coordination groups established in the country (by participating/presenting in meetings and developing targeted briefing notes).	<p>The TNA Guidebook on stakeholder engagement has been strengthened on engaging private sector and financiers. It can be found online at http://www.tech-action.org/Publications/TNA-Guidebooks</p> <p>For TNA Phase III more resources per country has been obtained from GEF and we have included the following new outputs for the countries: national dissemination plan, targeted briefing notes, and dissemination events.</p>	<p>Completed</p> <p>Completed</p>
<p>Recommendation 4:</p> <p>Commit to a minimum agenda (could be very brief and periodic) for following up on the core outputs, resulting outcomes and examples of successful programs emerging out of the TNA efforts.</p>	<p>Amended</p> <p>Difficult to commit to due to resources. Limited follow-up is taking place both by UN</p>	<p>TNA team (in UDP and UN Environment) is collaborating closely with TEC and UNFCCC Sec.</p> <p>TNA Phase I country representatives are invited to present their experiences and progress with TAP implementation in Global TNA Workshops and TNA side events.</p>	<p>In 2016, UDP and the UNFCCC Sec. published a TNA success stories publication with stories from 9 TNA Phase I countries. It can be found at: http://unfccc.int/tclear/tna/reports.html or at http://www.tech-</p>	Completed

Recommendation	Accepted (Yes/No)	What will be done?	Measures Taken	Expected completion date
	Environment-UDP as well as the UNFCCC Secretariat	<p>The UNFCCC Sec. regularly produces TNA synthesis reports and conducts post-TNA surveys with the countries. The reports can be found at: http://unfccc.int/ttclear/tna/reports.html</p> <p>All TEC documents can be found at: http://unfccc.int/ttclear/tec/documents.html http://unfccc.int/ttclear/tec/meetings.html</p>	<p>unfccc.int/publications</p> <p>In 2017, the TEC workplan includes coming up with a mechanism for tracking the implementation of TAPs.</p>	
<p>Recommendation 7: Examine the possible value of engaging external technical reviewers of the work done, for example in mid-term reviews, which would cost more than the current practice but can provide additional perspectives, complementing the useful project monitoring systems in place.</p>	<p>Amended. The project does not have sufficient resources to do so.</p>	<p>UDP does a mid-term review for DANIDA that includes TNA.</p>		
<p>Recommendation 8: Make efforts towards a revitalized steering committee to improve strategic decision making in this highly complex project, with multiple partners, as the priorities would be viewed differently by partners, based on their own different perspectives, and effective integration of the different views is important.</p>	<p>Yes.</p>	<p>Under TNA Phase II the SC includes a smaller number of members. The team still aims to improve the agenda to have more strategic discussions rather than having a main focus on updating SC members.</p>		
<p>Recommendation 9: Either through the above process, or through different mechanisms, increase the participation of global stakeholder agencies at events so they are encouraged to follow up on the implementation</p>	<p>Yes.</p>	<p>We are putting a stronger emphasis on the dissemination of the results notably at country level. We disseminate TNA results and tools through UNFCCC events and the Technology Facilitation Mechanism linked to the SDGs.</p> <p>UDP also periodically publishes newsletter updating with project</p>		<p>Completed</p>

Recommendation	Accepted (Yes/No)	What will be done?	Measures Taken	Expected completion date
		<p>progress, success stories and upcoming events. Electronic version of Newsletters are normally sent to key stakeholders. All TNA newsletters can be found at: http://www.tech-action.org/publications/tna-newsletters</p>		
<p>Recommendation 11: In any discussions of technological change and innovation pay greater attention to the broader economic and financial barriers for example the effects of subsidies and to “unintended consequences”, which loom larger when a new technology is engaged at scale.</p>	Yes.		<p>The guidebook on Overcoming Barriers to the Transfer and Diffusion of Climate Technologies (Second Edition) guidance has been updated and improved already.</p>	Completed
<p>Recommendation 12: The issue of linkages between countries, increasing opportunities for learning between countries, linking to regional and global networks for knowledge, information, technology and finance areas area for the subsequent TNA Phase II to pay greater attention to.</p>	Yes.		<p>Two global experience sharing workshops already conducted in TNA Phase II (Bangkok and Nairobi) and 8 regional capacity building workshops. TNA side-events were held at COP related meetings.</p> <p><i>All related documentation can be found at:</i> http://www.tech-action.org/events</p>	Completed
<p>Recommendation 13: Countries involved in Phase II should note that many of the factors for greater national value are in their control. At the project level they include integration of such work within national decision making and climate change structures, energetic leadership at an appropriate national level with access to senior officials and to a wide range of ministries and departments, and a</p>	Yes.		<p>More emphasis on dissemination at national level has been integrated in TNA Phase II and TNA Phase III.</p> <p>The development of targeted briefing notes and activities to disseminate results to decision makers, in country-donors/development</p>	Completed

Recommendation	Accepted (Yes/No)	What will be done?	Measures Taken	Expected completion date
reasonable provision for national resources to complement the external finance.			<p>partners and private sector including financiers have been included in TNA Phase II and TNA Phase III. It should be noted however that for TNA Phase II no additional budget has been provided and therefore it may not be possible for the countries to conduct these additional activities properly. While for TNA Phase III the GEF agreed to provide some additional funds for more CB at national level and for dissemination of results.</p>	
<p>Recommendation 15: Almost all the countries involved rely on multi-lateral and bilateral donor partners for critical financing support to complement national resources. Linking to them at the national level and sharing information on the findings of priorities and action plans determined through the project, to develop funded activities to take them forward. For this and in general many countries can follow some of the good examples by others in terms of dissemination, tracking and sharing information and follow up.</p>	<p>Yes.</p>	<p>This is something we will continue advocating for in Phase II and III countries.</p> <p>We have emphasized on the engagement with the in-country donor/development partners' community and also of the national GEF operational focal point, the CTCN National Designated Entity, the GCF National Designated Authority...</p> <p>Most of TNA Phase I countries have organized a final workshop where the results of the project are presented at the national level with the participation of local key stakeholders.</p>		<p>Completed</p>
<p>Recommendation 16: UNEP FMO must work together with GEF and project team to ensure that all information on available financial resources to the project, both as provided in the</p>	<p>Yes.</p>	<p>Good reporting including on co-financing. Filing system has also been improved.</p>	<p>The GEF CC Mitigation team established a folder for all GEF projects on the shared drive which includes all documents related to project</p>	

