



GEF-6 PROJECT IDENTIFICATION FORM (PIF)

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		
Country(ies):	20 countries – Afghanistan, Antigua and Barbuda, Central African Republic, Chad, Djibouti, Dominica, Eritrea, Fiji, Guinea, Haiti, Jamaica, Liberia, Malawi, Nauru, Niger, Myanmar, Sao Tome and Principe, Suriname, Trinidad & Tobago and Uganda	GEF Project ID: ¹	9452
GEF Agency(ies):	UNEP	GEF Agency Project ID:	01339
Other Executing Partner(s):	UNEP DTU Partnership (UDP), National Agencies	Resubmission Date:	April 4, 2016
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:	Poznan Strategic Program	Agency Fee (\$)	513,000

A. INDICATIVE FOCAL AREA STRATEGY FRAMEWORK AND OTHER PROGRAM STRATEGIES²

Objectives/Programs (Focal Areas, Integrated Approach Pilot, Corporate Programs)	Trust Fund	(in \$)	
		GEF Project Financing	Co-financing
CCM CCM-EA	GEFTF	5,400,000	750,000
(select) (select) (select)	(select)		
(select) (select) (select)	(select)		
(select) (select) (select)	(select)		
(select) (select) (select)	(select)		
(select) (select) (select)	(select)		
(select) (select) (select)	(select)		
(select) (select) (select)	(select)		
(select) (select) (select)	(select)		
Total Project Cost		5,400,000	750,000

B. INDICATIVE PROJECT DESCRIPTION SUMMARY

Project Objective: Technology transfer in project countries is facilitated through improved Technology Needs Assessments (TNA) and national Technology Action Plans (TAPs)						
Project Components	Financing Type ³	Project Outcome	Project Outputs	Trust Fund	(in \$)	
					GEF Project Financing	Co-financing
TNAs and TAPs	TA	Technology Needs Assessment (TNA) process conducted by national stakeholders,	A Country capacity building package to support TNA/TAP national teams is	GEFTF	4,933,300	685,181

¹ Project ID number will be assigned by GEFSEC and to be entered by Agency in subsequent document submissions.

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

³ Financing type can be either investment or technical assistance.

		and TNA/TAP results are available to be integrated into national planning processes and to be funded and implemented by interested stakeholders.	developed and implemented in project countries TNAs and TAPs completed by countries with project support, including project ideas as concrete actions for implementation			
Subtotal					4,933,300	685,181
Project Management Cost (PMC) ⁴				GEFTF	466,700	64,819
Total Project Cost					5,400,000	750,000

For multi-trust fund projects, provide the total amount of PMC in Table B, and indicate the split of PMC among the different trust funds here: ()

C. INDICATIVE SOURCES OF CO-FINANCING FOR THE PROJECT BY NAME AND BY TYPE, IF AVAILABLE

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount (\$)
National Government	20 National Government Contributions	In-kind	500,000
GEF Agency	UNEP	In-kind	50,000
Others	UDP	In-kind	200,000
(select)		(select)	
(select)		(select)	
(select)		(select)	
Total Co-financing			750,000

D. INDICATIVE TRUST FUND RESOURCES REQUESTED BY AGENCY(IES), COUNTRY(IES) AND THE PROGRAMMING OF FUNDS^{a)}

GEF Agency	Trust Fund	Country/Regional/Global	Focal Area	Programming of Funds	(in \$)		
					GEF Project Financing (a)	Agency Fee (b) ^{b)}	Total (c)=a+b
UNEP	GEFTF	Global	CCM		5,400,000	513,000	5,913,000
(select)	(select)		(select)	(select as applicable)			0
(select)	(select)		(select)	(select as applicable)			0
(select)	(select)		(select)	(select as applicable)			0
(select)	(select)		(select)	(select as applicable)			0
Total GEF Resources					5,400,000	513,000	5,913,000

a) 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.

E. PROJECT PREPARATION GRANT (PPG)⁵

Is Project Preparation Grant requested? Yes No If no, skip item E.

