

Country	Jamaica
Request ID#	<i>Activity A396 of the Objective 1. NDC Revision and Raising Ambition, NDC Partnership Climate Action Enhancement Package (CAEP).</i>
Title	<i>Identification of a climate change research agenda to include collaboration with academia</i>
NDE	Ministry of Economic Growth and Job Creation Ms. Una May Gordon Principal Director, Climate Change Division +1 876 633 7354 unamay.gordon@megjc.gov.jm
Proponent	Ministry of Economic Growth and Job Creation Ms. Una May Gordon Principal Director, Climate Change Division +1 876 633 7354 unamay.gordon@megjc.gov.jm

Summary of the CTCN technical assistance

Jamaica is a member of the Small Island Developing States (SIDS) group. SIDS contributes less than 1% to the world's greenhouse gas emissions¹, while remaining exceptionally vulnerable to the negative effects of climate change (CC). In 2013, Jamaica's total GHG represented 0.02% of the global GHG emissions, however, the country experiences the negative impacts of CC not only in terms of its natural and social capital, but also in its economic development.

Jamaica's energy matrix shows a distinct dependence on fossil fuels, which makes it challenging to move forward in complying with the NDCs goals. However, the transformation of the energy matrix faces many challenges. For electricity generation the adoption of environmentally friendly technologies, for example, during the generation and storage of energy, is limited by the high costs involved in acquiring equipment, which limits its diffusion, in addition to facing grid integration problems. Furthermore, there is also the heavy weight of highly fuel-demanding activities within the economy where a majority of the energy consumption corresponds to transport and industry. This situation creates a need to consolidate research and technological development (R&TD) capacities² to guarantee an adequate transfer assimilation and deployment of the acquired technology, in order to achieve an appropriate mastery of them.

¹ Small Island nations at the frontline of climate action.

<https://www.undp.org/content/undp/en/home/presscenter/pressreleases/2017/09/18/small-island-nations-at-the-frontline-of-climate-action.html>

² Research and technological development (RTD), refers to innovative activities undertaken by corporations or governments in developing new services or products, or improving existing services or products. Scientific research and technological development are the main activities which create and generate economic and social progress in the modern world (Wikipedia and Angela Timuş & Laura Afteni & Stela Rînja, 2007. "Scientific Research, Technological Development and Innovation as Parts of Sustainable Development," *Annals of the University of Petrosani, Economics*, University of Petrosani, Romania, vol. 7, pages 319-323.)


The other major problem that merits urgent research contributions is assessing the impacts of climate change, and identification of adaptation options in order to address them. Jamaica is located among the countries of highest vulnerability, and experiences important changes in various climatic parameters. It is imperative that the capacities to assess the potential impacts related to climate change risks are strengthened, as well as the development of knowledge on how to better to adapt to them.

The CTCN technical assistance (TA) will support Jamaica's efforts in achieving its NDCs, as well as Climate Change Policy Framework (CCPF), specifically by contributing to the definition of a R&TD agenda that considers two fundamental themes: (i) improvement and technological development aimed at increasing energy efficiency and reducing GHGs, and (ii) the expansion of both the production and use of knowledge to address climate change impact-related issues, as well as adaptation actions.

Agreement:

(If possible, please use electronic signatures in Microsoft Word file format)


National Designated Entity to the UNFCCC Technology Mechanism

Name: Una May Gordon
Title: Principal Director
Date: June 22, 2020
Signature: 

Proponent (signature of the Proponent is optional)

Name:
Title:
Date:
Signature:

UNFCCC Climate Technology Centre and Network (CTCN)

Name: Rose Mwebaza
Title: CTCN Director
Date: 23/06/2020
Signature: 

1. Background and context

Although Jamaica is located among the countries emitting low greenhouse gas (GHG) emissions (around 3 tons per inhabitant), its energy matrix is highly dependent on fossil fuels, especially oil, which constitutes one of the main obstacles to advance in the fulfillment of their NDCs. Despite sustained efforts from the last decade, established in the National Energy Policy 2009–2030, which, among other things, stipulates the introduction of alternative technologies for the generation and use of energy, in 2017 just over 90% of the total energy supply came from fossil fuels, mostly oil and its derivatives. In the electricity sector, which accounted for 26% of total energy consumption, the main source of electricity generation was fossil fuels (88.8%), although it should be noted that wind energy registered a significant increase going from 1% in 2007 to 6% of generation in 2017. Solar energy begins to spread, reaching a 1% share. In contrast, hydrogeneration experienced a decrease in its share, from 5% to 3.5%³.

The main obstacle preventing the adoption of environmentally friendly technologies in Jamaica is costs. In the case of energy generation, for example, the transition towards the use of renewable sources would be possible through the progressive acquisition of technology (especially wind and solar), but costs, including those associated with its adaptation to the current distribution infrastructure and energy storage, make it difficult to disseminate.

No less important problems arise from the consumption side, specifically related to the structure of the economy. In 2018, the contribution of services towards the GDP was 59.4%, while industry contributed 20.3% and agriculture 6.6%⁴. However, energy consumption is distributed unevenly. In 2017, agriculture, while quite small contributed just over a third (34%) of GHG emissions, followed by electricity (21%), land transport (14%) and the Bauxite alumina (12%). Within the industry sector, an increase is expected due to the expansion of the alumina production capacity⁵.

One way to address these challenges is through the consolidation of technological research and development capacities - developing a minimum critical mass of researchers and technicians - that contribute to an adequate transfer and assimilation of acquired technology, to achieve appropriate levels of use and operation.

Another great challenge, which merits the development of research capacities and its coordinated work with other actors, is estimating the impact of climate change on the country, and the adaptation efforts necessary to face it. Jamaica is among various highly vulnerable countries⁶, and is already undergoing important changes in various climatic parameters. Strengthening the capacities for estimating these impacts, as well as the development of knowledge for the country's adaptation to them, is a fundamental task.

³ 2017 Energy Report Card Jamaica.

⁴ Statista. <https://www.statista.com/statistics/527157/share-of-economic-sectors-in-the-gdp-in-jamaica/>

⁵ Jamaica continues to be one of the largest bauxite producers in the American continent. In 2017, production reached 8,250,000 MT. Approximately half of this was processed to produce 1,782,373 MT of alumina. It should be noted that these extractive and first transformation industries, which are energy-intensive, are the ones that provide the highest export earnings. In 2018, the country's total exports reached 1.5 billion US \$. 59.2% was borne by this industry, while 9.2% by other minerals and by-products. Consequently, considering the time horizon of this industry, which depends on the bauxite reserves, and the reactivation and expansion of alumina production plants, it is imperative to consolidate the technical capacities that allow increasing energy efficiency and proper treatment of the pollutants generated, especially GHG emissions. It should be noted that efforts have been made to increase energy efficiency, which by 2013 was between 75 and 80%, with the goal of reaching 90%. To achieve it, technical cooperation is essential. <https://jbi.org.jm/industry/bauxite-alumina-plants/>

⁶ Intended Nationally Determined Contribution of Jamaica Communicated to the UNFCCC. https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Jamaica%20First/Jamaica%27s%20INDC_2015-11-25.pdf

2. Problem statement

Jamaica established in its NDC (2015) an annual decrease equivalent to 1.1 million TMA of GHG per year by 2030, which would represent 7.8% less generation of emissions compared to the Business as Usual (BAU) scenario. Additionally, it raises the possibility of expanding its scope to 10%, therefore subject to having the support of international technical and economic cooperation. However, the country presents certain inflexibility to modify its energy matrix due to its dependence on fossil fuels. Even when the introduction of alternative technologies is being promoted, especially in the generation of electricity, its contribution to the total energy supply is very small⁷.

