

## TERMS OF REFERENCE – INDIVIDUAL CONSULTANT

<p><b>Consultant Job Title:</b> Programming and Systems Specialist (PSS) - Development of the National Framework for Climate Transparency of Panama</p> <p><b>Work location:</b> Ministry of Environment, Panama City, Panama</p> <p><b>General Expertise:</b> Climate change and environmental affairs</p> <p><b>Category:</b> Programme Management</p> <p><b>Contractor:</b> Wetlands International, Panama. Executing Entity, CBIT Project.</p>	<p>Project: CBIT</p>
<p><b>1. Purpose.</b></p> <p>Panama ratified the Paris Agreement through Law No. 40 of September 12, 2016, making effective its climate change commitment through its Nationally Determined Contribution (NDC). The Paris Agreement, in its Article 13, raises the need to have an enhanced transparency framework that allows information to be available to assess if the necessary is being done in relation to compliance with the commitments assumed to face climate change. Panama is preparing to fully comply with the transparency requirements set forth by the Paris Agreement (PA) and has identified the following constraints and gaps:</p> <ul style="list-style-type: none"><li>a) the lack of technical capacity and know-how to generate, manage and disseminate robust and verifiable climate-related data;</li><li>b) limited tracking of climate actions and investments executed outside the jurisdiction of the Ministry of Environment;</li><li>c) the absence of a robust GHG Inventory Management System;</li><li>d) the lack of national adaptation methodologies and indicators;</li><li>e) weak and outdated institutional arrangements for cross-sectoral climate planning, data collection, and sharing; and</li><li>f) the absence of climate considerations in decision making</li></ul> <p>Recently, the Government of Panama published Executive Decree N° 100 of October 20, 2020 regulates the Global Climate Change Mitigation Chapter of the Single Text of The General Environmental Law and creates the Reduce Your Footprint National Program for monitoring the low-carbon economic and social development in the Republic of Panama. In addition, under this national mandate, Panama legally establishes the creation of the National Framework for Climate Transparency. The next step will be the publication of an executive decree for the Adaptation chapter.</p> <p><b>Overall Activities-CBIT Panama</b></p> <p>The Transparency framework under article 13 of the Paris Agreement further enhances existing arrangements, which national commitments and actions were being measured, reported and verified (MRV). The new transparency framework established mandatory requirements to report regularly GHG Inventories and information to track progress on implementing and achieving nationally determined contributions (NDC).</p> <p>The development of the project “National Framework for Climate Transparency” of Panama seeks to facilitate the collection, management and dissemination of climate-related data in a consultative and transparent manner according to the Modalities, Guidelines and Procedures (MPG) established by the implementation of the Paris Agreement.</p> <p>The Climate Change Directorate of the Ministry of the Environment, UN Environment and Wetlands International (WI) as Executing Entity, have identified five key elements to improve the generation, quality and transparency of climate information in Panama:</p>	

1. Definition of Institutional arrangements for the monitoring, reporting, verification, dissemination, and sustainability over time of sectoral climate-related data;
2. Diffusion of National tools to ensure consistency, transparency, and standardization in the monitoring and reporting of climate data
3. Design and implementation of a public engagement mechanism for the enhanced transparency framework
4. Establishment of a National Platform for Climate Transparency for the monitoring, reporting, and verification of climate-related data.
5. Training for data compilers, suppliers and platform users

## 2. Objective.

Development of a portal website for the National Climate Transparency Platform embedded in the National Environmental Information System (SINIA) as a fully functional information-sharing mechanism toward relevant stakeholders and general public and a mechanism to manage, keep track the progress and report results of the National Reduce Your Footprint Program.

The platform will act as backbone for hosting and delivering integrated data and services to all the government departments related to the Climate Change Strategy and the Reduce Your Footprint Program and to citizens. By consolidating and digitizing service delivery, government aims to improve the service delivery for public awareness, participation, and information.

On this platform, data compilers, suppliers, expert users, the general public and other stakeholders will be able to fulfill their respective responsibilities defined under the PNTC. Special interfaces will be created for each type of user. Any of these interfaces can be accessed via the aforementioned platform to comply with their duties.

The Programming and Systems Specialist (PSS) will work with DASIAM and Information Technology (IT) Office collaborators at MiAMBIENTE to develop the tool and incorporate it into SINIA.

