**The ICAT Climate Action Transparency Initiative in Ecuador, requires an IT Specialist to develop the modules of the National Greenhouse Gas Inventory System (SINGEI) for sectors related to Energy, Industrial Processes, Agriculture and Waste**

UNEP DTU Partnership need a Short-term IT Specialist, in order to develop modules of the National Greenhouse Gas Inventory System (SINGEI in Spanish), with a focus on the national MRV system in Energy, Industrial Processes, Agriculture and Waste sectors.

**BACKGROUND**

The Climate Action Transparency Initiative (ICAT) develops the provisions of the Paris Agreement, to strengthen national institutions to comply with the requirements of data and information transparency.

ICAT is a neutral multi-donor fund designed to strengthen the capacities of developing countries, so that National Greenhouse Gas Inventories can be reported with a higher level of available information, thereby contributing to the evaluation of impacts that the NCD will have on each of the sectors considered; which seeks greater quality, confidence and ambition to climate policies throughout the country and the world. The initiative's approach considers the needs of the countries and the national MRV requirements of the country.

Ecuador has made important advances related to monitoring, reporting and verification of GHG emissions; such as the strengthening of the GHG inventory generation process, the publication of biennial update reports (IBA) and the third national communication (TCN), and the design of a national greenhouse gas inventory system or SINGEI.

From this, ICAT is expected to strengthen the capacity of the institutions that collect and provide information on the activity data to SINGEI. This will lead to the reported information becoming more transparent and robust.

Based on this background, the consultant's work will focus on developing the modules of the National Greenhouse Gas Inventories System (SINGEI) in the ICAT sectors, which will be housed in the Unique Environmental Information System (SUIA).

For which we have the following objectives:

• Design the specifications of data structures (sectoral forms), user classes, list of characteristics, data reports and frames in the general architecture of SINGEI to collect and validate information.

• Program the characteristics and shapes of the SINGEI modules according to the developed specification and the identified functionalities.

• Develop test cases with a group of users for each sector, and test whether the SINGEI modules they developed work as expected. Apply a usability study with a group of representative users.

• Provide training to users on how to operate the SINGEI modules and on the functionalities developed to configure forms, collect information, and validate information.

• Develop a maintenance plan for the SINGEI modules to maintain the operating system.

**NATURE OF CONTRACT**

The consultant will work in close collaboration with the Ecuadorian Ministry of Environment and Water, the ICAT project team and especially its coordinator and the technical experts from SINGEI; in order to carry out the following activities and tasks in accordance with the expected results and products:

**DELIVERABLES:**

**Result 1:** Design the specifications of the data structures (sector forms), user classes, list of characteristics, data reports and frames in the general architecture of SINGEI to collect and validate information.

**Deliverable 1:** Technical specifications, including sequence diagrams, physical modules and wire structures validated by the Climate Change Undersecretariat and SUIA

Sequence diagrams (level II), physical models and functional prototypes for forms, information gathering and validation in SINGEI modules for the 4 sectors; validated by the Climate Change Undersecretariat and SUIA

**Result 2:** Functionality programming is related to the configuration of forms, compilation, and validation of information of SINGEI

**Deliverable 2:** Source code to get form configuration module, collection, and verification information module.

Administration and maintenance document, which describes in detail the procedures for installing and updating the platform.

Report of the unit and integration tests developed to the source code of the form configuration module, information gathering and verification.

Report of the first functionality test in a control sector user (4 ICAT sectors).

Changes in the SINGEI modules according to the results of the first functionality test.

**Result 3:** Validation of the functionalities developed for the configuration of forms, information gathering and validation of the (SINGEI)

**Deliverable 3:** Usability study report with details of the tests carried out, with the findings and recommendations for future improvements.

Report on the training workshops, with a list of participants and an evaluation survey.

System maintenance plan.

**COORDINATION AND SUPERVISION**

The specialist will be under the supervision of the National Coordinator of the ICAT Project in Ecuador; for which the Ministry of the Environment and Water will provide coordination with the SINGEI Team and other projects that have some information related to the objective of this project. All results / products will be reviewed and approved by the Mitigation Directorate and the national coordinator of ICAT.

UNEP DTU, will review all final and intermediate deliverables before being finalized. This includes: i) all reports must be written by the Ecuadorian consulting team ii) UNEP DTU will reserve sufficient time to review in detail and provide comments; iii) comments and suggestions will be addressed by the local consultant (and reviewed by the Ecuadorian focal points; and iv) UNEP DTU will approve the final version of each one. The role of UNEP DTU will be to review the final results, offer comments and ensure consistency with the ICAT program.

All information that comes from the execution of the contract will be considered confidential.

**DEADLINE FOR DELIVERY OF PRODUCTS AND DURATION OF THE CONSULTANCY**

The consultant must develop and deliver the products of this consultancy according to the following schedule:

|  |  |
| --- | --- |
| Deliverable 1 | 10/2020 |
| Deliverable 2 | 11/2020 |
| Deliverable 3 | 12/2020 |

The payment will be related to the delivery of each product fulfill with the established schedule, as well as its approval by the Ministry of Environment and Water, the national ICAT coordinator and finally by UNEP DTU Partnership. Final deliverables must be written in English.

The completion of delivery of all products (3) must not exceed December 2020.

**REQUIREMENTS FOR THE SPECIALIST:**

**Education:** Professional with a third level degree in Systems Engineering, Computer Engineering or careers related to computer systems and computing.

**Work experience**

The specialist must have demonstrated work experience of at least 5 years in analysis and software development with JAVA, with knowledge in SQL and, management and administration of structured databases, specifically POSTGRES 9.4 or higher versions.

The proven experience that the specialist may have in different programming languages (HTML, PHP, XPATH, AngularJS, JavaScript, etc.), handling of JBPM for design and implementation of flows and handling of document managers (preferably Alfresco) will be valued.

It is desirable that the specialist has work experience in software development projects for the public sector.

**Language**

Fluency in written and oral Spanish is required. Good level of written English.

**Required documents:**

1. CV

2. Attach portfolio of at least 2 successful software development projects with JAVA.

3. A description (1 page) that explains the work plan proposed to achieve the desired results in the times established in this ToR, also specifying the automatic protocols that are proposed to consume information from other systems.

**To apply for this position, please email:**

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Sandra Aparcana, UNEP DTU ([sanapa@dtu.dk](mailto:sanapa@dtu.dk))

**Evaluation of Applicants**

The evaluation criteria and qualification parameters are shown below:

|  |  |
| --- | --- |
| **Item** | **Percentage** |
| Profesional Education | 30 % |
| Relevant experience | 30 % |
| Work approach | 20 % |
| Evaluation and interview | 20 % |