Recommendation	Accepted (Yes/No)	What will be done?	Measures Taken	Expected completion date
GEF grant and also as co-financing are provided to the project managers in a transparent manner			<p>design and all reporting.</p> <p>The Finance team in Paris has a specific folder with all contracts and agreements including the contracts, reporting and deliverables.</p>	

REJECTED RECOMMENDATIONS (by EOU)

Recommendation	Accepted/rejected	Project Team Response	Evaluation Office Comment
<p>Recommendation 5:</p> <p>Ensure that the UDP incorporate into its strategic plans elements for future support, on the issues of technology and CC, as this is not a onetime effort; encourage and secure commitments of the competent cadre of staff involved to maintain the momentum and knowledge base on the key issues.</p>	No.	<p>It is not specifically for UDP to ensure future support, all development partners should take-up TNA.</p> <p>Both UN Environment and UDP are well aware of TNAs and regularly explore ways/opportunities to support the implementation of priority actions identified by countries through their TNA process.</p> <p>We continue strengthening links between TNA and CTCN</p> <p>UDP/UN Environment supported 6 TNA Phase I countries to develop NAMAs (FIRM project funded by Denmark)</p>	Outside control of UN Environment project
<p>Recommendation 6:</p> <p>Review with UNEP DTIE and GEF on possible reallocations for the current budget for TNA Phase II, to ascertain the degree to which the GEF rules do allow for flexibility during execution of approved projects to take into account real experience and facts on the ground.</p>	No.	This is not possible due to the GEF rules (not in our control)	Outside control of UN Environment project/against funder rules
<p>Recommendation 10:</p> <p>Increase internal competencies to more</p>	Yes.	It must be noted though that flexibility has always been there, we suggest/recommend some tools but countries can choose to use	Compliance cannot be tracked

Recommendation	Accepted/ rejected	Project Team Response	Evaluation Office Comment
flexibly apply a range of tools and methods to the specific situations faced by country, sector and purpose. Consider a greater coherence for framing the issues adding perspectives from economics and politics how they interact and are influenced, and apply systems thinking, to clarify more how UDP can increase the value of the outcomes.		different ones. It is a country driven process and therefore also the role of countries to increase the value of the outcomes rather than UDP...	
Recommendation 14: Follow up at the national level after the project ends is also critical for the use of the outputs in national planning, financing and programming.	No.	While we agree that this is important and had suggested an activity for monitoring after the project ends for TNA Phase III. GEF asked to remove this new activity. It should also be noted that TEC has been requested to come up with a system to monitor TAP implementation. Since we work closely with the TEC as members of the TEC's TNA taskforce, we will be involved in suggesting an approach to track TAP implementation (TNA/TAP follow-up actions)	Donor not funding activity

ANNEX P: EVIDENCE OF COMMITMENTS OR NEED BY COUNTRIES IN THE TNA PROCESS

Country	Evidence of commitments or need by countries in the TNA process from policy documents and other sources
Afghanistan	<ul style="list-style-type: none"> • Afghanistan’s National Climate Change Focal Point requested support for TNA through UNEP’s Post Conflict team in February 2014. • In May 2014, Afghanistan reiterated their interest in receiving support for TNA through their NDE and submitted a Technical Assistance request to CTCN to support the identification of climate technology priorities. CTCN responded that TNA are still funded by GEF and that they should join the next phase of TNA. • In its National Communication (2013), Afghanistan identified technology transfer as a way to work toward low-carbon development and increased resilience to climate change. In particular it states that ‘As such a list of projects are identified for improving the quality of national GHG inventories, vulnerability assessment of various sectors at national and regional level and adaptation measures, assessment of mitigation potential with detailed cost-benefit analysis including exploring the opportunities for technology transfer, and enhancing the national capacities in doing climate change related research works with a systematic observation system in place, and making citizen more informed about the likely impacts of climate change and prepare with appropriate adaptations.’ <p>E-mail from Afghanistan:</p> <p>At the first step, to understand the needs for technology transfer in the country, the TNA will provide an opportunity to identify the need for new technology, equipment, knowledge and skills for mitigating climate change and greenhouse gas (GHGs) emissions to reduce vulnerability to climate change. It will enable the country to better understand its technology needs, prepare technology action plan and facilitate the implementation in a collective and coordinated manner.</p> <p>Technologies for Climate Change adaption including river basin, water sector and agriculture as well technologies for climate change mitigation including transport sector, renewable energy are preferable.</p> <p>The Islamic Republic of Afghanistan will contribute as national commitment in the form of a combined co-financing, commitment in developing and implementation of policy and other legal frameworks.</p>
Antigua and Barbuda	<ul style="list-style-type: none"> • Antigua and Barbuda first requested support for TNA through UNEP-ROLAC in 2014. • In its National Communication (2009), Antigua and Barbuda identified the need for increased technology awareness and capabilities. In particular it states that ‘Capacity building in the energy sector institutions will be required if mitigation measures are to be effectively implemented. The capacity building needs in the public sector centre on strengthening institutional arrangements for the collection, compilation, reporting and analysis of energy information and for public education. Implementation of private sector measures requires increased private sector technology awareness and capability and an environment that facilitates and encourages investment for implementation of mitigation measures. Public sector agencies with regulatory or other responsibility for the energy and environment must also be aware of the technologies, be able to assess them and to develop policies that are responsive to private sector and national needs.’ • In its INDC, Antigua and Barbuda identified the need for technology assessment, strategy and roadmaps. In particular it states that: ‘Antigua and Barbuda requires international support from multilateral and bilateral sources, including through the Green Climate Fund (GCF), the GEF and the Adaptation Fund, for capacity building, climate finance and technology transfer to be able to strengthen its current programs, policies and regulations to develop and implement new initiatives, and to fully assess and address the impacts of climate change, as defined in the adaptation and mitigation targets. Additional activities requiring support for implementation include, <i>inter alia</i>: <ul style="list-style-type: none"> - Technology, human resources and financial capacity assessment; - Support for the development of a Technology Strategy and Road Map that includes repurposing, decommissioning, and disposing of stranded assets; - Comprehensive assessment of the national costs of adaptation and mitigation; - Elaboration of a National Adaptation Plan; - Enhancing Measurement, Reporting and Verification (MRV) processes;

Country	Evidence of commitments or need by countries in the TNA process from policy documents and other sources
	<ul style="list-style-type: none"> - Development of standardized baselines to assess and monitor the impacts of implementing INDC adaptation and mitigation initiatives; - Support for data collection, storage and management; and - Support for education, training, public awareness, public participation, public access to information, and international cooperation throughout implementation of the INDC targets.
Benin	<ul style="list-style-type: none"> • The NDC emphasizes the importance of promoting technology transfer and research for climate change adaptation and mitigation. It emphasizes on promoting endogenous technologies et technology transfer (south-south and north-south). The NDC has prioritized the following sectors: Agriculture and Forestry, Energy, waste management and transport, and includes a table with a preliminary list of technologies for each of these sectors.
Central African Republic	<ul style="list-style-type: none"> • Central African Republic requested support for TNA through its representative at the First NDE workshop on 20-22 May in Abidjan, Cote D'Ivoire; and reiterated their request at the NDE Forum on 24-26 June, 2015 in Saly, Senegal. • CTCN responded that TNA are still funded by GEF and that UNEP would contact them in due time for TNA Phase III. • In its INDC, Central African Republic put an emphasis on technology transfer, including the evaluation of needs and capacity development. In particular it includes the following aspects: <ul style="list-style-type: none"> - 'Transfer of technology, cooperation-research: climatology and meteorology, agriculture and agroecology, energy, land use change and forestry, industrial wastes and processes and use of solvents. - Evaluation of needs and development of a national strategy in the area of technology transfer. - The Central African Republic envisages a holistic approach, integrating adjustment of national policies and strategies, improvement of the legislative and regulatory frameworks, and capacity development and transfer of technology in certain priority areas. - Technology transfer will include a capacity development programme to be adopted at various levels, both institutional and local.' <p>Letter from CAF (25.03.2016)</p> <p>Objet : Réponses aux préoccupations de FEM.</p> <p>Les Parties à la Convention Cadre des Nations Unies sur les Changements Climatiques ont reconnu dès 1992 l'importance de transfert des technologies, susceptible de contribuer à la réduction des émissions des gaz à effet de serre et d'atténuer les impacts des changements climatiques, et des observations systématiques indispensables à la compréhension du changement du climat mondial.</p> <p>La République Centrafricaine, pays dont la gestion rationnelle des ressources naturelles nourrit l'espoir de fonder le noyau du développement durable, non seulement pour sa population toute entière. Avec une vision d'être un pays émergent d'ici 2030, bâti sur une économie diversifiée, durable et harmonieusement répartie sur le territoire national, un Etat moderne ouvert sur le monde, attache à une éthique et a l'innovation technologique selon son document de Contribution Prévue Déterminée au niveau National (CPDN). Le Gouvernement de la République centrafricaine avait une très faible capacité d'observation du climat qui déjà montraient des lacunes graves, se sont aujourd'hui sérieusement détériorées sous l'effet des multiples conflits armés en répétition et des troubles divers de longue durée.</p> <p>A travers l'élaboration de ce document, dans le cadre des Activités Habilitantes Additionnelles sur les Changements Climatiques, la République Centrafricaine fera connaitre ses besoins en renforcement des capacités pour l'évaluation des besoins technologiques, de transfert de technologies propre et d'observation systématique du climat en vue d'adopter des mesures, stratégies et politiques d'atténuation et d'adaptation dans les secteurs clés de l'économie nationale qui paraissent les plus vulnérables aux effets néfastes des changements climatiques qui sont déjà identifiés à travers des différents rapports.</p>

Country	Evidence of commitments or need by countries in the TNA process from policy documents and other sources
	<p>Une approche systémique et participative doit être envisagée pour cette évaluation des besoins technologiques et des capacités actuelles d'observation des systèmes, et voir également les principales actions susceptibles de contribuer à la réduction des émissions des gaz à effet de</p> <p>Serre et les mesures et stratégies d'adaptation appropriées, et ce, conformément aux objectifs pertinents définis comme axes prioritaires dans les politiques de développement national édictées principalement dans les documents stratégiques (Objectifs du Développement pour le</p> <p>Millénaire, Document de Stratégies pour la Réduction de la Pauvreté, Deuxième Communication Nationale de la RCA sur les Changements Climatiques, Programme d'Actions Nationales d'Adaptation, Proposition de préparation à la readiness (R-PP) Autoévaluation des besoins en Renforcement des Capacités de Gestion de l'Environnement National et Mondial, Plan d'action pour la mise en œuvre du Système national de Surveillance des Forêts de la RCA, Programme national d'Electrification Rurale, Document de la Stratégie Agricole,...)</p>
Chad	<ul style="list-style-type: none"> • Chad requested support for TNA through its representative at the First NDE workshop on 20-22 May in Abidjan, Cote D'Ivoire. • In its INDC, Chad identified technology transfer and reinforcement of human, institutional and technological capacities as priorities. In particular, it states that 'Implementing mitigation actions and reaching the GHG emission limitation objectives set out in Chad's INDC include aspects, which are conditional on the availability of international support in terms of funding, technology transfer and reinforcement of capacity. To prepare and implement mitigation projects, the country intends to request international aid from different available sources, in particular from agencies for development assistance, bilateral and multilateral financial institutions, UNFCCC financial mechanisms (Green Fund for the climate, adaptation funds, GEF etc.) and the private sector.' The INDC also indicated 'Reinforcement of human, institutional and technological capacities, as well as financial support and technology transfers' as part of the implementation process of its INDC. •
Djibouti	<ul style="list-style-type: none"> • Djibouti requested support for TNA through its representative at the First NDE workshop on 20-22 May in Abidjan, Cote D'Ivoire. • In its INDC, Djibouti identified various technology needs. In particular, the INDC states that: The majority of the options presented above, such as the construction of a geothermal, wind or photovoltaic power plant, will necessitate major technological transfers. It is therefore crucial for the Republic of Djibouti to establish long-term partnerships with university centres or private companies capable of supplying those technologies. At present, an important partnership with the German Cooperation is providing Djibouti with technical and financial support for the promotion of renewable energies. • In its National Communication, Djibouti highlights the importance of technology transfer and the necessity of increasing national capacities in that regards. The documents specifically mentions the needs of technology needs assessment. In particular, the INDC states that: 'La République de Djibouti devrait pouvoir accéder à des technologies respectueuses de l'environnement pour réduire les émissions découlant de son développement économique. Les transferts de technologies performantes peuvent s'effectuer par le biais de l'aide bilatérale et multilatérale au développement ou grâce au Fonds pour l'environnement mondial (FEM) financé par les gouvernements. Le transfert de technologies va également s'accompagner d'un renforcement des capacités nationales'. In addition, the document states that 'L'ensemble du processus sur le transfert des technologies se compose principalement de cinq étapes essentielles : <ul style="list-style-type: none"> - Établissement de partenariats de collaboration entre les principaux intervenants dans le but commun de renforcer le transfert de technologie. - La mise en place de l'évaluation des besoins en transfert de technologies (y compris l'évaluation à la fois des technologies alternatives et la définition des priorités de transfert de technologie). - Conception et mise en oeuvre des plans de transfert de technologie et des actions spécifiques. - Évaluation et précision des mesures et des plans (un processus continu).

Country	Evidence of commitments or need by countries in the TNA process from policy documents and other sources
	<p>- La diffusion de l'information sur les technologies.</p> <p>Au stade actuel de la préparation de la seconde communication nationale de la République de Djibouti, ce processus n'a pu être appliqué intégralement en raison des délais impartis. Ainsi, l'analyse courante devrait être considérée comme une démarche préliminaire pour l'évaluation des besoins en transfert de technologies. Après la présentation des orientations en matière de développement de la République de Djibouti ce chapitre présente les secteurs intéressants pour l'atténuation et l'adaptation. Ensuite, les technologies pour les secteurs de l'atténuation et de l'adaptation sont indiquées de manière très large. Enfin, les domaines de la recherche et de l'observation systématique sont traités.'</p> <ul style="list-style-type: none"> •
Dominica	<ul style="list-style-type: none"> • Dominica first requested support for TNA through UNEP-ROLAC in 2014. • In its INDC, Dominica insists on the importance of receiving support for technology development and transfer, as well as capacity building. In particular, the INDC states that 'This contribution is conditional upon receiving timely access to international climate change financing, technology development and transfer, and capacity building support for priority adaptation and mitigation measures. Dominica's INDC will remain provisional pending confirmation of timely access to international climate change financing, technology development and transfer, and capacity building support for priority adaptation and mitigation measures detailed in this INDC. Dependent upon COP21 outcomes, Dominica reserves the right to revise the INDC.' <ul style="list-style-type: none"> •
Eritrea	<ul style="list-style-type: none"> • Eritrea requested support for TNA through its UNFCCC Focal Point at the First NDE workshop on 7-8 March, 2014 in Nairobi, Kenya. • In its National Communication (2012), Eritrea points out key barriers related to climate transfer, hampering their efforts to reach their mitigation targets. In particular, the document lists the following barriers: <ul style="list-style-type: none"> - High initial cost associated with technologies; - Lack of historical data; - Inadequate human and institutional capacities at all levels; - Uneconomic electricity tariffs, which discourages potential investors; - Inadequate skilled manpower; - Access to technology information (e.g. cost, performance, vendors, etc.); - Lack comprehensive technology transfer policy; - Weak local currency; and - Complicated CDM approval process discouraging the country's effort to access funding from the proceeds of CDM' <p>In addition, the document states that: 'In conclusion, in this report assessments of mitigation costs or the reduction potential of the identified measures in term of CO2 are not quite comprehensive. Since this is a very important part of the mitigation analysis, GHG reductions and costs across all sectors, especially for LULUCF which is the main source of GHG emissions, and detailed assessment of technology options for the different mitigation options in the various sectors of the economy will be explored for reporting in subsequent GHG mitigation assessment and analysis study submissions.'</p> <ul style="list-style-type: none"> •

Country	Evidence of commitments or need by countries in the TNA process from policy documents and other sources
Fiji	<ul style="list-style-type: none"> • Fiji first requested support for TNA through UDP in April 2014 (email 5/04/2014 from Dr Mahendra Kumar, Director, Climate Change Division, Ministry of Foreign Affairs & International Co-operation (MFAIC)) <p>In its National Communications (2014):</p> <ul style="list-style-type: none"> • Fiji recognizes the needs for further capacity for undertaking a TNA process: “Technology transfer is essential for Fiji both in adaptation and mitigation sector. However, there is still need to enhance capacity, research and awareness at different level and for different stakeholders.” • “In Fiji, a few existing or planned national policies, legal and institutional frameworks facilitate the implementation of decision 4/CP.7 in the areas of technology needs and needs assessments, technology information, enabling environments, capacity building and mechanisms for technology transfer. However, they will need to be reviewed and strengthened in order to be effective.”
Guinea	<ul style="list-style-type: none"> • Guinea first requested support for TNA through Enda-Energy (TNA regional centre for Africa), then reiterated their request at the NDE Forum on 24-26 June, 2015 in Saly, Senegal. • Both the NDE and the CC Focal Point reiterated their request for TNA by email on 05/08/2015 (emails to both UDP and UNEP). • In its INDC, Guinea describes strong efforts for institutionalizing climate change planning and action in the country. For example, it cludes the following: Cadre institutionnel <p>Pérennisation de la PNC-COP21 en “Plateforme nationale de consultation sur la politique de lutte contre les changements climatiques”, chargée du suivi et de l’évaluation de la mise en oeuvre de la CPDN, en tant qu’organisme consultatif.</p> <p>Désignation de correspondants climat au sein de chaque Ministère, bénéficiant de formations régulières sur l’intégration des enjeux climat.</p> <p>Création d’un comité de pilotage de suivi-évaluation des politiques publiques de lutte contre les changements climatiques, au sein du Conseil national de l’environnement et du développement durable, et impliquant des experts d’instituts de recherche, de la Direction nationale de l’environnement, de la Direction des Eaux et forêts, de la Direction des études d’impacts et des correspondants climat.</p> <p>Ce comité devrait disposer de ressources propres pour lui permettre d’accomplir ses fonctions.</p> <p>Renforcement des moyens alloués à l’intégration des enjeux climat dans les Plans de développement locaux (Ministère de l’Administration du territoire et de la décentralisation) et dans les Plans de développement urbains.</p> <p>La République de Guinée a ratifié les trois principales conventions des Nations Unies : CDB (1993), CNULCD (1997), CCNUCC (1993). A ce titre, une meilleure coordination des points focaux de chacune des conventions pourrait permettre de créer des synergies.</p> <p>Opérationnalisation de la CPDN Achever, de manière urgente:</p> <ul style="list-style-type: none"> - La 2nde communication nationale sur les changements climatiques; - L’enregistrement de la proposition de NAMA auprès de la CCNUCC; - Les études prospectives Guinée vision 2035 et Guinée Vision 2040.
Haiti	<ul style="list-style-type: none"> • Haiti requested support for TNA through UNEP’s Post Conflict team in November 2014. • Haiti reiterated their interest and submitted an endorsement letter. • In its INDC, Haiti emphasis the need for increasing capacities for addressing technology and financial barriers. More specifically, the documents identified the TNA as a need to implement their INDC, as

Country	Evidence of commitments or need by countries in the TNA process from policy documents and other sources
	<p>follows: le pays a besoin d'un renforcement de capacité technique et institutionnel et d'un soutien technologique et financier pour franchir ces barrières. L'enveloppe financière globale pour la mise en oeuvre des actions prévues dans cette contribution est évaluée à 25.387 milliards USD dont 16.614 milliards USD pour les actions d'adaptation et 8.773 milliards USD pour les actions d'atténuation. Les mesures d'atténuation conditionnelles et inconditionnelles représentent respectivement des montants de 7.999 milliards USD et 773.519 millions USD. Cela nécessitera:</p> <ul style="list-style-type: none"> - l'accès direct au Fonds Vert pour le Climat (GCF - Green Climate Fund) et aux autres fonds pour les mesures d'atténuation conditionnelles et les activités liées à l'adaptation (annexe 8.2) notamment l'élaboration et la mise en oeuvre du Plan National d'adaptation ; - l'accès aux différents mécanismes de marchés comme la Réduction des Emissions dues à la Déforestation et à la Dégradation (REDD+) et le Mécanisme pour un Développement Propre (MDP) ; - un renforcement des capacités institutionnelles ; - des transferts de technologie s'appuyant sur des évaluations de besoins en technologie (EBT).
Jamaica	<ul style="list-style-type: none"> • Jamaica first requested support for TNA through UDP in 2014. • Jamaica reiterated their interest and submitted an endorsement letter. • In its National Communication, Jamaica identifies the need for technology identification, as follows: 'The National Communication identifies the constraints which occurred during the preparation process, and provides recommendations for national actions, as well as identifying information gaps and technological needs, and project suggestions.' <p>E-mail from Jamaica</p> <p>The proposed TNA is important for Jamaica because:</p> <ol style="list-style-type: none"> 1. An initial Technology Needs Assessment (TNA) was completed by Jamaica in August 2005. The conclusions and recommendations of that initial TNA included the following: <p>“This technology needs assessment for Jamaica is an initial examination of the technology needs of Jamaica. The technology needs assessment process should be continued in Jamaica. As a result, there is a need to revisit this issue in the near future. Technology issues as they relate to agriculture have not yet been examined in detail. There is thus a need to have an in depth analysis of the technology requirements for the agricultural sector given the critical role of the sector to the Jamaican economy. There should also be a specific consultation with the industrial sector so that the specific technologies for industry can be identified and transferred to the sector. These issues can be addressed in the second national communications.”</p> <p>Since the Initial TNA was never updated, the Government of Jamaica (GOJ) is now embracing the opportunity to do so under the proposed project with UNEP's assistance and with funding support from the GEF.</p> 2. It will help to inform the strategies and actions to be incorporated in the climate change adaptation and mitigation strategy and action plans being developed by the GOJ for twelve priority sectors. The development of these sectoral climate change adaptation and mitigation strategies and action, is one of the key outputs stipulated by the National Climate Change Policy Framework. 3. It will also help to identify and highlight the appropriate technologies to be embraced by Jamaica as it seeks to fulfil its commitments and obligations under the Nationally Determined Contributions submitted to the UNFCCC.
Liberia	<ul style="list-style-type: none"> • Liberia requested support for TNA through its NDE at the First NDE workshop on 7-8 March, 2014 in Nairobi, Kenya.

Country	Evidence of commitments or need by countries in the TNA process from policy documents and other sources
	<ul style="list-style-type: none"> In its INDC, Liberia states that ‘The implementation of the mitigation interventions will require availability of financial resources, technology development and transfer, and capacity building from the international community.’ In addition, the National Communication of Liberia (2013) specifically identifies the need for conducting a TNA in the country, as follows: ‘A detailed independent study should be conducted following the full UNFCCC process for developing a Technology Needs Assessment (TNA) including detailed analysis of barriers (technical, social, and economic), cost, and sustainability of the actions. Many of the technologies identified in this study need to be adapted to the social, cultural, economic, and environmental priorities of Liberia. As technology issues are mostly in the hands of private-sector, efforts should be made to fully engage the private sector of Liberia not only in the identification and adoption of environmentally-sound technologies but also in the broader implementation of the UNFCCC in Liberia. To that end, there should be capacity-building activities, such as training major stakeholders to be engaged in future TNA processes.’
Nauru	<ul style="list-style-type: none"> Nauru first requested support for TNA through SPC in 2014. Nauru reiterated their interest and indicated that they would submit an endorsement letter. In its National Communication (2015), Nauru states that ‘Technology Needs Assessment (TNA) is the first step in understanding the needs for technology transfer in the host country. TNA is a country driven activity to assist in identifying and analysing the priority technology needs for mitigating and adapting to climate change. However, TNA has not been initiated in Nauru due to various constraints including lack of institutional and financial capacity. Carrying out the TNA could provide an opportunity to realize the need for new techniques, equipment, knowledge and skills for mitigating GHG emissions and reducing vulnerability to climate change. This need for TNA is reiterated by Nauru in its INDC, as follows: The need for development of new technologies and transfer of existing appropriate technologies for adaptation in Nauru cannot be overstated. Technology Needs Assessment (TNA) will help countries like Nauru track their needs for new equipment, techniques, services, capacities and skills necessary to build resilience to climate change. However, TNA has not been initiated in Nauru due to various constraints including lack of institutional, human and financial capacity. The preparation of a detailed technology needs for adaptation is an important next step.’
Niger	<ul style="list-style-type: none"> Niger requested support for TNA through its NDE at the NDE Forum on 24-26 June, 2015 in Saly, Senegal. Niger explained in an email dated 24 March the necessity for the country to conduct the TNA process to implement its INDC, as follows: ‘Le Niger dispose d’une politique nationale en matière de Changements Climatiques dont l’objectif global est de contribuer au développement durable du pays par la réduction des impacts négatifs des changements climatiques avec six (6) axes d’orientations dont l’amélioration de la connaissance, promotion de la recherche-développement, production et diffusion de l’information sur les changements climatiques ; le renforcement et le développement des capacités d’adaptation des populations et de la résilience des systèmes écologiques, économiques et sociaux aux changements climatiques et (iii) le renforcement et le développement des actions d’atténuation des émissions des gaz à effet de serre et la promotion des emplois verts. Aussi, le Niger a élaboré sa Contribution Prévue Déterminée au niveau National (CPDN) dont l’objectif de développement durable auquel elle doit contribuer, ne saurait se réaliser sans le transfert des technologies appropriées, le financement et le renforcement des capacités, en tenant compte des priorités nationales de développement économique et social définies par les différents cadres stratégiques. Ainsi, pour une meilleure mise en œuvre de ces deux documents de référence en matière de changements climatiques, la connaissance des types de technologies dont le pays a véritablement besoins est impératif ; d’où la nécessité d’évaluer tous besoins technologiques du pays. Voilà en quoi le projet est important pour le pays.’ The INDC of Niger includes a specific section for technology transfer and identified this as a priority for the country, including capacity building support. In particular, the documents states that: ‘In order to implement the INDC, Niger will emphasise the need for the transfer of knowledge and technology in the priority sectors of AFOLU and energy. This needs relate essentially to the upscaling of the good practices of climate-smart agriculture, to renewable energy technologies, to energy efficiency and to other action areas such as integrated water resources management (IWRM), urban waste management, fauna, fishing, social and health protection etc.If INDC investments represent around 83% of the total amount, the operating cost can be estimated at 17% (particularly follow-up and evaluation), 10% of which is to be allocated to technology transfer and capacity building.’

Country	Evidence of commitments or need by countries in the TNA process from policy documents and other sources
Malawi	<ul style="list-style-type: none"> • Malawi requested support for TNA through its representative at the First NDE workshop on 7-8 March, 2014 in Nairobi, Kenya. • In its National Communication (2012), Malawi identifies technology transfer as a priority. In particular it states that ‘For the technology transfer, dissemination, uptake and utilization process to occur, an enabling environment needs to be created by Government for all stakeholders. This requires good and conducive Government policies and good governance.’ • In its INDC, Malawi reiterates the needs for support related to capacity building and technology transfer, and states as follows: ‘Between 2015 and 2040, total annual GHG emissions are expected to increase from the current level of approximately 29,000 Gg CO2 equivalents to in the range of 42,000 Gg CO2 equivalents, an approximately 38% rise. However, there is at present significant uncertainty about future emissions, particularly beyond the year 2020. While some of these uncertainties pertain mainly to endogenous economic and political factors, as a least-developed country the pace and scope of future emissions growth and the nation’s overall pursuit of low-emissions development will also hinge on the provision of international capacity building, technology transfer and financial assistance. Malawi's targets reflect a consolidation and expansion of various climate change related initiatives that have been derived from policies, programmes, and projects. Table 1 shows policy mitigation actions in various sectors of the economy, which can be implemented using local resources (i.e., Unconditional). The table also shows mitigation actions, which the Government would undertake on condition that external support in terms of capacity building, technology development and transfer, and financial resources (i.e., Conditional) are provided thereby contributing meaningfully to the reduction of global emissions. External support in form of finance, capacity building and technology transfer would contribute towards reduction in GHG emission from IPPU sector.’
Myanmar	<ul style="list-style-type: none"> • Myanmar first requested support for TNA through UNEP-ROAP in 2015. • In its INDC identifies the conduction of a TNA as a priority, as follows: ‘A preliminary Technology Needs Assessment (TNA) was completed by MOECA as part of the preparation of the Initial National Communication. There is a clear need for the transfer of Environmentally Sound Technologies (ESTs) such as renewable energy and energy efficiency technologies for mitigation and flood control technology and early warning technologies for adaptation. Myanmar’s technology development and transfer needs also include technologies and skills transfer which support the implementation and operation of ESTs such as those that ensure the operation, repair and maintenance of ESTs. The understanding of technology development and transfer needs in Myanmar is still developing and an additional TNA should be completed with international support to better understand these requirements. Particularly in the energy sector, Myanmar needs to develop its knowledge, understanding and gain further access to technology that can support goals. Other examples would be the increased use of meteorological modelling technologies as these can help with the planning of renewable which are dependent on seasonal conditions, and also reduce the impact of extreme weather events by improving weather forecasting.’
Sao Tome and Principe	<ul style="list-style-type: none"> • Sao Tome and Principe first requested support for TNA through UNEP-ROLAC in 2014. • Sao Tome and Principe reiterated their interest and indicated that they would submit an endorsement letter. • Sao Tome and Principe explained in an email dated 24 March 2016, indicates the following about their INDC: ‘In this document we are engaged in renewable energy, mainly small hydro plants, for what TNA process is very important. Furthermore, in the process of mitigation of our vulnerability from climate change the development of program proposed for areas, in SNC like energy, agriculture, forest, fishery, health, coastal zone infrastructure for protection floods, sea level elevation, will be motivation for TNA. Our forest has been devastated by our population for construction of their homes and energy source for cooking. So we need alternative technologies to build new homes for these people and proceed the program of improved stoves.’
Suriname	<ul style="list-style-type: none"> • Suriname first requested support for TNA through UNEP-ROLAC in 2014. • In its INDC, Suriname identified technology transfer as a critical element, as follows: ‘While Suriname reaffirms its commitment to addressing climate change and in particular, maintaining its forest and freshwater resources, it recognizes the need for the international community to work collectively,

Country	Evidence of commitments or need by countries in the TNA process from policy documents and other sources
	<p>responsibly and with urgency to address this issue. In this regard, there are four critical elements necessary for international collaboration:</p> <ul style="list-style-type: none"> (i) Direct access to climate finance; (ii) Compensation for loss and damage; (iii) Technology transfer to engender large scale adaptation and mitigation; and (iv) Compensation for the forest climate services that forest countries have been and continue to provide. <p>•</p>
Trinidad & Tobago	<ul style="list-style-type: none"> • Trinidad and Tobago had requested support for TNA at the regional NDE training in Barbados, October, 2014 • In its INDC, Trinidad & Tobago state that “Mitigation options were identified which underwent cost-benefit analyses and socioeconomic impact assessment and includes policy instruments, knowledge and awareness approaches to elicit behavioural changes and direct technology intervention options such as clean technology, fuel switching and renewable energy and energy efficiency technologies. Due to a lack of sufficient data sets, the methodology to estimate projected emissions was developed as an ad hoc model based on the BIOS model.”
Uganda	<ul style="list-style-type: none"> • The Uganda UNFCCC Focal Point had requested to join TNA Phase II in 2013 but their expression of interest came too late. Since then Uganda has reiterated this request several times (in 2014 and 2015) – through the Chair of the Advisory Board of the CTCN and through the NDE. • In its National Communication (2014), Uganda clearly identified technology action plans as a priority, and states that ‘ Uganda needs additional financial resources to support its national reporting systems under the UNFCCC, especially, in the run up to the 2015 and the post 2020 climate change process. These will require that resources are made available to develop and mainstream robust GHG, NAMAs and MRV systems that are able to address national decision making in planning and interventions as well international reporting. Specifically, Uganda will be needing funds for the following activities: <ul style="list-style-type: none"> • Preparation of National Adaptation plans • Development the Technology Action Plan • Establishment of technology development and innovation centre • REDD Plus project implementation • Preparation of the Third National Communication • Preparation of the First Biannual Update Report • Preparation of the Intended National Determined Contributions <p>E-mail from Uganda:</p> <p>Devoting adequate attention to technology needs, development and transfer is one of the guiding policy principles of the of the 2015 national climate change policy in which Uganda has devoted adequate attention Technology Needs assessment, development as crucial components for addressing climate change adaptation and mitigation challenges in various sectors. Uganda, like most of the least-developed countries, is characterized by a low level of technology development. However, there are various technologies available in the developed and some developing countries that can be transferred to Uganda to maximise adaptation and mitigation potential. The choice of these technologies needs to be rationalized through technology needs assessment (TNAs).</p> <p>In her INDCs, Uganda has committed to undertaking a number of policies and measures to support low-carbon development in key priority sectors of Energy (power supply), forestry and wetlands. Implementation of these</p>

Country	Evidence of commitments or need by countries in the TNA process from policy documents and other sources
	<p>policies and measures is contingent upon the continuation of ongoing and planned international financial, technology transfer and capacity building support to complement domestic efforts as set out in the 2015 National Climate Change Policy.</p> <p>In addition to the prioritized mitigation efforts outlined above, Uganda has indicated in her INDC that is prepared to undertake additional mitigation activities once it receives sufficient international support which inter alia includes technology needs assessment, financing and capacity building. Possible support could be accessed through various climate finance instruments and international market mechanisms.</p> <p>Besides contributing the development of the Technology Action Plans and prioritization of technology needs, the outcomes of the TNA will inter alia enhance Measurement, Reporting and Verification (MRV) processes and assist in the development of standardized baselines to assess and monitor the impacts of implementing INDC adaptation and mitigation initiatives and the climate policy. The TNA outcomes will also be used to guide national dialogue with policy makers and investors and monitoring Technology Action Plan (TAP) policy and investment actions.</p>
Ukraine	<ul style="list-style-type: none"> The economy of Ukraine requires significant structural changes, infrastructural development, technological modernization and recovery after military operations in eastern Ukraine. The INDC's key next steps include: (i) the development of a long-term action plan for climate change mitigation and adaptation; (ii) Designing and implementation of long-term actions aimed at reducing greenhouse gas emissions; and (iii) Development and implementation of measures aimed at increasing absorption of greenhouse gases. It is expected that the TNA will strongly contribute to these next steps.
Vanuatu	<ul style="list-style-type: none"> Vanuatu's NDC states that 'a Technology Needs Assessment (TNA) for Vanuatu is needed as a matter of priority to look at implementing a country driven process for identifying and analysing the priority technology needs for mitigating and adapting to climate change. Carrying out the TNA could provide an opportunity to realize the need for new techniques, equipment, knowledge and skills for mitigating greenhouse gas (GHGs) emissions and reducing vulnerability to climate change.'

ANNEX Q: ACRONYMS AND ABBREVIATIONS

ADB	Asian Development Bank
AfDB	African Development Bank
BAEF	Barrier Analysis and Enabling Framework
BUR	Biennial Update Report
COP	Conference of the Parties
CTCN	Climate Technology Centre and Network
CTI	Climate Technology Initiative
DTU	Technical University of Denmark
EBRD	European Bank for Reconstruction and Development
ENDA	Environment and Development in the Third World
ERC	Energy Research Centre
EST	Environmentally Sound Technologies
GCF	Green Climate Fund
GEF	Global Environment Facility
GHG	Greenhouse gas
GSP	Global Support Programme
IDB	Islamic Development Bank
IEA	International Energy Agency
INDC	Intended Nationally Determined Contributions
IRENA	International Renewable Energy Agency
LDC	Least Developed Country
MTEF	Medium Term Expenditure Framework
NAMA	National Appropriate Mitigation Action
NAP	National Adaptation Plan
NAPA	National Adaptation Programme of Actions
NDC	Nationally Determined Contribution
NDA	National Designated Authority
NDE	National Designated Entity
NDP	National Development Plan
NGO	Non-Governmental Organization
NIE	National Implementing Entity
NIP	National Investment Plan
OFP	Operational Focal Point
PSC	Project Steering Committee
PRSP	Poverty Reduction Strategy Paper
RC	Regional Centres
SDG	Sustainable Development Goals
SE4All	Sustainable Energy For All
SIDS	Small Island Developing States
SPC	Pacific Community
TAP	Technology Action Plan
TE	Terminal Evaluation
TEC	Technology Executive Committee

TFM	Technology Facilitation Mechanism
TNA	Technology Needs Assessment
UDP	UN Environment-Danish Technical University Partnership Centre on Energy, Climate and Sustainable Development
UNDP	United Nations Development Programme
UNDAF	United Nations Development Assistance Framework
UNFCCC	United Nations Convention on Climate Change
UNIDO	United Nations Industrial Development Organization

ANNEX R: TABLE OF CONTENT

	Page
<u>PART I: PROJECT INFORMATION</u>	<u>1</u>
<u>PART II: PROJECT JUSTIFICATION</u>	<u>4</u>
A.0. Describe any changes in alignment with the project design with the original Concept Note	4
A.1. Project Description	6
1) Global environmental and/or adaptation problems, root causes and barriers that need to be addressed	7
2) Baseline scenario and any associated baseline projects	8
3) Proposed alternative scenario, GEF focal area strategies, with an objective, description of expected outcomes and outputs, and activities of the project	9
4) Incremental/additional cost reasoning and expected contributions from the baseline	20
5) Global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF)	22
6) Innovativeness, sustainability and potential for scaling up	22
A.2. Child project	23
A.3. Stakeholders	23
A.4. Gender Equality and Women's Empowerment	25
A.5. Risk	25
A.6. Institutional Arrangements and Coordination	27
A.7. Benefits	30
A.8. Knowledge Management	30
B. Description of the Consistency of the Project	31
C. Describe the budgeted M&E Plan	32
<u>PART III: CERTIFICATION BY GEF PARTNER AGENCY(IES)</u>	<u>34</u>
<u>ANNEXES:</u>	
ANNEX A: PROJECT RESULTS FRAMEWORK	35
ANNEX B: RESPONSES TO PROJECT REVIEWS	38
ANNEX C: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES	40
ANNEX D: CALENDAR OF EXPECTED REFLAWS	41
ANNEX E: CONSULTANTS TO BE HIRED FOR THE PROJECT USING GEF RESOURCES	42
ANNEX F-1: DETAILED GEF BUDGET	43
ANNEX F-2: DETAILED COFINANCE BUDGET	44
ANNEX G: M&E BUDGET AND WORK PLAN	45
ANNEX H: PROJECT IMPLEMENTATION ARRANGEMENTS	47
ANNEX I: PROJECT WORKPLAN AND DELIVERABLES	54
ANNEX J: TRACKING TOOL FOR GEF-6 CCM PROJECTS	55
ANNEX K: OFP ENDORSEMENT LETTERS	56
ANNEX L: CO-FINANCING COMMITMENT LETTERS FROM PROJECT PARTNERS	57
ANNEX M: PROBLEM TREE AND THEORY OF CHANGE	58
ANNEX N: ENVIRONMENTAL AND SOCIAL SAFEGUARDS CHECKLIST	60
ANNEX O: LESSONS LEARNT FROM TNA PHASE I EVALUATION	63
ANNEX P: EVIDENCE OF COMMITMENTS OR NEED BY COUNTRIES IN THE TNA PROCESS	73
ANNEX Q: ACRONYMS AND ABBREVIATIONS	83
ANNEX R: TABLE OF CONTENT	85