The Programming and Systems Specialist will conduct the following activities, as well as others deemed necessary in the course of the project development:

- In collaboration with the national team, conceptualize and develop the online platform that includes all arrangements, processes, methodologies, and other guidelines developed through outputs 1, 2, 3 and 4.
- Collaborate with the national team to provide input on what is technical feasible when designing the guidelines and processes for implementing the national inventory system (SSINGEI) for the prioritized sectors, specifying how the 2006 IPCC Guidelines will be applied in the national context.
- Develop the data templates for the relevant institutions to capture the necessary information.
- Prepare (a) the System Design Specification and (b) Use Case or Mock-up (with diagram) until approved by the Chief Technical Advisor (CTA). The system to be developed must be web-based, accessible via web browser, preferably built on open-source applications (latest versions) and on a compatible SQL-based database platform.
- Perform bug fixing, front-end and back-end programming, and web development for the development in accordance with the list of desired features (expressed during the process of consultation).

The Following components have been identified and will be part of the PNTC:

PNTC Component
Sustainable System of National GHG Inventories (SSINGEI)
National Registry of Emissions and Mitigation Actions (RNEAM)
Registry of Means of Implementation (RNMI)

National Low Carbon Economic and Social Development Strategy (ENDESCB)
Reduce Your Footprint (RTH) specific programs (Corporate, Municipal, etc.)
Data and Information Visualization tool

### **3. Outputs / Work Assignments** *(must be tangible and/or measurable)*

The consultant will carry out the following main tasks:

- Carry out a detailed requirement study including Process Re-engineering wherever possible, which will result in formulation of a Software Requirement Specification (SRS), workflows and Design document.
- Consult and engage the Ministry of Environment team throughout the platform development process to ensure that the platform meets the needs of its users.
- On acceptance of SRS, workflows and Design document by the Chief Technical Advisor/Ministry of Environment, the specialist will develop and present a non-functional prototype (HTML, CSS prototype) of each component/module to the client and obtain approval for each module.
- On acceptance of the non-functional prototype, design and develop an appropriate software package that is in line with the requirements indicated.
- Building/updating front end application components for the components/modules of the National Climate Transparency Platform (PNTC).
- Create robust, reusable, and efficient server-side and front-end components, tools and functionalities.
- Development & Deployment of various software modules including mobile application development.
- Develop a reporting component/module that present/report reports, data and information from the other components of the PNTC. The reporting will have to be done graphically as well as in text/tabular form. The report generation in the proposed system would have two categories, the standard reports and ad hoc reports. The standard reports will be designed and uploaded during the implementation and for ad hoc reports, the system will have a customized Query Builder feature. In every report there must be facility to generate the report as MS Excel Sheet, or as HTML format.
- Develop applications targeting multiple delivery platforms, such as mobile vs. desktop, and optimizing output to match the specific platform.
- Performing all forms of Testing to ensure the operability of all the features of the modules designed in different type of devices (Laptops, tablets, smart phones, etc.), including bug fixing. These can be application bugs or data correction bugs.
- Write code considering the User authentication and authorization between multiple systems, servers, and environments.
- The access to the database should be based on the user roles that must be defined as part of the work of design and development of the PNTC.
- Integration of multiple data sources and databases into one system.
- Create database schemas that represent and support business processes.
- Security Assessment of each component/module of the Platform to identify and correct potential vulnerabilities.
- Ensure the Platform and its components has all the checks and balances to ensure integrity of data and it does not have any flaws or bugs which inadvertently or by design, permit the users to tamper, alter or modify any data without the appropriate permissions.
- Provide the Plan for recovery, if the web platform or the database fails, which includes managing backups of the database.
- Conduct a test run of the Platform to report on the development of the third Biennial Update Report (BUR3).
- Create User and Administrator Manuals for the Components of the Platform including Online Help.
- Preparation of guides, guidelines, informational videos and other resources for the Ministry of the Environment to facilitate the maintenance of the platform.

- Development of virtual trainings courses.
- Develop user guides for data compilers, suppliers, expert users, general public and other stakeholders on the PNTC and its web platform.

