STRENGTHENING JAMAICA'S CAPACITY TO MEET TRANSPARENCY REQUIREMENTS UNDER THE PARIS AGREEMENT

TERMS OF REFERENCE

Project:	Assessment of enabled technologies for the establishment of Jamaica's Domestic MRV System
Location:	Jamaica
Grant No.:	JA-T1165
Type of contract	Individual Consultant
Duration of contract:	6 months
Language:	English
Expected start date:	October 11, 2021

1. Background and Justification

1.1. Article 13 of the United Nations Framework Convention on Climate Change Paris Agreement provides for an enhanced transparency framework aiming to build mutual trust and the effective implementation of the actions identified under the Nationally Determined Contribution (NDC). Currently Jamaica is not sufficiently prepared to monitor, report and verify mitigation and adaptation actions, related policies and corresponding finance in a concise and robust manner, nor efficiently able to generate forecasting scenarios and strategic information for policy-makers (economic, investment, technological, etc.) needed to support transformational change.

1.2. As a signatory to the United Nations Framework Convention on Climate Change (UNFCCC), and as a Non-Annex I Party to the Convention, Jamaica has played a key role in international negotiations advocating for adequate funding to assist small island developing states (SIDS). Despite not being a major emitter of greenhouse gases (GHG), Jamaica is playing its part in reducing GHG emissions through "no regret" mitigation actions; as well as fulfilling the UNFCCC's requirements on transparency reporting by submitting several reports, including the first Biennial Update Report (BUR) from among the Latin American and Caribbean SIDS and by ratifying the Paris Agreement in April 2017 becoming a Party in May 2017. Jamaica also submitted its Third National Communications to the UNFCCC in January 2019 and was the 14th country to submit its Updated NDC (submission in June 2020). These submissions indicate the strong level of country commitment to establish long term arrangements to ensure a sustainable, accurate and reliable transparency framework

1.3. The outputs from the National Communications, Biennial Update Reports and the National Determined Contributions, have identified the capacity constraints in Jamaica which include: (i) the current institutional arrangements are not formalized into long term agreements; (ii) there is a widely lack of reliable and accurate data; (iii) poor methodological sophistication; and (iv) limited local technical capacities and expertise.

1.4. Through the Global Environment Facility (GEF), Jamaica has received grant financing valued US$1.3M to address capacity constraints as it relates to transparency reporting to the UNFCCC. The main objective of the project is to strengthen Jamaica's transparency framework through the design and implementation of a fully functional and harmonized domestic Measuring, Reporting

and Verification (MRV) system for the effective implementation of the country's NDC and other transparency-related activities.

1.5. One of the project's outcomes is to enhance the institutional capacity for long-term planning and timely reporting of transparency-related activities. There is thus a need to identify the capacity needs within the Ministry of Housing, Urban Renewal, Environment and Climate Change, through its Climate Change Division, to allow Jamaica to meet its transparency related obligations under the UNFCCC.

1.6. The project is aligned with Jamaica's national priorities and development planning such as Vision 2030, Jamaica's National Development Plan. The project will contribute directly to Jamaica's National Energy Policy, as it will help to build capacity and provide comprehensive data which can be used for energy planning and the development of renewable energy projects. The project will also be aligned to the current activities related to the development and formulation of sectoral adaptation strategies and action plans and Jamaica's participation in phase III of the GEF financed UN Environment Technology Needs Assessment project.

2. Objectives

2.1 The objective of this assessment is to explore the application of enabled technologies, including but not limited to Distributed Ledger Technologies (DLT) to support the different aspects of a domestic MRV system. The assessment will set the groundwork for the technological architecture of the system under the umbrella of a Centralized National Climate Knowledge Platform (CNCKP) and the adoption of innovative technological tools that will support the establishment a fully functional system.[1]

2.2 The assessment will also help Jamaica identify the key stakeholders who will participate in creating and enhancing MRV related processes, making sure it aligns with the ICT Sector Plan – Vision 2030[2] and other national initiatives (i.e. UNDP, PIMSEC, EGov, etc.) and establish the roadmap for implementation of the CNCKP platform. The MRV system and CNCKP platform are complementary initiatives, which together are key to achieving the wider objectives of digitalizing climate transparency processes, collecting and storing climate related data (e.g., on GHG inventories, BURs, NatComs, adaptation, climate finance, capacity building etc.), providing training and sourcing materials for national capacity building and serving as the national one-stop-shop for everything related to climate change in Jamaica.

3. Scope of Services and Key Activities

3.1 The selected consultancy firm will prepare a comprehensive technology assessment, recommend technology architecture (including technical specifications for the design of a the MRV system and CNCKP) and provide an implementation roadmap for the MRV and CNCKP platforms by incorporating the following:

3.2 **Data Collection:** This aspect of the consultancy will focus on the enhancement of the current GHG inventory data collection process as well as the processes for tracking the NDC obligations related to adaptation, climate finance and capacity building. This module of the scope of work involves:

a. Review existing processes, identify additional datasets and collect best available information on the collection and input of data for 6 key sectors related to mitigation (energy, transport, agriculture, industries, waste and forestry). This assessment should include the methodological and visual description of technical guidelines,

[1] An infrastructure needs assessment developed by the National Spatial Data Division of the MEGJC will be made available for analysis.

[2] https://www.mset.gov.jm.

data formats and processes involved in the GHG inventory process, description of timeframes for each process flow and identification of entities/individuals responsible for providing the data for each relevant sector.

b. Review processes, identify datasets and collect best available information on the collection and input of data for 6 key sectors related to adaptation (water, agriculture and fisheries, human health and settlements, tourism, forestry and coastal resources). This assessment should include the methodological and visual description of technical guidelines, data formats and processes involved in the data collection process, description of timeframes for each process flow and identification of entities/individuals responsible for providing the data for each relevant sector.

c. Review processes, identify datasets and collect best available information on the provision and receipt of climate finance support (concessional and non-concessional) towards adaptation and mitigation efforts in collaboration with the Ministry of Finance and the Public Service, the Planning Institute of Jamaica and the Climate Change Division at the MHURECC. The review should include a description on types of financial flows (public bilateral and multilateral).

d. Review processes, identify datasets and collect best available information on capacity building for adaptation and mitigation efforts in collaboration with the Ministry of Finance and the Public Service, the Planning Institute of Jamaica and the Climate Change Division at the MHURECC. The review should include a description of the different aspects of capacity development and the related financial flows (public bilateral and multilateral).

e. Review existing processes in the collection and input of geo-spatial data for GIS analysis related to tracking climate adaptation and climate financing. This should include the methodological and visual description of technical guidelines, data formats and processes involved in the data collection process, description of timeframes for each process flow and identification of entities/individuals responsible for providing the data for each relevant sector.

f. This section of the assessment must include a comparative analysis of technologies available in the market and potential costs

3.3 **Data Analysis and Reporting:** This aspect of the consultancy will focus on the enhancement of the current GHG inventory analysis and reporting process as well as the processes for analyzing and reporting on the NDC obligations related to adaptation, climate finance and capacity building. This component of the scope of work involves:

a. Review and assess the functionality of the current GHG Inventory Database Management System[3] and recommend steps for the enhancement and technical migration of such system into the proposed CNCKP platform and recommended technological architecture, including automation approaches to data collection and input.

b. Recommend levels of climate adaptation detail that should be feasible/acceptable for the CNCKP platform and best technology to develop and integrate the tracking (analysis and reporting) module/system feature.

c. Recommend levels of climate finance detail that should be feasible/acceptable for the CNCKP platform and best technology to develop and integrate the tracking (analysis and reporting) module/system feature.

[3] Slash Roots technical reports and user guides will be made available for assessment.

d. Recommend levels of capacity building detail that should be feasible/acceptable for the CNCKP platform and best technology to develop and integrate the tracking (analysis and reporting) module/system feature.

e. Recommend best technology to host-link the climate adaptation and finance tracking (analysis and reporting) module/system feature to a GIS for tracking such projects and investments island-wide[4].

f. Recommend technical approach for the national investment tracking (analysis and reporting) systems (i.e. PYMSec), if in place, to be linked-harmonized with the CNCKP platform.

g. This section of the assessment must include a comparative analysis of technologies available in the market and potential costs.

3.4 **Data Verification:** This aspect of the consultancy will focus on the verification dimension of the MRV system, including the activities as follows:

a. Recommend technologies to automate data verification process flow.

b. Recommend system routine digital tools to measure and control Quality Control and Quality Assurance.

c. Identify climate related data storage units/departments within government and recommend a data management solution including storage modalities and registry functionality.

d. Recommend data security protocols in accordance with best international standards and practices.

e. This section of the assessment must include a comparative analysis of technologies available in the market and potential costs

3.5 **Capacity Building Virtual Module:** This aspect of the consultancy will focus on the capacity building and knowledge sharing aspect of the CNCKP platform, including the activities as follows:

a. Recommend infrastructural technology to house a virtual capacity building center within the CNCKP platform to host training modules, web-based seminars, store course materials and video lectures, etc.

b. This section of the assessment must include a comparative analysis of technologies available in the market and potential costs

4. Qualifications and Experience

4.1. An advanced degree in Information Technology (IT), engineering, data or computer science, or related discipline;

4.2. Knowledge of public sector systems;

4.3. An understanding of climate change, UNFCCC processes and transparency related activities;

4.4. Knowledge of the IPCC GHG software and guidelines, and on greenhouse gases emission sources and methodologies for sectoral or national emission inventories;

4.5. Knowledge of Distributed Ledger Technology and blockchain technology;

4.6. Experience working with GIS, together with knowledge of the technical aspects of geographical data management and utilization; and knowledge of data processing,

[4] The mapping operations relating to the Climate Change Division's activities are currently undertaken by the University of the West Indies Mona GeoInformatics.

evaluation and organizing the collection, storage, usage of geographic data and visualization are assets.

4.7. Good written and verbal communication skills in English.

5. Deliverables

5.1 Based on the assessment undertaken, the expected outcome would be to a gain full understanding of the opportunities for digitalization of the different aspects and stages of the MRV system and CNCKP platform, compare the different technologies available to implement such and the costs associated with the recommended technology architecture. Specific deliverables include:

5.1.1 Deliverable 1: Inception report including a detailed methodology and work plan within the first 3 days of the assignment

5.1.2 Deliverable 2: Report on data collection and input assessment and recommendations

5.1.3 Deliverable 3: Report on data analysis and reporting assessment and recommendations

5.1.4 Deliverable 4: Report on data verification assessment and recommendations

5.1.5 Deliverable 5: Report on technology infrastructure assessment and recommendations including comparative analysis of technologies available in the market and potential costs as well as a roadmap for the implementation of the MRV And CNCKP platforms.

5.1.6 Deliverable 6: Summary report on methodology, main findings and recommendations

SCHEDULE OF PAYMENT

The contract price is a fixed output-based price regardless of extension of consultancy duration. The following percentages are contemplated for payments:

No.	Deliverable	% Contract value
1	Upon submission and approval of Deliverable 1 (by October 14, 2021)	15%
2	Upon submission, **presentation** and approval of Deliverables 2 and 3 (by January 14), 2022)	30%
3	Upon submission, **presentation** and approval of Deliverable 4 and 5 (by March 25, 2022)	40%
4	Upon submission and approval of Deliverable 6 (by April 8, 2022)	15%

EVALUATION

Applications will be evaluated based on general and relevant experience and qualifications as well as the Individual Consultant's work on similar projects.

REPORTING REQUIREMENTS

The Individual will report directly to the Principal Director and Project Manager of the Climate Change Division (CCD) of the Ministry of Housing, Urban Renewal, Environment and Climate Change (MHURECC), for contractual and administrative arrangements.

The Individual Consultant is expected to submit electronic versions of each deliverable in Microsoft Word and PDF as well as three (3) hard copies. All submissions must be completed in English.

SUBMISSION REQUIREMENTS

Please email (Subject: CBIT Assessment of Enabled Technologies) curriculum vitae and cover letter to:

Ms. UnaMay Gordon,
Principal Director, Climate Change Division,
Ministry of Housing, Urban Renewal, Environment and Climate Change
16A Half-Way-Tree Road, Kingston, Jamaica
Email: unamay.gordon@mhurecc.gov.jm

Copy:
Dr. Kwame Emmanuel
Project Manager, Climate Change Division,
Ministry of Housing, Urban Renewal, Environment and Climate Change
16A Half-Way-Tree Road, Kingston, Jamaica
Email: kwame.emmanuel@mhurecc.gov.jm