

Terms of Reference

Technology Needs Assessment

Expert Consultants for: Water, Transportation and Building Sectors

1. Context

The Global Technology Needs Assessment project is a Strategic Program on technology transfer, designed to support countries to carry out Technology Needs Assessments within the framework of the United Nations Framework Convention on Climate Change and under the Paris Agreement – to avert the risks and impacts of climate change and to reduce national GHG emissions. The project is being funded by the Global Environment Facility (GEF) and executed by UN Environment, in collaboration with the UN Environment DTU (Technical University of Denmark) Partnership Centre on Energy, Climate and Sustainable Development¹ (UDP).

The purpose of the TNA project is to assist participant developing country Parties identify and analyse 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 UNFCCC Convention. Hence TNAs are central to the work of Parties to the Convention on technology transfer 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. The main objectives of the project are:

1. To identify and prioritize through country-driven participatory processes, technologies that can contribute to adaptation and adaptation goals of the participant countries, while meeting their national sustainable development goals and priorities (TNA).
2. To identify barriers hindering the acquisition, deployment, and diffusion of prioritized technologies.
3. To develop Technology Action Plans (TAP) specifying activities and enabling frameworks to overcome the barriers and facilitate the transfer, adoption, and diffusion of selected technologies in the participant countries.

¹ UNEP DTU Partnership, hereinafter referred to as UDP is the former UNEP Risø Centre

Further, the TNA process will develop Concept Notes for attracting funding to implement selected technologies in priority areas of national relevance.

In Antigua and Barbuda, the TNA project is expected to provide inputs for the development of current and future initiatives which aid in the achievement of its Nationally Determined Contributions (NDC) targets. Antigua and Barbuda has committed to adapting to climate change by increasing desalination capacity, improving resiliency of infrastructure and ensuring that 100% of electricity demand in essential sectors including water and health are met through renewable resources. In addition, the country will mitigate climate change by establishing efficiency standards for imported vehicles and appliances and protecting wetlands and watersheds as carbon sinks. The achievement dates for these targets range from 2020, 2025 to 2030.

A work plan detailing the components and timeline for the TNA project is found at Annex 1.

To support and facilitate the TNA process, national experts are being recruited for the execution of activities in relation to climate change mitigation and adaptation in the water, transportation and buildings sectors under the direct supervision of the TNA Coordinator.

The general and key tasks of the Expert Consultants for water, transportation and buildings sectors are described below.

2. Overall tasks

The expert consultant(s) in each sector will work in close collaboration with the TNA Coordinator, and the national TNA team, including other expert consultants for the TNA project. In relation to the project work plan detailed at Annex 1, it is expected that the project work will be completed by 2020. His/her overall task is to support the TNA process for adaptation in the water and buildings sectors and mitigation in the transportation sector, ranging from engaging with stakeholders, attending and contributing to technical meetings and developing the national TNA project reports for selected technologies in the water, transportation and buildings sectors.

Consistent with domestic and global objectives, the Expert Consultant in the water, transportation and buildings sectors will be responsible for providing the national TNA teams with the process-related and methodological/technical advisory services needed for developing Technology Action Plans (TAPs) at the country level. The role of the Expert Consultant will thus be to lead and undertake activities outlined below for the water, transportation and buildings sectors in support of the TNA exercise and in close collaboration with the TNA teams. The Expert Consultants will apply a participatory approach to the TNA process, involving a range of stakeholders while ensuring a multi-sector and multi-disciplinary scope that promotes the best in class solutions. Moreover, the Expert Consultants will facilitate the tasks of communication with the national TNA team members, outreach to stakeholders, formation of networks, information acquisition, and coordination and communication of work products.

In close collaboration with the rest of the national TNA team and the TNA Coordinator and Regional Centre, the Expert Consultants will be responsible for, *inter-alia*:

- a) Facilitating consultative stakeholder meetings and workshops (inception, TNA Validation, and Technology Action Plan (TAP) finalisation/validation).
- b) identification and prioritization of technologies for the water, transportation and buildings sectors through a participatory process with relevant stakeholders, including;
 - (i) Research, analysis and synthesis
 - (ii) Identifying appropriate sectoral technologies that avert climate risk and/or reduce GHG emissions
 - (iii) Evaluating technologies based on multi-criteria analyses
 - (iv) collecting, analysing and synthesising information and data to prepare concept notes (technology fact sheets) for the sector.
- c) leading the process of analysing with the stakeholder 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 based, *inter-alia*, on undertaking of local market and other assessments, as may be required;
- d) Prepare and finalize the Technology Needs Assessment (TNA), Barrier Analysis and Enabling Framework (BAEF) and Technology Action Plan (TAP) reports, with project ideas, and advocacy and policy briefs, and with inputs of stakeholders included.
 - (i) Prepare working papers and other TNA-related documents as may be required to ease the consultative process and harnessing inputs from stakeholders during meetings, workshops, amongst others.
- e) Provision of other inputs, as may be required, relevant to related part of the TNA process and output targeted as may be requested by the TNA Coordinator, the UNEP DTU Partnership (UDP), Regional Centres and the national TNA Committee.

The Expert Consultants will be required to use best practices, guidelines, methodologies and technical guidance available through the UDP and other approved sources.

The following table provides an overview of key tasks to be conducted by sectoral Expert Consultant(s).

3. Specific tasks

	Tasks	Deliverables	Timeframe	Additional remarks
1.	<p>Identify priority technologies for adaptation</p> <p>Review of existing documents at the national level (NDC, sectoral policies, National Communications, first TNA, etc.)</p> <p>In close collaboration with the TNA Co-ordinator, and the other TNA consultants, the Expert Consultant will support and facilitate:</p> <ul style="list-style-type: none"> • working groups consisting of technical experts and practitioners within each of these sectors. • through a participatory process, the identification of relevant technologies. • based on a multi-criteria analysis, the prioritization of the selected technologies (between 8 and 12 technologies). 	1.Portfolio of technologies for the sector	As per work plan	Detailed methodological guidelines for prioritizing technologies will be provided at a regional capacity building workshop.
2.	<p>Prepare report on priority technologies (TNA report)</p> <ul style="list-style-type: none"> • Prepare TNA report, which will be validated by TNA coordinator and TNA team through workshops, and the TNA Steering Committee. 	2.TNA report, containing prioritized list of technologies and describing the process followed, water and agriculture sectors respectively.		Outline for TNA report to be provided by UDP.

3.	<p>Conduct barrier analysis and prepare Enabling Framework for the deployment and diffusion of prioritized technologies.</p> <p>Conduct:</p> <ol style="list-style-type: none"> 1. Analysis of market and barriers for development, deployment and diffusion of priority technologies for the 8-12 technologies chosen for adaptation. 2. identify measures to overcome barriers 3. Propose Enabling Framework to overcome barriers identified for the 8-12 chosen technologies. 	3. Report on Barrier Analysis and Enabling Frameworks for development for the deployment and diffusion of priority technologies in the sector		TNA Expert Consultants will participate in a regional TNA capacity building workshop on barrier analysis and Enabling framework development.
4.	<p>Prepare a Technology Action Plan (TAP)</p> <p>In collaboration with TNA Coordinator, TNA team and stakeholders the Adaptation Expert (water and agriculture sector) will:</p> <ul style="list-style-type: none"> • Develop technology action plan for deployment and diffusion of prioritised technologies in the country. • Propose project/programme concepts based on priority technologies selected for future funding. 	4. Technology Action Plan based on format agreed for the project, water and agriculture sectors respectively.		Template for the TAP will be shared by UDP at the regional capacity building workshop.

5.	<p>Support development of sector advocacy and policy briefs (one per sector) and organise dissemination event</p> <p>Based on the work previously delivered in the TNA project,</p> <ul style="list-style-type: none"> the Expert Consultant will prepare a targeted sector brief, support its dissemination and present it in a national TNA dissemination and donor engagement event organised by the National TNA coordinator. 			
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4. Support documents

Process related:

- Organising the National Technology Needs Assessment (TNA) Process
- Multi-criteria analysis guide notes, mitigation and adaptation
- Overcoming Barriers to Transfer and Diffusion of Climate Technologies
- Guidance for preparing a Technology Action Plan
- Presentations provided at capacity building workshops

Technology related

- Six Technology guidebooks from UDP
- Climatetechwiki (Online Technology database)
- TNA Technology factsheet database
- CTCN website

Other documents

- Report of past TNA, National communications, sectoral Policies, Strategies and Action Plans, nationally-relevant management plans, etc..

5. Qualifications

- a) The Expert Consultants should possess at least a postgraduate degree in a relevant field for the tasks
- b) The Expert Consultants should possess at least 5 years of work experience in one or more of the sectors water, transportation and buildings or related fields.

6. Profile and Skills

The Expert Consultants should have applied knowledge in water, transportation and/or buildings related technologies in the context of the country. He/She should have extensive knowledge of - and experience with - climate change mitigation and adaptation strategies, technologies and policies at the national level. More specifically he/she should be familiar with national development objectives and water, transportation and/or buildings sector policies, have overall insights in climate change science, and potential climate change impacts, as well as mitigation and adaptation needs for the country in the water, transportation and/or buildings sector. Moreover, the Expert Consultants should have good coordination and facilitation skills, and possess proven analytical capabilities, as well as excellent writing skills.

7. Working Arrangement

The Expert Consultants will be contracted on a part-time basis, with inputs equivalent to a number of working days as reflected in the agreed national TNA budget, with a total of up to 460 person days consultancy for mitigation and adaptation in all prioritised sectors. He/She will be required to be available

for the timely delivery of milestones relevant to the specified tasks over the duration of the project, as required by the TNA Coordinator.

8. Payment

Payment of fees will be based on the deliverables.

9. Selection Process and selection criteria

The selection process will be carried out by UDP with the assistance of the TNA Coordinator and National TNA office. The selection will be based on criteria such as relevant qualifications, experiences, skills, contributions on climate change adaptation, national and international development objectives and sector policies, and understanding of the methodological approach to the assignment. Lastly, the consultant needs to have a good understanding of local context and well-established networks in the country.

10. Language

All working papers, draft reports, final report and/or databases generated should be prepared and submitted in soft copies in the English Language to both UNEP DTU and to the Government of Antigua and Barbuda, Department of Environment.

11. Intellectual Property Rights

All information, results and products, whether tangible or intangible, resulting from the project will be considered as the property of the Department of Environment, Ministry of Health, Wellness and Environment, Antigua and Barbuda, and the UDP. The consultants will be duly acknowledged within the reports for their contribution.

12. Application Procedure

To express your interest send your CV, covering letter and addresses for 3 references, to the Procurement Officer at DOE@ab.gov.ag and copied to antiguaenvironmentdivision@gmail.com and Jamila Gregory at Jamila.Gregory@ab.gov.ag and Gordon Mackenzie at goma@dtu.dk by 30 November 2018. Applications received after midnight (Antigua and Barbuda time) on 30 November 2018 will not be considered.