The specialist shall deliver the following outputs to achieve the desired deliverables (refer to the “Expected Deliverables” section below:

Outputs	Description
<b>No. 1</b>	<b>Detailed Workplan.</b>
<b>No. 2</b>	<b>Diagnostic report on the ministry's technological infrastructure improvement needs.</b>
<b>No. 3</b>	<b>Delivery and report corresponding to the development of the platform.</b> <ul style="list-style-type: none"> <li>• Process and Product Modeling: <ul style="list-style-type: none"> <li>a. Process Architecture</li> <li>b. Process Survey</li> <li>c. Process Modeling</li> <li>d. Requirements Obtention</li> <li>e. Requirements Verification</li> </ul> </li> </ul>
<b>No. 4</b>	<b>Design Report Delivery (Look and Feel).</b>
<b>No. 5</b>	<b>Development, testing and implementation:</b> <ul style="list-style-type: none"> <li>• <b>Coding</b> <ul style="list-style-type: none"> <li>a. Development Planning</li> <li>b. Assignment of tasks (if applicable)</li> <li>c. Construction</li> <li>d. Delivery of tasks</li> </ul> </li> <li>• <b>Testing</b> <ul style="list-style-type: none"> <li>a. Test planning</li> <li>b. Test environment preparation</li> <li>c. Test performance</li> <li>d. Notification of defects</li> <li>e. Release to production</li> </ul> </li> </ul>
<b>No. 6</b>	<b>Knowledge and manuals pass and launching</b> <ul style="list-style-type: none"> <li>I. Manual of use of the platform including the roles and hierarchies of the users.</li> <li>II. Report containing the maintenance and updating plan for the platform.</li> <li>III. Report containing the Training Plan for ministry personnel on the use and update of the online ticket reservation platform.</li> <li>IV. Development of the logistics and execution of the training, and delivery of the report on the results of the training day.</li> <li>V. Launch of the platform.</li> </ul>

The Specialist must create a scalable application keeping in mind fundamental design principles, in order to allow the expansion of the Platform, adding new components in the future.

The software development process shall include regular check-ins to re-assess progress, check priorities and adapt specific implementation details.

The specialist must participate in Project review meeting as and when needed by the Client to review the progress of the tasks.

Intellectual Property Rights of the source code, database or work done to comply with the tasks and requirements of this Terms of References and related to the project will remain with the Client at all times.

#### **Confidentiality:**

The Specialist shall ensure that while providing services, all the details and information inside various IT equipment is kept confidential.

During the execution of the project except with the prior written consent of the Client, the Specialist shall not at any time communicate to any person or entity any confidential information acquired in the course of the contract.

#### Expected Deliverables:

##### Main responsible for the following deliverables:

- Deliverable 4.2: Presence of the platform online.
- Deliverable 4.3: Presence of 100% of the necessary data on the platform.
- Deliverable 5.1: Design and Development of a series of Virtual trainings courses.
- Deliverable 5.3: Develop user guides for data compilers, suppliers, expert users, general public and other stakeholders on PNTC and its web platform.

Outputs	Deliverables	Delivery Period (dd/mm/yyyy)*
Monthly reports on the progress of the work assignments and the deliverables completion.	<b>Deliverable 4.2:</b> Presence of the platform online.	01/07/2021 – 31/07/2021
	<b>Deliverable 4.3:</b> Presence of 100% of the necessary data on the platform	01/11/2022 – 30/11/2022
	<b>Deliverable 5.1:</b> Design and Development of a series of Virtual trainings courses	01/04/2022 – 30/04/2022
	<b>Deliverable 5.3:</b> Publication of Platform User Guides.	

\*Preliminary dates according to draft work plan, subject to adjustment upon validation.

#### Reporting structure:

The Programming and Systems Specialist (PSS) will report to the Chief Technical Advisor.

*How are the outputs to be delivered?*

☒ Digital copy ☐ Hard copy ☐ Other, please specify \_\_\_\_\_

4. **Duration of contract** (dd/mm/yy) From: 15/06/2021 To: 15/12/2021 (extendable based on performance)

5. **Location of service:** Panama City, Panama. (Ministry of Environment, Panama City, Panama). Depending on mobility restrictions due to the pandemics, home based modality might be considered.

#### 6. Terms of payment for satisfactory completion of contract.

The Programming and Systems Specialist (PSS) will be under the overall guidance and report to the Chief Technical Advisor.