In the other hand, according to the IPCC estimates, Jamaica is among the most vulnerable countries to CC. Approximately 90% of the country's \$14 billion GDP is produced within its coastal zone, making its main economic sectors of tourism, industry, fisheries and agriculture highly vulnerable to climate variability and change⁸. The Global Climate Risk Index (GCRI) 2020 shows that for the period 1999 to 2018, Jamaica ranked 57 out of 180 countries⁹.

To address these dual problems related to Climate variability and Change, it is imperative the definition of an R&TD agenda that considers two fundamental themes: improvement and technological development aimed at increasing energy efficiency and reducing GHGs, and the expansion of both the production and use of knowledge to address climate change impact-related issues. It is also imperative to consolidate R&TD capacities to guarantee an adequate transfer and assimilation of the acquired technology, in order to achieve an appropriate mastery of them, as well as to assess the potential impacts related to CC, as well as the development of knowledge on how to better to adapt to such risks.

CTCN Technical Assistance (TA) intends to support the design of a multidisciplinary¹⁰ R&TD agenda that includes both a number of activities to estimate the impact of CC and adaptation measures, as well as research and technological development activities necessary to contribute to the expanded achievement of NDC (for both mitigation and adaptation). During the TA an effort will be made to identify and analyze existing capacities in universities, research centers, and the private sector, whose lines of work relate to and/or support priorities related to CC, as well as the intervention needed to promote the development of technological capacities in productive activities. Two pilot projects will be identified, both of which must have public-private participation, additionally, a first draft of two concept notes for the pilot projects will be formulated to support fund mobilization.

⁷ Ibid

⁸ Climate Risk Profile, Jamaica. USAID. https://reliefweb.int/sites/reliefweb.int/files/resources/2017_USAID-CCIS_Climate-Risk-Profile-Jamaica.pdf

⁹ The Global Climate Risk Index is an analysis based on one of the most reliable data sets available on the impacts of extreme weather events and associated socio-economic data. Its aim is to contextualize ongoing climate policy debates – especially the international climate negotiations – with real-world impacts. Despite the fact the index doesn't presents a comprehensive climate vulnerability scoring. It represents one important piece in the overall puzzle of climate-related impacts and associated vulnerabilities (Eckstein et al. 2019. Global Climate Risk Index 2020).

¹⁰ Multidisciplinary research implies that a particular problem, or other phenomenon, is considered from different disciplinary viewpoints involving different scientific approaches that allow a consistent definition of the problem, possible explanations and more complete solutions (Schoot Uiterkamp, A. J. M., & Vlek, C. A. J. 2007. Practice and outcomes of multidisciplinary research for environmental sustainability. Journal of Social Issues, 63(1), 175-19).

3. Logical Framework for the CTCN Technical Assistance:

<p>Objective: Identify a multidisciplinary research and technological development (R&TD) agenda that incorporates collaboration with academia, R&TD centers and the private sector to support the achievement of climate change targets in the key sectors identified in relevant policy frameworks, including NDC and the National Development Plan – Vision 2030.</p>
<p>Outcome: Identify a multidisciplinary research and technological development (R&TD) agenda that incorporates collaboration with academia, R&TD centers and the private sector to support the achievement of climate change targets in the key sectors identified in relevant policy frameworks, including NDC and the National Development Plan – Vision 2030. Key stakeholders including ministries in charge of key sectors, associated organizations, universities and research organizations, private sector, and gender focal points agree on an R&TD agenda that incorporates strategic, long-term, participatory, and transformational measures across key sectors that will drive climate resilient and low carbon growth in Jamaica. The following outputs are expected from this TA:</p> <ul style="list-style-type: none"> • Output 1. Development of implementation planning and communication documents • Output 2. Inception meeting with R&D stakeholders (academia, R&D centres, private sector) to identify country R&D priorities • Output 3. Analysis of R&D sectors priorities vis a vis country climate priorities (NDC, TNA, national plans) • Output 4. Definition of a country research agenda and identification of main collaborations with academia and private sector able to implement the agenda, both at national, regional and international level • Output 5. Selection of two pilot projects, one with academia, one with private sector featuring high climate change benefit potential and preparation of two concept notes addressing the most appropriate financial mechanisms (activity to be further detailed in coordination with Government)

Description	Months							
	1	2	3	4	5	6	7	8
Output 1: Development of implementation planning and communication documents								
<p>Activity 1: All implementers must undertake the following activities at the beginning and at the end of the CTCN technical assistance.</p> <p>i. A detailed work plan of all activities, deliveries, outputs, deadlines and responsible persons/organisations and detailed budget to implement the Response Plan. The detailed work plan and budget must be based directly on this Response Plan;</p> <p>ii. Based on the work plan, a monitoring and evaluation plan with specific, measurable, achievable, relevant, and time-bound indicators used to monitor and evaluate the timeliness and appropriateness of the implementation. The monitoring and evaluation plan should apply selected indicators from the Closure and Data Collection report template and enable the lead implementer to complete the CTCN Closure and Data collection report at the end of the assignment (please refer to item iv below and section 14 in the Response Plan);</p> <p>iii. A two-page CTCN Impact Description formulated in the beginning of the technical assistance and update/revised once the technical assistance is fully delivered (a template will be provided);</p> <p>iv. A Closure and Data Collection report completed at the end of the technical assistance (a template will be provided).</p>	x							x
<p>Deliverable 1:</p> <p>1.1 Detailed work plan</p> <p>1.2 Monitoring and evaluation plan</p> <p>1.3 CTCN Impact Description</p>								

Description	Months							
	1	2	3	4	5	6	7	8
<i>1.4 Closure and Data Collection report</i>								
Output 2: Inception meeting with relevant stakeholders (academia, R&TD centres, and private sector) to identify national R&TD priorities successfully carried out								
<ul style="list-style-type: none"> Activity 2.1: Mapping, in close collaboration with the NDE, relevant stakeholders to be linked to the TA and to be invited to the inception meeting. In this activity, an effort should be made to identify the key sectors for the TA. There are different ways to prioritize the sectors, for example, by working with those with the highest levels of GHG emissions such as industry, transport, and agriculture, or to work with those already prioritized for the process of developing the Technical Needs Assessment (TNA) Agriculture, Coastal Zone and Water for Adaptation, and Energy for Mitigation. Once the key sectors are identified, invite representatives from said sectors to the virtual workshop, including, but not limited to, representatives from ministries, universities, R&TD centers, Jamaican industry, the Bauxite institute, and gender focal points. Also, including bodies such as the National Commission on Science and Technology (NCST), the CC Focal Point Network (CCFPN), and sub-networks at the parish/community level. 	X	X						
<ul style="list-style-type: none"> Activity 2.2: Prepare background information for the workshop using secondary data, such as published reports. This includes an initial mapping of the current main lines of research and activities carried out by identified R&TD stakeholders, as well as an inventory of researchers and groups of researchers working in areas relevant to climate resilience and low carbon growth. 		X						
<ul style="list-style-type: none"> Activity 2.3: Create an annotated one-day agenda specifying the dynamic to be followed during the meeting, including: brainstorm and working group sessions, in order to ensure the country R&TD priorities are fully identified, as well as the guiding principles for developing the R&TD agenda. The methodology should also ensure equal representation of female and male researchers, as well as of basic, physical, technological, and social science researchers. 		X						
<ul style="list-style-type: none"> Activity 2.4: Implement workshop and prepare report with the identified R&TD priorities of the country. 			X					
<i>Deliverable 2:</i>								
<i>2.1 Inception meeting report with methodology used and main conclusions.</i>								
<i>2.2 Report with the country's identified R&TD priorities, the guiding principles for developing the R&TD agenda, and a preliminary list of researchers and groups of researchers working in areas relevant to climate resilience and low carbon growth.</i>								
Output 3: Analysis of R&TD sector's priorities vis a vis country climate priorities (NDC, TNA, adaptation, national plans)			X	X				
<p>Activity 3.1: Compile and analyze existing climate change policy frameworks and strategies to encourage the institutionalization of R&TD within key sectors. The analysis should identify research in the climate change priority areas and actions, progress achieved so far, and challenges faced. In addition, will define a benchmark of institutionalization of R&TD, will define linkages with priority development problems to close the gap and find solution based on science.</p> <ul style="list-style-type: none"> Review documents including, but not limited to: <ul style="list-style-type: none"> ☞ Intended Nationally Determined Contribution (NDC) 2015 ☞ Revised NDC 2020 (or draft document) ☞ National Development Plan – Vision 2030, with special attention to: 								

Description	Months							
	1	2	3	4	5	6	7	8
<p>a. Goal 3 (Jamaica's economy is prosperous) Outcomes 10 (Energy Security and Efficiency) and 11 (A Technology Enabled Society), and</p> <p>b. Goal 4 (Jamaica has a healthy natural environment) outcomes 13 (Sustainable Management and use of environmental and natural resources) and 14 (Hazard Risk Reduction and adaptation to Climate Change).</p> <ul style="list-style-type: none"> ☞ Climate Change Policy Framework (2015) ☞ Third National Communication (2018) ☞ Technology Needs Assessment (2004): Special emphasis should be made in reviewing: (i) the criteria for mitigation and adaptation technologies for Jamaica, (ii) mitigation technologies requirements for Jamaica, (iii) adaptation technologies for the coastal zone and water resources sectors, and (v) barriers of technology transfer. ☞ Science and Technology for Socio- Economic Development Policy (2005) ☞ Draft TNA III components which may be available for review <ul style="list-style-type: none"> • Carry out interviews with key stakeholders to triangulate information and gather more specific information. • Assess the effectiveness of the climate change policy frameworks currently adopted (if any) and the critical factors of success (by sector). • Assess the degree of institutionalization of R&TD within key sectors (for instance, is there a budget currently allocated to R&TD, what percentage does it represent from overall budget per sector, is it permanent budget, is people trained doing research?). • Assess current perceptions towards R&TD from key stakeholders (understanding of research agenda, importance and relevance on the day to day activities, • Identify the research topics, structures, capabilities, technologies and skills needed to support the climate agenda. 								
<p>Activity 3.2: Based on the country R&TD priorities identified during the inception workshop (deliverable 2.2), map and identify the most relevant past and current research projects linked to said priorities. Simultaneously, identify individual or group of researchers linked to such projects. In addition, research to deepen the understanding of the culture of research will be develop by applying on-line surveys /bilateral meetings.</p> <ul style="list-style-type: none"> • Review National statistics of science and technology • Review other secondary data (project reports, annual reports, workshop reports) • Carry out interviews with key stakeholders when necessary to gather additional information • Review university/research centers (private and public) strategic planning, is there a CC focus? How do they link to development problems prioritized by the Government. 				X	X			
<p>Activity 3.3: Match country climate priorities with R&TD current capacities</p> <ul style="list-style-type: none"> • Triangulate information generated through activities 2.1 to 2.4, 3.1 to 3.2, and develop a gap analysis. During the gap analysis identify suboptimal or missing strategies, structures, capabilities, processes, practices, scientific knowledge, technologies and/or skills needed to support the climate agenda. 					X	X		
<i>Deliverables 3:</i>								

Description	Months							
	1	2	3	4	5	6	7	8
<i>3.1 Report identifying areas where there is good matching between the installed capacity of R&TD and the demand generated by the country, in order to achieve climate resilience and low carbon growth, as well as those areas where there are gaps to be addressed.</i>								
Output 4: Definition of a country research agenda and identification of main collaborations with academia and the private sector that can implement the agenda, both at a national, regional and international level, including the selection of two pilot projects								
Activity 4.1: Develop a first version of the R&TD agenda. The document should contain: <ul style="list-style-type: none"> Guidelines principles, including the need to ensuring the alignment of the R&TD agenda with the goals established in the National Development Plan Vision 2030 Jamaica, the NDC, and other policy frameworks Presentation of the main findings of the matching between the installed capacity of R&TD and the demand generated by the country, in order to achieve climate resilience and low carbon growth, as well as those areas where there are gaps to be addressed Identification of the main areas of action to be covered by the R&TD agenda, including those that need further strengthening, as well as new research areas – in case they are needed Identification of capacity development and funding needs Identification of possible areas of collaboration with academia and the private sector to enable the agenda implementation Identification of a list of pilot research projects (equal weighting on mitigation and adaptation focus areas) with academia and the private sector that could be developed in order to accelerate/fast-track R&TD agenda implementation. Identification of main channels of communicating scientific research into a policy making document. An attempt to measure acceptance of in-country research from policy makers will be undertaken. 						X		
Activity 4.2: Plan and implement a workshop with the participation of the R&TD stakeholders involved in the TA, as well as with representatives from the donor community, to validate the R&TD agenda and get their support for its implementation. <ul style="list-style-type: none"> Presentation and validation of the R&TD agenda Prioritization of two pilot projects out of the list of ten 						X	X	
Activity 4.3: Preparation of the final version of the R&TD agenda incorporating feedback from the workshop including the list of the ten pilot projects identified, highlighting the two identified as a high priority.								
Deliverables 4.1 Research agenda validated – including the list of pilot projects as an appendix 4.2 Report identifying main collaborators with academia and private sector to implement the agenda								
Output 5: Preparation of a first draft of two concept notes based on the most appropriate financial mechanism, one with academia and one with the private sector, featuring high climate change benefit potential and preparation								
Activity 5.1: Based on the selected/potential sources of financing agreed with the NDE, propose and agree on the format of the concept note							X	
Activity 5.2: Prepare two draft concept notes							X	

Description	Months							
	1	2	3	4	5	6	7	8
Activity 5.3: Consult the concept notes with the NDNA and prepare the final draft							X	
Deliverable 5: 5.1 Two draft concept notes for two pilot projects, one with academia and one with the private sector, featuring high climate change benefit potential								X

4. Resources required and itemized budget:

Please provide an *indicative overview* of the resources required and itemized budget required to implement the CTCN technical assistance, including for M&E-related activities, using the table below. Important to note that minimum 1% of the budget should explicitly target gender specific activities related to the technical assistance (please see section 10 for further information on gender). Once the Response Plan is completed, a Response Implementation partner(s) will be selected by the Climate Technology Centre (CTC). A detailed activity-based budget for the CTCN assistance will be finalized by the CTCN and selected Implementer.

Activities and Outputs	Input: Human Resources		Input: Travel				Inputs: Meetings/events				Input: Equipment/Material		Estimated cost	
	<i>(Title, role, estimated number of days)</i>		<i>(Purpose, national vs. international, number of days)</i>				<i>(Meeting title, number of participants, number of days)</i>				<i>(Item, purpose, buy/rent, quantity)</i>		Minimum USD \$	Maximum US\$
Output 1: Development of implementation planning and communication documents											9,440	9,920		
Activity 1.1 Detailed work plan of all activities	CI-1	3										\$1,080	\$1,140	
	CI-2	2										\$720	\$760	
	CN-1	0.25										\$550	\$575	
	CN-2	0.25										\$550	\$575	
Activity 1.2. Monitoring and evaluation plan with specific, measurable, achievable, relevant, and time-bound indicators	CI-1	2										\$720	\$760	
	CN-1	1										\$2,200	\$2,300	
Activity 1.3. A two-page CTCN Impact Description formulated in the beginning of the technical assistance and update/revised once the technical assistance	CI-1	2										\$720	\$760	
Activity 1.4. A Closure and Data Collection report completed at the end of the technical assistance	CI-1	3										\$1,080	\$1,140	
	CI-2	2										\$720	\$760	
	CN-2	0.25										\$550	\$575	

Activities and Outputs	Input: Human Resources		Input: Travel			Inputs: Meetings/events		Input: Equipment/Material		Estimated cost	
	<i>(Title, role, estimated number of days)</i>		<i>(Purpose, national vs. international, number of days)</i>			<i>(Meeting title, number of participants, number of days)</i>		<i>(Item, purpose, buy/rent, quantity)</i>		Minimum USD \$	Maximum US\$
	CN-1	0.25								\$550	\$575
Output 2: Report with national R&TD priorities identified										\$13,880	\$16,640
Activity 2.1: Mapping R&D stakeholders to be invited to the inception meeting	CI-1	2								\$720	\$760
	CI-2	1								\$360	\$380
	CN-1	0.2								\$440	\$460
Activity 2.2: Prepare background information for the workshop, including and initial mapping of the current main lines of research and activities	CN-2	0.25								\$550	\$575
	CN-1	0.25								\$550	\$575
	CI-2	1								\$360	\$380
Activity 2.3: Create an annotated one-day agenda specifying the dynamic to the meeting, including brainstorm and working group sessions	CI-1	2								\$720	\$760
	CI-2	1								\$360	\$380
	CN-2	0.1								\$220	\$230
Activity 2.4: Implement workshop and prepare	CI-1	5								\$1,800	\$1,900
	CI-2	5								\$1,800	\$1,900

Activities and Outputs	Input: Human Resources		Input: Travel				Inputs: Meetings/events			Input: Equipment/Material			Estimated cost		
	<i>(Title, role, estimated number of days)</i>		<i>(Purpose, national vs. international, number of days)</i>				<i>(Meeting title, number of participants, number of days)</i>			<i>(Item, purpose, buy/rent, quantity)</i>			Minimum USD \$	Maximum US\$	
report with the identification of the country R&D priorities.	CN-1	0.4											\$880	\$920	
	CN-2	0.4											\$880	\$920	
			International	2	4		Bilateral meetings							\$1,900	\$3,420
			National	2	5									\$1,600	\$2,200
			National	2	2									\$740	\$880
Output 3: Analysis of R&D sectors priorities vis a vis country climate priorities (NDC, TNA, national plans)												\$13,700	\$14,410		
Activity 3.1: Compile and analyze existing climate change policy frameworks and instruments within different sectors. T	CI-1	3											\$1,080	\$1,140	
	CI-2	3											\$1,080	\$1,140	
	CN-1	0.3											\$660	\$690	
	CN-2	0.3											\$660	\$690	
Activity 3.2 Map and identify the most relevant past and current research projects linked to said priorities. Simultaneously, identify individual or group of researchers linked to such projects	CI-1	4											\$1,440	\$1,520	

Activities and Outputs	Input: Human Resources		Input: Travel				Inputs: Meetings/events		Input: Equipment/Material		Estimated cost	
	<i>(Title, role, estimated number of days)</i>		<i>(Purpose, national vs. international, number of days)</i>				<i>(Meeting title, number of participants, number of days)</i>		<i>(Item, purpose, buy/rent, quantity)</i>		Minimum USD \$	Maximum US\$
	CI-2	4									\$1,440	\$1,520
	CN-1	0.5									\$1,100	\$1,150
	CN-2	0.2									\$440	\$460
Activity 3.1 Match country climate and development priorities with R&D current capacities	CI-1	5									\$1,800	\$1,900
	CI-2	5									\$1,800	\$1,900
	CN-1	0.5									\$1,100	\$1,150
	CN-2	0.5									\$1,100	\$1,150
Output 4: Definition of a country research agenda and identification of main collaborations with academia and private sector able to implement the agenda, both at national, regional and international level											\$21,760	\$24,825
Activity 4.1: Develop a first version of the R&D agenda	CI-1	4									\$1,440	\$1,520
	CI-2	3									\$1,080	\$1,140
	CN-2	0.2									\$440	\$460
Activity 4.2: Plan and implement workshop with the participation of the R&D stakeholders involved in the TA to validate the R&D agenda	CI-1	2									\$720	\$760
	CI-2	2									\$720	\$760
	CN-1	0.25									\$550	\$575
Activity 4.3: Preparation of the final version of the R&D	CI-1	4									\$1,440	\$1,520
	CI-2	5									\$1,800	\$1,900

Activities and Outputs	Input: Human Resources		Input: Travel				Inputs: Meetings/events		Input: Equipment/Material		Estimated cost		
	<i>(Title, role, estimated number of days)</i>		<i>(Purpose, national vs. international, number of days)</i>				<i>(Meeting title, number of participants, number of days)</i>		<i>(Item, purpose, buy/rent, quantity)</i>		Minimum USD \$	Maximum US\$	
agenda incorporating feedback from the workshop.	CN-1	0.4									\$880	\$920	
	CN-2	0.1									\$220	\$230	
			International	4	6	Workshop to validate the R&D agenda						\$3,350	\$4,020
			Nacional	3	4							\$1,820	\$2,320
			Nacional	3	5							\$2,150	\$2,900
									4	Workshop materials		\$200	\$400
							20	3	Workshop to validate the R&D agenda			\$4,950	\$5,400
Output 5: Selection of two pilot projects, one with academia, one with private sector and preparation of two concept notes addressing the most appropriate financial mechanisms											\$11,220	\$11,810	
Activity 5.1: Propose and agree on the format of the concept note with the DNA	CI-1	3									\$1,080	\$1,140	
	CI-2	2									\$720	\$760	
	CI-1	4									\$1,440	\$1,520	

Activities and Outputs	Input: Human Resources			Input: Travel			Inputs: Meetings/events			Input: Equipment/Material			Estimated cost	
	<i>(Title, role, estimated number of days)</i>			<i>(Purpose, national vs. international, number of days)</i>			<i>(Meeting title, number of participants, number of days)</i>			<i>(Item, purpose, buy/rent, quantity)</i>			Minimum USD \$	Maximum US\$
Activity 5.2: Prepare two concept notes	CI-2	5											\$1,800	\$1,900
	CN-1	0.6											\$1,320	\$1,380
	CN-2	0.4											\$880	\$920
Activity 5.3: Consult the concept notes with the NDE and prepare the final versions	CI-1	4											\$1,440	\$1,520
	CI-2	4											\$1,440	\$1,520
	CN-2	0.5											\$1,100	\$1,150
TOTAL												\$70,000	\$77,605	

5. Profile and experience of experts

Based on the required Human Resources identified in section 4 (Resources required and itemized budget) please provide a description of the required profile of all involved experts for the implementation of the CTCN Response Plan.

Experts required	Brief description of required profile
International Expert 1	<p>Essential</p> <ul style="list-style-type: none"> • Formal academic qualifications in science and/or engineering, with advances studies (Ph.D. or M.Sc.) in Climate change (impacts, risk, vulnerabilities and adaptation) • Five (5) years of experience providing technical consultancy services within a developing country • Experience in developing plans that involve the assessment of climate change impacts and adaptation • Familiarity with the UN process, research needs assessment methodology and research planning • Experience in conducting technology prioritization and multi-criteria analysis • Experience with initiatives focusing on mitigation of climate change impacts and adaptation measures • Fluency in English <p>Highly Desirable</p> <ul style="list-style-type: none"> • In-depth understanding of policy measures and drivers
International Expert 2	<p>Essential</p> <ul style="list-style-type: none"> • Formal academic qualifications in engineering and/or economy with advances studies (Ph:D or M.Sc) in science, technology, and innovation policy and management. • Eight (8) years of experience providing technical consultancy services within a developing country • Experience in developing national plans that involve rigorous assessment of technological options in order to lessen the impact of economic activities and sectoral analysis at a country level • Familiarity with the UN process, technology needs assessment methodology and technology action planning • Facilitation skills in delivering dedicated training workshops regarding the research and technological development needs assessment process • Experience in conducting technology prioritization and multi-criteria analysis • Experience with initiatives to lessen the impact of industrial activities, agriculture and transport • Fluency in English <p>Highly Desirable</p> <ul style="list-style-type: none"> • Understanding of wider policy measures and drivers to overcome barriers of the deployment of technologies and sectors for mitigation and adaptation. • Knowledge and experience working in the development of enabling environments and incentives to foster company innovation aimed towards reducing environmental impacts
National consultant 1	<p>Essential</p>

Experts required	Brief description of required profile
	<ul style="list-style-type: none"> • Advanced studies (M.Sc.) in social sciences and/or related fields, with experience in multidisciplinary research (desirable) • Five (5) years of professional experience • Experience in facilitating and delivering stakeholder workshops and group facilitating aimed at engaging multiple actors, promoting inter-institutional and multisectoral coordination • Experience in the preparation of technical reports on climate change and sustainable development <p>Highly Desirable</p> <ul style="list-style-type: none"> • Knowledge of the Jamaican national science, technology and innovation system • Knowledge of the state of the art of climate change policies and programs in Jamaica (regulation, voluntary standards, etc.) • Understanding of statistics regarding climate change indicators (emissions, desertification, changes in land uses, etc.) • Understanding of the industrial policy and dynamics of the Jamaican productive sectors
National consultant 2	<p>Essential</p> <ul style="list-style-type: none"> • Graduate in economics (or related field), statistics and/or engineering, with advanced studies in science, technology and innovation policy and management, or natural resources management • Five (5) years of professional experience • Experience with the preparation of technical reports on climate change and sustainable development • Experience in modeling and performing data analysis (management of databases and statistical programs) • Experience with climate finance and preparation of concept notes <p>Highly Desirable</p> <ul style="list-style-type: none"> • Understanding of statistics on climate change indicators of productive sectors (emissions, energy consumption, etc.) • Knowledge of state of the art of environmental impact mitigation in some of Jamaica's productive sectors (industry, agriculture, transport) (identification of implemented environmental technologies, technological innovations to reduce the environmental impact, etc.) • Knowledge of the use of combined financial instruments for private investment in climate initiatives and in preparing proposals for multilateral funds

6. Intended contribution to impact over time

Jamaica will benefit from the TA support by improving its knowledge about the state of the art of its current capacity for R&TD and how it matches the demand generated by the country, in order to achieve climate resilience and low carbon growth.

The work to be developed during the implementation of the TA will enable Jamaica to organize its process for establishing and implementing a long term R&TD agenda that will contribute to the implementation of the NDP-Vision 2030, and the NCST. It will also strengthen already established coordination mechanisms in R&TD.

Another contribution over time is the prioritization of R&TD actions and the identification of gaps that need to be addressed in the key sectors. By having clearly identified the priority actions, the Government can have a prioritized portfolio of projects ready to be submitted to financing institutions in case of a specific call for proposal.

At the same time, the TA will complement the national processes to revise and update its NDCs by 2020.

Finally, the TA will enable technology transfer, therefore, this CTCN TA offers a major opportunity towards the realization of climate strategies and resilient low carbon development goals of the country.

7. Relevance to NDCs and other national priorities

The **Jamaica** NDC (2015) has a strong focus on energy and mitigation efforts, including specific targets for GHG emissions. The NDC also includes a section on adaptation with no specific targets. However, the NDC establishes a clear alignment with the NDP-Vision 2030, which ensures the integration of CC into national policies and development activities.

Since the TA will contribute to the definition of a R&TD agenda that considers both improvement and technological development aimed at increasing energy efficiency and reducing GHG emissions, as well as the expansion of both the production and use of knowledge to address climate change impact-related issues and adaptation actions, the TA will provide valuable inputs to the actions related to the NDC, including the ongoing assessment and update of the NDC.

Given that the TA will enable Jamaica to organize its process for establishing and implementing a long-term R&TD agenda, it will provide inputs to support the Jamaica's technology needs assessment (TNAs) being carried out in 2020.

International finance and investment, technology and capacity-building will be needed to achieve the ambitious intended contribution. The TA will support efforts to mobilize international finance and investment by identifying ten pilot projects and produce a draft concept note for two of them.

The TA could also provide valuable inputs to strengthen Jamaica’s Renewable Energy NAMA and the Water Sector NAMA which is currently seeking financing.

The TA is relevant and will contribute to advance the Climate Change Policy Framework for Jamaica which is currently being revised, specifically towards the following objectives:

1. To mainstream climate change considerations into national policies and development planning and to build the country’s capacity to implement climate change adaptation and mitigation activities.
4. To improve communication at all levels on climate change impacts as well as adaptation and mitigation related opportunities.
5. To mobilize climate financing for adaptation and mitigation initiatives.
6. To encourage the private sector to embrace climate change imperatives and promote the development and implementation of technologies and processes that contribute to climate change adaptation and mitigation initiatives.

8. Linkages to relevant parallel on-going activities:

The TA will build on and/or contribute to the following previous and ongoing public and private sector initiatives:

- **The TA will build and contribute to the ongoing Assessment and update of the NDC.** The project supports the government of Jamaica in assessing and updating its NDC.
- **The TA will build on USAID projects including those** (i) supporting integration of climate change considerations into development plans, (ii) strengthening weather information services, by assisting in the design of an innovative drought-prediction tool, (iii), supporting Jamaican farmers boost their production through the climate-smart agriculture approach.
- **The TA will build on** Jamaica’s initial climate change technology needs assessment developed with CTCN support in 2014.
- **The TA will contribute and build** on the Technology Needs Assessments (TNAs) Phase III being carried out by the Climate Change Division together with representatives from The University of the West Indies, the United Nations Environment Programme, and the Technology University of Denmark
- **The TA will build on the results of the project Improving Energy Efficiency and Security in Jamaica, which was** implemented by the World Bank and focused on (i) strengthening the regulatory and institutional framework to improve sector performance, increase private investment, and transition to cleaner fuels (for example, by introducing a liquefied natural gas (LNG) program to support off-oil diversification); and (ii) developing energy efficiency and renewable energy potential.
- **The TA will build on the initiative that is developing an electromobility strategy for Jamaica.** This is supported by IDB and the aims is to develop an electromobility framework that optimizes the benefits of battery electric vehicles (BEV) adoption in the Jamaican context.
- **The TA will build on the results of the project Enhancing the Resilience of the Agricultural Sector and Coastal Areas to** Protect Livelihoods and Improve Food Security funded by the Adaptation Fund (2012)

- **The TA will build in different workshops and training developed on gender and climate change**, including the workshop for integrating gender considerations into Jamaica’s NAP process (2018), workshop on gender mainstreaming in national sustainable development planning in the Caribbean (2019).

9. Anticipated follow up activities after this technical assistance is completed:

It is expected that once the CTCN-TA is implemented, the outputs and deliveries produced will be used by:

- The Planning Institute of Jamaica to prioritize climate resilient and low carbon development actions
- Ministry of Economic Growth and Job Creation to support the process of assessing and updating the NDC and to inform the advancement and revision of the Climate Change Policy Framework for Jamaica specifically to advance objectives 1,4,5 and 6.
- Private sector to support their own R&TD agendas and for resource mobilization
- Universities, R&TD centres, researchers and group of researchers who will have a strategic document that will guide their future work related to climate change.

10. Gender and co-benefits:

<p><i>Imbedded in design of the activities:</i></p>	<p>The design of the activities of the TA should be guided by the Jamaica national policy for gender equality, the NDP-Vision 2030, and the Climate Change Policy Framework for Jamaica.</p> <p>At the same time, the following institutions and network working with gender and CC should be involved in the implementation of the TA: The Climate Change Focal Point Network (CCFPN), UWI - Institute for Gender and Development Studies (UWI-IGDS), and the Planning Institute of Jamaica, institution that has been in charge of integrating gender considerations in several national development policies, the bureau of gender affairs – with experience in facilitating gender discussions.</p>
<p>Gender and co-benefits intended as result of the activities:</p>	<p>As a result of the TA activities the following co-benefits are intended:</p> <ul style="list-style-type: none"> • Aim to provide equal opportunity for female and male R&TD researchers in decision-making related to climate technology selection. This will include involvement in planning consultation meetings and other project planning processes. • A better coordination between the Gender Focal Points (GFPs) and the Climate Change Focal Points regarding R&TD issues, which will promote a more equitable distribution of costs and benefits derived from the adoption of new technologies. • Capacity needs assessment to be developed during the TA will examine gender issues and incorporate youth, so they benefit from future capacity development activities.

11. Main in-country stakeholders in implementation of the technical assistance activities:

Using the table below, please list and describe the role of in-country stakeholders, participants and beneficiaries who will be involved in or directly consulted during implementation of the assistance.

In country stakeholder	Role in implementation of the technical assistance
NDE of Jamaica - Ministry of Economic Growth and Job Creation	Will facilitate and oversight the actions related to the TA.
Climate Change Division - Ministry of Economic Growth and Job Creation	The CCD has the specific mandate to address climate change issues. It will facilitate and provide oversight to the actions related to the TA
The Planning Institute of Jamaica	Will ensure connection of the R&TD agenda with the NDP- Vision 2030 and other relevant planning frameworks.
The National Commission on Science and Technology (NCST) (https://ncst.gov.jm)	NCST is a broad-based, cross-sectorial national advisory body to the government on policies and strategies relating to science and technology (S&T). Its principal object is to operate as the umbrella organization responsible for fostering and advancing national policy and strategy for science and technology in Jamaica. Its expected role for the TA could be to support the identification of technology options and facilitate private sector participation related to science & technology.
Climate Change Focal Point Network	The network is tasked to ensure climate change considerations are included in the planning and operations of each ministry, department and agency of government. Therefore, its expected role for the TA is to support the vis a vis analysis, provide inputs into the R&TD agenda, as well as to inform its future activities with the outcomes of the TA.
The University of the West Indies (UWI Climate Studies Group)	The role for the TA will be to provide inputs during the development of the R&TD agenda.
The University of Technology Jamaica (UTech)	UTech aims to promote applied and commissioned research that will provide solutions to societal needs. The role for the TA will be to provide inputs during the development of the R&TD agenda.
The Caribbean Policy Research Institute (CAPRI)	CAPRI is a public policy think tank dedicated to the production and dissemination of impartial, evidence-based knowledge to inform economic, governance, sustainable and social policy decision-making. Among the resources it offers to users are renewable energy policy, finance and incentives databases, which could be useful for the identification of finance sources for the pilot projects.
The Jamaica Information Service feature - https://jis.gov.jm/government/agencies/national-commission-on-science-and-technology-ncts/	The role for the TA will be to provide inputs during the development of the R&TD agenda.
Bodles Research Station (BRS)	BRS is linked to the Ministry of Industry, Commerce, Agriculture and Fisheries develops research in the areas of agriculture, climate change,

<p>(https://jis.gov.jm/bodles-research-station-to-evaluate-use-of-tmrs/)</p>	<p>and nutrition among others. It will be key in supporting the TA providing technology to reduce climate risk in the agriculture sector and for improving food security and nutrition.</p>
<p>Scientific Research Counsel (SRC) https://jis.gov.jm/government/agencies/scientific-research-council-src/</p>	<p>The role for the TA will be to provide inputs about climate related technological solutions already in place or new ones needed to further advance the climate agenda.</p>

12. SDG Contributions:

Goal	Sustainable Development Goal	Direct contribution from CTCN TA
1	End poverty in all its forms everywhere	
2	End hunger, achieve food security and improved nutrition, and promote sustainable agriculture	
3	Ensure healthy lives and promote well-being for all at all ages	
4	Ensure inclusive and equitable quality education and promote life-long learning opportunities for all	
5	Achieve gender equality and empower all women and girls	
6	Ensure availability and sustainable management of water and sanitation for all	
7	Ensure access to affordable, reliable, sustainable, and modern energy for all (consider adding targets for 7)	
	7.1 - By 2030, ensure universal access to affordable, reliable and modern energy services	
	7.2 - By 2030, increase substantially the share of renewable energy in the global energy mix	
	7.3 - By 2030, double the global rate of improvement in energy efficiency	
	7.a - By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology	
	7.b - By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States, and land-locked developing countries, in accordance with their respective programmes of support	The TA will support the identification of a R&TD agenda which will facilitate the expansion of the use of upgraded technology by key sectors
8	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	
9	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	
10	Reduce inequality within and among countries	
11	Make cities and human settlements inclusive, safe, resilient and sustainable	
12	Ensure sustainable consumption and production patterns	
13	Take urgent action to combat climate change and its impacts	
	13.1 - Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries	The TA will support the identification of a R&TD agenda which will facilitate resilience strengthening in the country
	13.2 - Integrate climate change measures into national policies, strategies and planning	
	13.3 - Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning	
	13.a - Implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change to a goal of mobilizing jointly \$100 billion annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalize the Green Climate Fund through its capitalization as soon as possible	
	13.b - Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities	The TA will build and support current planning mechanisms such as the TNA and the update of the NDA.
14	Conserve and sustainably use the oceans, seas and marine resources for sustainable development	
15	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss	

16	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels	
17	Strengthen the means of implementation and revitalize the global partnership for sustainable development	

13. Classification of technical assistance:

Please indicate primary type of technical assistance. Optional: If desired, indicate secondary type of technical assistance.

<i>Please tick off the relevant boxes below</i>	<i>Primary</i>	<i>Secondary</i>
<input type="checkbox"/> 1. Decision-making tools and/or information provision	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> 2. Sectoral roadmaps and strategies	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> 3. Recommendations for law, policy and regulations	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> 4. Financing facilitation	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/> 5. Private sector engagement and market creation	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> 6. Research and development of technologies	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> 7. Feasibility of technology options	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> 8. Piloting and deployment of technologies in local conditions	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> 9. Technology identification and prioritisation	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Please note that all CTCN technical assistance contributes to strengthening the capacity of in country actors.

14. Monitoring and Evaluation process

Upon contracting of the implementing partners to implement this Response Plan, the lead implementer will produce a monitoring and evaluation plan for the technical assistance. The monitoring and evaluation plan must include specific, measurable, achievable, relevant, and time-bound indicators that will be used to monitor and evaluate the timeliness and appropriateness of the implementation. The CTCN Technology Manager responsible for the technical assistance will monitor the timeliness and appropriateness of the Response Plan implementation. Upon completion of all activities and outputs, evaluation forms will be completed by the (i) NDE about overall satisfaction level with the technical assistance service provided; (ii) the Lead Implementer about the knowledge and learning gained through delivery of technical assistance; and (iii) the CTCN Director about timeliness and appropriateness of the delivery of the activities and outputs.

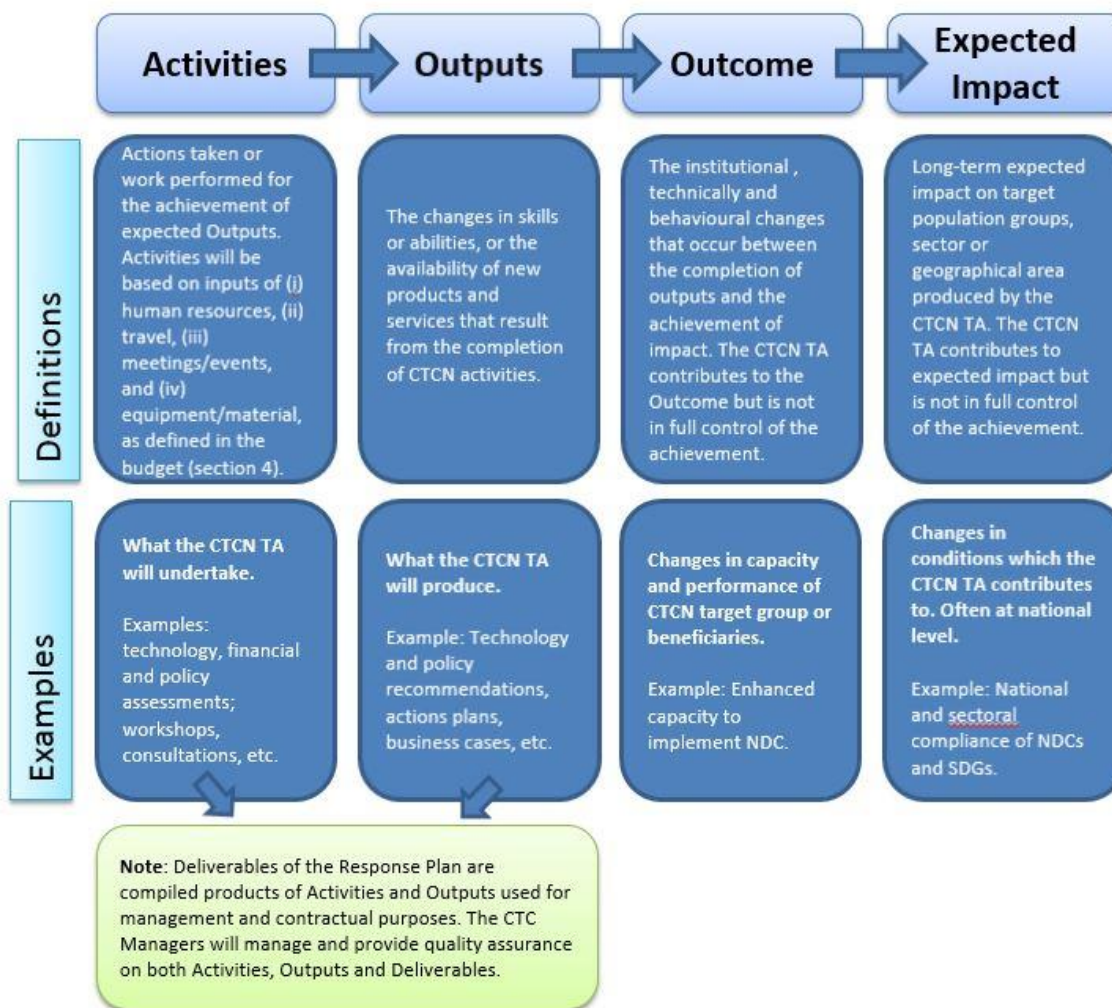
Annex 1: Guidance note for designing a Response Plan (to be deleted when submitting the Response Plan)

1. Objective of the Response Plan

The Response Plan is developed by CTCN specialists in response to a country request for technical assistance. It constitutes the Terms of Reference of the CTCN technical assistance that will be provided to the country and it provides the formulation of and subsequent basis for the monitoring and evaluation of the Response Plan implementation, as well as its expected outcomes and anticipated impacts.

2. Results chain and Logical Framework Approach to be defined in the CTCN Response Plan

The result chain is the causal sequence that stipulates the necessary flow of actions and processes to achieve desired objectives and results – beginning with inputs, moving through activities and outputs, and culminating in individual outcomes. The outcome will contribute to the desired impact in the society. The Logical Framework Approach is an analytical process used to support objectives-oriented project planning and management. It provides a set of pre-defined concepts which are used as part of an iterative process to aid structured and systematic analysis and management of the CTCN technical assistance.



3. Role of the Response Planning Design Team

The Response Planning Design Team is selected by the Climate Technology Centre (CTC). The composition of the team depends on each particular request but may include the National Designated Entity (NDE), the request Proponent, Climate Technology Manager of the CTCN, experts from the CTCN Consortium, UNIDO and UNEP experts from regional offices and other experts as needed.

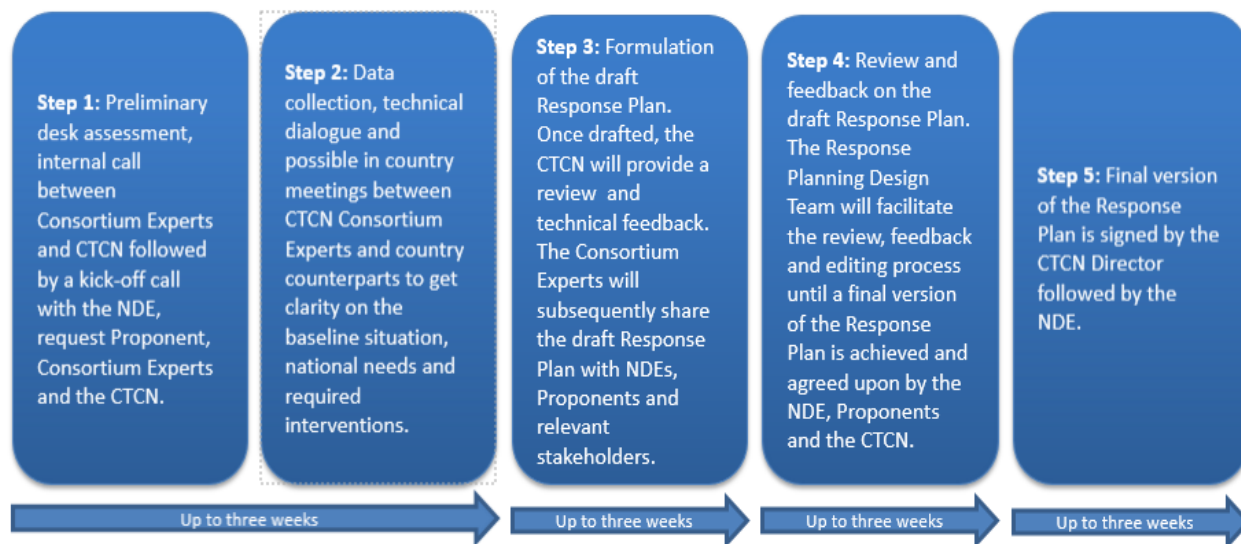
The role of CTCN Consortium experts is to lead the design of the Response Plan. The NDE will provide overall guidance on national context and priorities whereas the request Proponent will provide more detailed information on the sector, barriers and requested assistance. The Climate Technology Manager of the CTCN will provide quality assurance of timeliness and appropriateness of the Response Plan.

The Response Planning Design Team will draft all sections of the Response Plan template building on the information contained in the CTCN Request, based on expertise on the given topic and potentially further data collection, as required. This will be done by the CTCN Consortium Experts in consultation with the NDE, request Proponent and relevant stakeholders. The Response Plan has to be agreed to and approved by the NDE and the CTCN Director. This Response Plan will serve as the basis to identify, select and engage an expert institution from the Climate Technology Network or Consortium to lead the implementation of the CTCN Response Plan in the requesting country.

To the extent possible, staff from UNEP and UNIDO Regional, Sub-Regional and/or National Offices should be involve in all stages of formulation of the Response Plan to maximize synergies and avoid overlap with ongoing initiatives, as well as ensure relevance to regional and national context.

4. Process for designing the Response Plan

The Response Planning process should be completed over a period of up to 60 working days (12 weeks). Indicative steps and related timelines are laid out below:



5. Design Considerations

In order to maximize the impact of the technical assistance provided by the CTCN and provide an effective M&E process, the Response Plan should integrate as much as possible the considerations below:

Climate Technology focus: The Response Plan should have a clear focus on climate technologies, and identify activities that enable the identification, development, deployment or diffusion of one or several specific technologies (including equipment, techniques, knowledge and skills).

Barrier removal / Problem solving: The activities should contribute to address the specific problem statement identified in the Request. The barriers identified should be those hampering the identification, development, deployment or diffusion of one or several climate technologies or climate actions. Therefore, it may be necessary to limit the CTCN Response Plan to a set of activities for technical assistance commonly agreed with the NDE (and Proponent when needed) compared to the original request submitted. The CTCN will liaise with NDEs and Proponent in case the scope of the technical assistance deviates from the original request.

Use of the CTCN assistance by stakeholders: The Response Plan should identify clearly how the products of the CTCN assistance will be used in the short term once support is delivered, by who and when, to ensure it will lead to specific impacts in the country. The activities should engage the stakeholders that will use the concrete results of the assistance to deploy the technologies, including from the private sector, the public sector, research institutions, etc.

Within the scope of CTCN resources: The cost of the technical assistance provided by the CTCN cannot exceed USD 250,000 per Response Plan. Therefore, it may be necessary to prioritize activities and limit the CTCN Response Plan to a set of priority activities commonly agreed with the Proponent and the NDE to remain under this value. Under section 4 of the Response Plan template, an indicative activity based budget should be presented. The proposed budget is indicative and should present an estimated costing range per activity, output as well as a total costing range for the delivery of the Response Plan. Once the Response Plan is finalised and published for tendering, interested parties will provide competitive offer against the indicative budget.

CTCN activities and outputs should be linkable to monitoring and evaluation indicators: All proposed activities and outputs must be linkable to monitoring and evaluation indicators that are specific, measurable, achievable, relevant, and time-bound. The monitoring and evaluation process and corresponding indicators will be developed by the Lead Implementer as part of the work plan and will allow the CTCN technology Manager to monitor the timeliness and appropriateness of the implementation.

Synergies with existing efforts: The Response Plan should focus on activities that are not already being fully supported or that are in the process of being fully supported by another national, regional or international organization. Synergies and complementarity also require that the CTCN assistance is not duplicating past activities. It is possible in the Response Plan to indicate co-financing from the government, the Proponent or another stakeholder, that will maximize the effectiveness of the CTCN assistance.

Gender mainstreaming: The CTCN mission is to build or strengthen developing countries' capacities to identify technology needs, to facilitate the preparation and implementation of technology projects and strategies taking into account gender considerations. The Response Plan must therefore describe how gender considerations will be included and monitored within the proposed activities, and any gender co-benefits that will be gained as a result of implementing the CTCN technical assistance.