PPG AMOUNT REQUESTED BY AGENCY(IES), TRUST FUND, COUNTRY(IES) AND THE PROGRAMMING OF FUNDS

Project Preparation Grant amount requested: \$					PPG Agency Fee:		
GEF Agency	Trust Fund	Country/ Regional/Global	Focal Area	Programming of Funds	(in \$)		
					PPG (a)	Agency Fee ⁶ (b)	Total c = a + b
(select)	(select)		(select)	(select as applicable)			0
(select)	(select)		(select)	(select as applicable)			0
(select)	(select)		(select)	(select as applicable)			0
Total PPG Amount					0	0	0

F. PROJECT'S TARGET CONTRIBUTIONS TO GLOBAL ENVIRONMENTAL BENEFITS⁷

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 indirect)	<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: 20</i>
	Functional environmental information systems are established to support decision-making in at least 10 countries	<i>Number of Countries:</i>

⁵ PPG requested amount is determined by the size of the GEF Project Financing (PF) as follows: Up to \$50k for PF up to \$2m (for MSP); up to \$100k for PF up to \$3m; \$150k for PF up to \$6m; \$200k for PF up to \$10m; and \$300k for PF above \$10m. On an exceptional basis, PPG amount may differ upon detailed discussion and justification with the GEFSEC.

⁶ PPG fee percentage follows the percentage of the Agency fee over the GEF Project Financing amount requested.

⁷ Provide those indicator values in this table to the extent applicable to your proposed project. 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. There is no need to complete this table for climate adaptation projects financed solely through LDCF and/or SDCF.

PART II: PROJECT JUSTIFICATION

1. Project Description. Briefly describe:

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

Despite the global and national recognition of the need for technology transfer, barriers like 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 barriers in a holistic and complementary manner is necessary for leveraging technology investments and achieving more rapid diffusion of climate friendly technologies. The Inter-governmental Panel on Climate Change (IPCC) and the UNFCCC's Expert Group on Technology Transfer (EGTT) have noted that there is no single approach to enhancing technology transfer, and that the identification, analysis and means of overcoming barriers must therefore be country and/or technology specific.

This project will address some of these barriers, by building national capacities, institutionalising the Technology Needs Assessment (TNA) process, integrating TNA results into planning processes, facilitating national dialogue with policy makers and investors to lay the foundation for further policy and investment actions.

The countries included in this PIF (the 18 with LOEs at the moment) actually mention explicitly in their policy documents (iNDCs or National Communications) the need for external support to conduct technology transfer in a consistent manner. In **Annex II** below we have collected excerpts from iNDCs and National Communications from each of these countries showing this need for a TNA.

2) the baseline scenario or any associated baseline projects,

The project responds directly to Article 4.5 of the United Nations Framework Convention on Climate Change (UNFCCC), which states, inter-alia, that the "...developed country Parties and other developed Parties shall take practicable steps to promote, facilitate and finance, as appropriate, the transfer of, or access to, environmentally sound technologies and know-how to other Parties, particularly developing country Parties, to enable them to implement the provisions of the Convention. In this process, the developed country Parties shall support the development and enhancement of endogenous capacities and technologies of developing country Parties. Other Parties and organizations in a position to do so may also assist in facilitating the transfer of such technologies."

In this context, with GEF funding, UNEP DTU Partnership as the executing agency supported 36 countries to conduct a TNA process during 2009-2013 (Phase 1 of the 'second generation of TNAs' as per the Poznan Strategic Programme on technology Transfer) and is currently supporting 26 more countries to do so (Phase II). UNEP DTU partnerships, hereinafter referred to UDP is the former UNEP Risø Centre. UDP is a leading international research and advisory institution on energy, climate and sustainable development. The detailed list of countries is available under **Annex 1**. Among all developing countries, 54 Least Developed Countries (LDCs) and Small Island Developing States (SIDS) haven't conducted TNAs yet (among those 41 are LDCs and 22 are SIDS – with 9 being both LDCs and SIDS), including a number of them who expressed interest in conducting a TNA process under the second generation of TNAs..

The Paris Agreement has identified 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).

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 are not enough to plan and implement technology projects that will enable the countries to reach their targets. The TNA – as the national participatory process providing in-depth analysis of technology options and actions – offers a collection of the information for decision-makers and planners as a first step to implement technology action. Therefore this project will be the continuation of the two previous phases of TNAs while building 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 in the countries.

The preliminary results of the evaluation of TNA Phase I and the TEC brief on Good practices of *Technology Needs Assessments*, from October 2015 point out a number of challenges encountered in previous phases including the risks of TNAs to be conducted as a standalone process, disconnected from current efforts of national stakeholders and national planning processes; the level of quality and depth of TAPs and projects ideas, especially regarding market and economic information, the need to have TNAs developed by sectoral experts; the need for increased inter-regional and inter-country collaboration and experience sharing; and the challenge of connecting national stakeholders which has been facilitated in previous phases by the proposed TNA institutional set-up at country level but would benefit from additional attention for strengthening the political support of high level decision makers and the engagement of donors and investors for the uptake of prioritized technology actions in these new countries. In this context, this third phase proposes an improved approach addressing these needs, especially reinforcing national capacities and quality of TNA/TAP outputs and strengthening the relationships with donors and investors at national level, and thus increasing the uptake of these products. These additional improvements imply a slight increase in funds, which will be channelled to in-country activities.

Main improvements include:

- National trainings for a wider team of stakeholders in the country (i.e. National TNA committee) in order to strengthen capacities and engagement of a wider array of stakeholders from various concerned sectors (such as Finance, Economic Affairs, Energy, Health, Agriculture and Transport). This will strengthen commitment of the national TNA stakeholders in supporting and informing the TNA process and therefore contribute to increase the quality of TNA and TAP products, and integrate information needed by policy makers and funders in the TAP. It will also enable countries to develop TAP outputs in smaller groups with sectoral experts, collaborating with national consultants. In addition, this will contribute to raise TNA interest of high-level policy makers and will enable TNAs integration into national planning processes. This activity is proposed as part of output 2.
- Peer-to-peer inter-country workshops, conducted in country with successful previous TNA experience to facilitate best practices and knowledge sharing between countries, also including cooperation with ‘champions’ from previous phases of TNA. This activity is proposed as part of output 2.
- National events and roundtables to present TNA/TAP products 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 technology actions prioritized by the countries. More specifically, based on donors and investors interest from the TAP, a number of project ideas will be identified to be developed more in-depth, and to be translated into sound project concepts to be proposed to targeted donors/investors. This activity is proposed as part of output 2.

3) the proposed alternative scenario, GEF focal area⁸ strategies, with a brief description of expected outcomes and components of the project,

The 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 to strengthen countries' capacities to fulfill their reporting commitments under the Convention. The project is aligned to GEF-6 climate change strategic objective of the climate change mitigation focal area strategy, CC 3: Foster enabling conditions to mainstream mitigation concerns into sustainable development strategies, Program 5, to provide 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. The GEF 6 Programming Directions states that support for TNAs will also be made eligible for SIDS and LDCs for the Focal Area Set Aside. Support for enhanced TNAs was included in the GEF Strategic Programme on Technology Transfer approved by the GEF Council in November 2008. This was endorsed by Parties to the UNFCCC at COP14 in Poznan.

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 connector between technology, policy and investor communities.

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). UDP will be the executing agency of this third phase as well.

In particular, the project will result in three main outputs:

- A country capacity building package to support TNA/TAP national teams is developed and implemented in project countries
- TNAs and TAPs completed by countries with project support including project ideas as concrete actions for implementation

Output 1: A country capacity building package to support TNA/TAP national teams is developed and implemented in project countries

The purpose of the activities under the outputs is to provide participating countries with (i) improved methodologies, guidance and tools covering technology assessments and action plans, including to facilitate access to financing; and (ii) strengthening national capacities for conducting and making the best use of the TNA/TAP process to pursue their technology objectives. As a result, it is expected that country capacities for developing user-friendly and useful TNAs, TAPs, and identifying funding sources increase.

Participating countries will have access to improved training and support materials to support TNAs and TAPs preparation thanks to the development of a capacity building package for national TNA teams. In response to repeated requests by countries, the project will further analyze and address gaps in knowledge, methods and tools for

⁸ 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.

TNAs and TAPs from previous phases. This component will build upon existing resources, such as the TNA Guide note (September, 2015), the Stakeholders Guide note: Identification and Engagement of Stakeholders in the TNA Process, the MCA Guidance for Adaptation Technologies (May, 2015), the MCA Guidance for Mitigation Technologies (September, 2015), and the guidance for preparing a Technology Action Plan (TAP).

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 in ready-to submit project concepts to specific donors and investors. In addition, the project team will provide direct technical assistance that strengthens technology transfer networks tied to prioritized technologies at the request of countries where such networks are weak or non-existent.

The project will conduct national TNA capacity building workshops for all stakeholders working directly on TNA (national committee for example) to strengthen stakeholder commitment to the TNA process and foster high level political support including support from donors, financiers and development partners at country level. In order to use available resources efficiently, these efforts will be conducted, as much as possible, as part of technical support missions being organized during the process.

The TNA project will also enable stronger inter-country and south-south cooperation, as this could lead to better coordination of TNAs and requests for international support. For example, the project will facilitate showcasing best practices from countries that conducted TNA; and mentorship/twinning of participating country with a country that has conducted a TNA already, preferably from the same region or with similar climate challenges and priorities.

Deliverables for this output will include:

- Country capacity building package is developed to support TNA teams at national level
- In-country capacity building workshops are conducted for the members of national TNA committees
- Tools are developed to complement existing guidance on accessing funding, and to facilitate implementation of priority actions from TAPs by donors as well as financiers
- Peer-to peer workshops are conducted to facilitate inter-country collaboration and sharing of experience, lessons learnt and best practices
- Tools and methodologies are widely disseminated and made available, where needed, to support technology identification and prioritization work in closely related initiatives and networks

Output 2: TNAs and TAPs completed by countries with project support including project ideas as concrete actions for implementation

The purpose of the activities under this output is to provide technical assistance for participating countries to assess their technology needs for both mitigation and adaptation and develop national action plans to respond to their 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, for planning, to help countries meet UNFCCC commitments and sustainable development priorities.

The project will support Technology Needs Assessments and Technology Action Plans consisting of in-depth analysis of the actual economic and social barriers that hinder the transfer and uptake of prioritized technologies, followed by an assessment of the policy, institutional and finance options to overcome these barriers, in 20 countries. The systematic analysis of barriers will focus on the most important technologies (taking into account the current situation, development priorities, and costs), and the potential market opportunities that exist at the national and regional level. On this basis comprehensive national plans agreed by key stakeholders in the countries will be prepared in a way consistent with both the domestic, regional, and global situations.

To ensure that activities at country level respond to the priorities identified in the relevant United Nations Development Assistance Framework (UNDAF), country partnership strategies of other development partners, and

national strategies, participating countries, with the support of the project team, will prepare costed national work plans 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.

UDP will provide guidance to countries on setting up national project management structures (using a model developed under the on-going TNA project), including ministries of environment and climate change issues, but also ministries of finance, trade, economic affairs, industry, transport, energy, agriculture and other relevant ministries. Such institutional structure will enable the engagement of key sectors and decision-makers in the TNA process, and facilitate the use of its results by stakeholders.

To strengthen the use of TNA outputs, the project will pursue the participatory approach undertaken in TNA phase II, so the outputs can be developed in such a way that they best match the needs of policy makers, and other interested users, such as potential funders. To do so, a strong focus will be put on the ownership of the results by the concerned ministries, through encouraging their strong involvement during the development of the products (participation in TNA national committee, national consultations, etc.), until their endorsement. The engagement of sectoral actors and specialized national experts along the whole process during national consultations and through collaboration with national TNA consultants will also contribute to go more in-depth in TNA/TAP analysis, so the information produced may acquire a higher quality, becomes more valuable for target users and gain more financial sector credibility.

The project will also seek the identification of “Climate technology champions”, who are close to the decision makers and knowledgeable of national planning and investment processes. In addition, the project will encourage the engagement of private sector actors in beneficiary countries, who are often the main drivers for technology transfer and whose opinion is beneficial for the TNA process.

The project will also seek to raise awareness of high level decision makers and development partners at national level to strengthen political buy-in related to the TNA process and foster implementation of the prioritized technology actions. The engagement of the development partners and finance community at country level is critical to increase opportunities for support of TNA follow-up actions and activities (i.e. TAP implementation). In this regard, the TNA/TAP process will encourage the engagement of these actors at early stage and throughout the whole process. A stronger engagement of donors, financial institutions and ministries of planning and finance during the TNA/TAP process will facilitate an agreement and political support for the priority actions for implementation, for priority project ideas and concepts, for related funding options and risk mitigation strategies.

Interactions with donors and development partners will facilitate feedback on the TNA process and related methodologies. The project team (comprising UNEP, UDP and Regional Centre staff as well as internationally recruited consultants), 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 existing TNA help desk will be further strengthened as a reliable source of guidance to national TNA teams on project development and financing issues and approaches. In addition, these activities will increase visibility of TNA and facilitate the mainstreaming TAPs into donor priorities, and Country Partnership Strategies of Regional Development Banks.

The TNA and TAP products will be used by the countries to support implementation of action to meet their climate change targets included in their INDCs. They will also inform and link with other national planning processes and facilitate climate technology mainstreaming into national development plans.

The TAP (including project ideas) will provide information that can be used by planners to accelerate the uptake of the TNA-TAP priorities. TAP will include the level of support required for project development and country readiness (i.e. Institutional/policy strengthening costs, cost of assessments and feasibility studies required, etc.), precise costing for the next steps, specify potential sources of funding, market information for each technology or project identified, etc. For instance, TAP/Project ideas could include the cost ratio, cost-benefit analysis, identification of financial incentives, information on technology risks and specific barriers of a technology related

programme and/or project. This would facilitate assessments by governments and by other potential funders of a technology investment's internal rate of return (in case of a project) or economic rate of return (in case of technology programme at sector or country level).

The TNA/TAP will be developed in a way that strengthens high level political support and the support from development organizations, public and private financiers, and private sector actors at national level for paving the way of implementation. To facilitate the uptake of TNA/TAP results and project ideas, the project will work closely with individual actors and networks during the TNA process to raise interest of prospective funders, and help mobilize resources that will be required for preparation and implementation of plans and project following TNA process. To this end, 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/TAP reports.. As part of the consultation process one area of focus will be with investors to generate project ideas with good potential for investment. 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 to all.

Deliverables for this output will include:

- Awareness of national decision-makers on technologies to strengthen resilience and mitigate climate change is increased and mitigate climate change
- National stakeholder consultations conducted, bringing together wide range of stakeholders (government, research, civil society, private, donors, etc.)
- Regional events are conducted to support preparation of TNAs, peer learning and information sharing among countries
- Specific project ideas are formulated as concrete actions for implementation
- National roundtables with donors and investors are conducted to develop and refine TAP climate technology priorities and project ideas, in order to pave the way for TAP implementation
- New TNAs produced and endorsed
- New TAPs produced and endorsed, including information relevant for policy makers, donors and investor
- TNA briefs are developed, summarizing main findings, recommendations and next steps from TNA and TAPs (per sector, technology, etc).

4) incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing;

Technology issues have moved to the center of climate change negotiations and the Parties to the UNFCCC have emphasized the importance of conducting GEF-supported Technology Needs Assessments in developing countries. Reduction of greenhouse gas emissions has a global benefit, and measures to reduce emissions must be undertaken in developing countries in order to meet goals agreed under the Convention.

Successful implementation of the project at national level for these countries will help that countries put in place the necessary frameworks for accelerated technology transfer and diffusion and the associated reduction in emissions as well as their response to challenges posed by climate change. GEF involvement is justified as this is a response to UNFCCC reporting by countries.

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

Global environmental benefits will stem from policy changes to promote technology transfer and financial support gained for project related outreach. These measures are expected to enhance technology transfer and bring about a reduction in green houses emissions 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 action that are directly related to project activities.

All three components will make sure 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 environmental. 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.

6) innovation, sustainability and potential for scaling up.

This project will innovate from previous TNA phases by taking into account lessons. Countries have expressed preferent to national workshops instead of regional ones, which allows to have more of their staff trained. It will have national workshops instead of regional ones, it will have donor roundtables at country level and it will add an innovative aspect which will track and monitor TNA and Technology Action Plan (TAP) policy and investment actions. To complement these efforts and for resource-efficiency, the project will also use e-learning materials that have been tested and successfully used in previous countries (such as Uzbekistan) to strenghten national workshops.

Sustainability of impacts will come from policy change and funding for project proposals that followed 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.

2. Stakeholders. Will project design include the participation of relevant stakeholders from civil society organizations (yes /no) and indigenous peoples (yes /no)? If yes, identify key stakeholders and briefly describe how they will be engaged in project preparation.

The project involves a wide range of stakeholders both at the national level in the 20 countries supported and those within partner institutions including regional centres of excellence. One of the first tasks of the country team will be draw-up a specific list of stakeholders for consultation, this could include for example relevant institutions and agencies as well as experts according to national circumstances would be at the core of the project. Ministries of Environment, Water, Transport, Energy, National Planning, Technologies, 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 firms importing and/or producing technologies for mitigation and/or adaptation will be associated, and so will potential in-country financiers, international donors.

Regional centres will be involved in the project, first as recipients of training and information, and in providing support directly to the countries. These regional centre are well recognized institutions such Asian Institute of Technology (AIT), ENDA (Senegal), Fundación Bariloche and Libelula (Peru). Over the course of the ongoing TNA project (2009 – 2013), these centers have gained considerable experience, knowledge and skills that have enhanced the proficiency in providing technical assistance to countries. They will continue to receive targeted capacity building support from UDP to address gaps that have become evident since implementation of the on-going TNA project, as well as provide technical assistance to national teams.

3. Gender Equality and Women's Empowerment. Are issues on gender equality and women's empowerment taken into account? (yes /no). If yes, briefly describe how it will be mainstreamed into project preparation (e.g. gender analysis), taking into account the differences, needs, roles and priorities of women and men.

TNAs and associated outputs such as prioritized technologies, and analyses of barriers to their transfer are expected to provide a powerful decision-support tool for technology transfer managers and development planners. Resulting Technology Action 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 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.

Gender analysis on technology transfer is being integrated in TNA guidance tools and methodologies in the current TNA phase II project. This will be further improved and applied in this project.

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.

4 Risks. Indicate risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, propose measures that address these risks to be further developed during the project design (table format acceptable).

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 project development team will do a more detailed risk analysis and include it in the CEO endorsement document.

5. Coordination. Outline the coordination with other relevant GEF-financed and other initiatives.

Project activities will be coordinated with public and private institutions (including enterprises) that have demonstrated capability to analyze technology needs and implement practical actions and additional funding in support of technology transfer in line with national development priorities. These include the Climate Technology Initiative (CTI) started in 1995 by OECD member countries and implemented by the International Energy Agency (IEA) and the pilot regional climate technology networks. 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 project will also facilitate linkages with the network of Climate Innovation Centers (CICs), supported by the World Bank's infoDev, to accelerate the development, deployment and transfer of climate technologies. This network of centers will foster the sharing of best practices, the opening of new markets, and the commercialization of technologies and applications across borders. These centers can support countries for activities that will complement and follow-up on the TNA project activities.

The project will also seek linkages with the Climate Technology Center and Network (CTCN), to increase opportunities related to technical assistance, knowledge sharing and networking activities. The linkage will generate requests that support the implementation of priority actions and project ideas identified in TNA/TAP; and by using the TNA/TAP process as a tool to mainstream climate technology issues into national and sectoral development plans, government commitment will increase as well as the likelihood to access public funding (including donor funding) for implementation of activities identified as priorities during the TNA/TAP, and possibly as follow up actions to CTCN Technical Assistance. With such arrangements, the TNA project would also benefit from the CTCN expertise through engagement of Consortium Partners (notably those already supporting TNA) and Network members for supporting TNA activities.

6. Consistency with National Priorities. Is the project consistent with the National strategies and plans or reports and assessments under relevant conventions? (yes /no). If yes, which ones and how: NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, etc.

Efforts on technologies have been identified by most developing countries as one of the main conditions for the implementation of their respective Intended Nationally Determined Contributions (INDCs). 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 INDCs 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.

The project proposes to build on INDCs 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 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, 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.

7. Knowledge Management. Outline the knowledge management approach for the project, including, if any, plans for the project to learn from other relevant projects and initiatives, to assess and document in a user-friendly form, and share these experiences and expertise with relevant stakeholders.

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 up-to-date information dissemination, such as lessons learned and knowledge exchange between country teams and experts (South-South cooperation). The CTCN will also play an important role, including through its Knowledge Management System and Technology Library, in disseminating the project results.

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/>).

PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)

A. RECORD OF ENDORSEMENT⁹ OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S):
 (Please attach the [Operational Focal Point endorsement letter](#)(s) with this template. For SGP, use this [SGP OFP endorsement letter](#)).

NAME	POSITION	MINISTRY	DATE (MM/dd/yyyy)
Mostapha Zaher	Director – General a.i, GEF Operational Focal Point	NATIONAL ENVIRONMENTAL PROTECTION AGENCY AFGHANISTAN	29/02/2016
Diann Black Layne	Amb., GEF Operational Focal Point	MINISTRY OF HEALTH AND THE ENVIRONMENT ANTIGUA AND BARBUDA	24/02/2016
Hakim Djibril,	Director, GEF National Focal Point	MINISTERE DE L’ENVIRONNEMENT ET DE LA PECHE, CHAD	22/02/2016
Dini Abdallah Omar	Secretary General, GEF Operational Focal Point	MINISTERE DE L’HABITAT, DE L’URBANISME ET DE L’ENVIRONNEMENT DJIBOUTI	28/02/2016
Lloyd Pascal	Director	MINISTRY OF HEALTH AND ENVIRONMENT DOMINICA	24/02/2016
Mogos Woldeyohannes	Director General	MINISTRY OF LAND, WATER & ENVIRONMENT ERITREA	23/02/2016
Joshua Wycliffe	Permanent Secretary	MINISTRY OF LOCAL GOVERNMENT, HOUSING AND	31/03/2016

⁹ For regional and/or global projects in which participating countries are identified, OFP endorsement letters from these countries are required even though there may not be a STAR allocation associated with the project.

		ENVIRONMENT, FIJI	
Ahmadou Sebory Toure	Directeur General FSE/OFP Guinea	MINISTERE DE L'ENVIRONNEMENT, DES EAUX ET FORETS GUINEA	22/02/2016
Jean-Pierre Moise	GEF Operational Focal Point	MINISTERE DE L'ENVIRONNEMENT HAITI	26/02/2016
Gillian Guthrie	GEF Operational Focal Point	MINISTRY OF WATER, LAND, ENVIRONMENT AND CLIMATE CHANGE JAMAICA	01/03/2016
Anyaa Vohiri	Executive Director/CEO & GEF Operationnel Focal Point	ENVIRONMENT PROTECTION AGENCY LIBERIA	25/02/2016
Shamiso N Najira	Assistant Director & GEF Operational Focal Point	ENVIRONMENT AFFAIRS DEPARTMENT MALAWI	29/02/2016
Hla Maung Thein	GEF Operationnel Focal Point/ Deputy Director General	ENVIRONMENTAL CONSERVATION DEPARTMENT, MINISTRY OF ENVIRONMENTAL CONSERVATION AND FORESTRY MYANMAR	23/02/2016
Sasikumar Paravanoor	Acting Secretary	DEPARTMENT OF COMMERCE, INDUSTRY AND ENVIRONMENT NAURU	24/02/2016
M.Seydou Yaye	General Director, GEF Operational Focal Point	MINISTERE DE L'ECONOMIE ET DES FINANCES DIRECTION GENERALE DU PLAN NIGER	26/02/2016
Desire Florentin Ngaibona	Point Focal du Fonds Mondial pour l'Environment	MINISTERE DE L'ENVIRONNEMENT DE L'ECOLOGIE ET DU DEVELOPPEMENT DURABLE REPUBLIQUE CENTRAL AFRICAIN	25/02/2016
Lourenco Monteiro de Jesus	GEF Operationnel	MINISTERIO DAS	29/02/2016

	Focal Point	INFRASTRUCTURAS, RECURSOS NATURAIS E AMBIENTE SAO TOME AND PRINCIPE	
Nataly Plet Dr. Haydi J Berrenstein	OFP, Environmental Policy Officer Political Focal Point	KABINET VAN DE PRESIDENT COORDINATION ENVIRONMENT SURINAME	01/03/2016
Mr. Gayatri Badri Maharaj	GEF Operational Focal Point Managing Director (Ag.)	ENVIRONMENTAL MANAGEMENT AUTHORITY, TRINIDAD & TOBAGO	24/03/2016
Patrick Ocailap	Deputy Secretary to the Treasury/ GEF Operationnel Focal Point	MINISTRY IF FNANCE, PLANNING & ECONOMIC DEVELOPMENT UGANDA	07/03/2016

B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF policies¹⁰ and procedures and meets the GEF criteria for project identification and preparation under GEF-6.

Agency Coordinator, Agency name	Signature	Date (MM/dd/yyyy)	Project Contact Person	Telephone	Email
Brennan Van Dyke, Director, GEF Coordination Office, UNEP		April 4, 2016	Ruth Coutto, Task Manager	+33144371634	ruth.coutto@unep.org

C. ADDITIONAL GEF PROJECT AGENCY CERTIFICATION (APPLICABLE ONLY TO NEWLY ACCREDITED GEF PROJECT AGENCIES)

For newly accredited GEF Project Agencies, please download and fill up the required [GEF Project Agency Certification of Ceiling Information Template](#) to be attached as an annex to the PIF.

¹⁰ GEF policies encompass all managed trust funds, namely: GEFTF, LDCF, and SCCF

Annex 1: List of countries that conducted TNA under Phase I and II

Region	TNA Phase I (2009-2013)		TNA Phase II (2014-2016)
	First Round	Second Round	
Africa	<ol style="list-style-type: none"> 1. Cote d'Ivoire 2. Mali 3. Morocco 4. Senegal 	<ol style="list-style-type: none"> 5. Ethiopia 6. Ghana 7. Kenya 8. Mauritius 9. Rwanda 10. Sudan 11. Zambia 	<ol style="list-style-type: none"> 1. Burkina Faso 2. Burundi 3. Egypt 4. Gambia 5. Madagascar 6. Mauritania 7. Mozambique 8. Seychelles 9. Swaziland 10. Tanzania 11. Togo 12. Tunisia
Asia	<ol style="list-style-type: none"> 1. Bangladesh 2. Cambodia 3. Indonesia 4. Thailand 5. Vietnam 	<ol style="list-style-type: none"> 6. Bhutan 7. Lao PDR (did only TNA) 8. Lebanon 9. Mongolia 10. Nepal 11. Sri Lanka 	<ol style="list-style-type: none"> 1. Jordan 2. Lao PDR (TAP only) 3. Malaysia 4. Philippines
Eastern Europe	<ol style="list-style-type: none"> 1. Georgia 	<ol style="list-style-type: none"> 2. Azerbaijan 3. Kazakhstan (did only TNA) 4. Moldova 	<ol style="list-style-type: none"> 1. Armenia 2. Kazakhstan (<i>TAP only</i>) 3. Turkmenistan 4. Uzbekistan
Latin America and Caribbean	<ol style="list-style-type: none"> 1. Argentina 2. Costa Rica 3. Guatemala 4. Peru 	<ol style="list-style-type: none"> 5. Cuba 6. Colombia 7. Dominican Republic 8. Ecuador 9. El Salvador 10. Bolivia 	<ol style="list-style-type: none"> 11. Belize 12. Bolivia 13. Grenada 14. Guyana 15. Honduras 16. Panama 17. Uruguay

Annex II – Evidence of commitments or need by countries in the TNA process from policy documents and other sources

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. 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;

	<ul style="list-style-type: none"> - 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; - 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.
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) 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 à 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>

	<p>Une approche systémique et participative doit être envisagé 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 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 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). - La diffusion de l'information sur les technologies. <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</p>

	<p>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>
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.
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>
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).

	<ul style="list-style-type: none"> 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 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. Désignation de correspondants climat au sein de chaque Ministère, bénéficiant de formations régulières sur l’intégration des enjeux climat. 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. Ce comité devrait disposer de ressources propres pour lui permettre d’accomplir ses fonctions. 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. 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. Opérationnalisation de la CPDN Achever, de manière urgente: - 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 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: <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 style="margin-left: 40px;">“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 style="margin-left: 40px;">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. • 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

	<p>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.’</p>
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.’
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

	<p>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.’</p>
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 MOECAAF 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, responsibly and with urgency to address this issue. In this regard, there are four critical elements necessary for international collaboration: <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.
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:
 - 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

E-mail from Uganda:

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).

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 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.

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.

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.