7. **Schedule of payment.** ☒ Monthly ☐ Products ☐ Rate (specify number of days for interpreters/trainers: \_\_\_\_)

Daily working hours: 8

Working days in a week: 5 (from Monday to Friday)

Hours per week: 40

*Adjustment clause for payments:* The total amount of the contract amounts to US\$ 12,498.00 dollars that will be paid in US dollars. The amount to be paid will be made in accordance with the payment schedule established in section 7 of these Terms of Reference.

*(if payment is to be made in phases, indicate **schedule and condition** for each payment)*

The payment dates	Amount	Payment conditions
6 monthly payments per year	\$US 2,083.00	6 monthly payments per monthly report. Every payment will be upon submission of signed invoice with activity report and supervisor's confirmation of satisfaction.

**8. Performance indicators for evaluation of outputs.**

Timely delivery of quarterly activities reports and supervisor's confirmation of satisfaction, as outlined in the Terms of Reference. Quality of design work and communication materials produced.

**9. Travel.** APPLICABLE ☒ NOT APPLICABLE ☐

Details of travel if applicable: ☒ Arranged by WI if needed ☐ Self ticket Itinerary:

10. The Consultant will work in the Ministry of Environment of Panama.

## ADMINISTRATIVE DETAILS

**11. Qualifications Required**

ACADEMIC:

- Programming specialist, with an undergraduate, masters or engineering degree in computational or information systems.

PROFESSIONAL:

- Experience: Minimum of 5 years experience in information systems development based on web technology
- General experience: Minimum 3 years of experience in software development for web applications (PHP, AJAX, JAVASCRIPT) programming languages, and markup language HTML5, SQL language (Mariadb, MySQL, MS SQL Server).
- Minimum 3 years of experience in web application development with Scriptcase.
- Minimum 3 years of experience in iBPMS (software of intelligent business process management) with ProceMaker.
- Minimum 3 years of experience in database development related to SQL (Mariadb, MySQL, MS SQL Server).
- Experience in development of Responsive Systems.
- Experience in SQL y MY SQL database management
- Proven experience in analysis and information systems design
- Experience in project management;
- Experience in database management;
- Experience in workflow management;
- Experience in training system users and developing didactic information to facilitate the use of virtual platforms;

LANGUAGE:

- The candidate must have excellent writing, reading and editing skills in Spanish and English.

SPECIAL KNOWLEDGE AND SKILLS:

PROFESSIONALISM:

- Have good analytical, coding and debugging skills.

- Ability to identify issues, analyze and participate in the resolution of issues/problems. Ability to apply judgment in the context of assignments given, plan own work and manage conflicting priorities. Shows pride in work and achievements;
- Demonstrates professional competence and mastery of subject matter; Is conscientious and efficient in meeting commitments, observing deadlines and achieving results; Is motivated by professional rather than personal concerns; Shows persistence when faced with difficult problems or challenges; Remains calm in stressful situations.
- Knowledge of IT tools, such as Microsoft Office.

TEAMWORK:

- Experience in teamwork, with recognition in the field of their specialty to cooperate with consultants of other specialties.
- Works collaboratively with colleagues to achieve organizational goals; solicits input by genuinely valuing others' ideas and expertise. Is willing to learn from others; supports and acts in accordance with final group decision, even when such decisions may not entirely reflect own position. Shares credit for team accomplishments and accepts joint responsibility for team shortcomings.

PLANNING AND ORGANIZING:

- Identifies priority activities and assignments; adjusts priorities as required. Allocates appropriate amount of time and resources for completing work; foresees risks and allows for contingencies when planning. Uses time efficiently.
- Skill in managing Microsoft Office 365 computer programs (Word, Excel, Power Point, Teams, OneDrive, SharePoint, among others).
- Excellent communication, articulation, coordination and teamwork skills to achieve the agreed objectives, facing challenges constructively.

OTHERS:

- Experts must be based in Panama City and have with full time availability (required);
- Experts with Panama nationality will have priority - parity of experience and knowledge;
- Experts must have availability to travel within Panama and abroad as needed.
- Gender not exclusive. The participation of women consultants in the call is encouraged.

12. I certify to the best of my knowledge that the recruitment of the consultant/individual contractor is in accord with WI Procurement Procedures

Programme Officer/Hiring Manager

Date: