

## **TERMS OF REFERENCE**

<b>Consultancy Title</b>	Greenhouse Gas Inventory Consultant
<b>Location</b>	Federated States of Micronesia
<b>Type of Contract</b>	Individual Consultant
<b>Language Required</b>	English
<b>Duration of Initial Contract</b>	April 2021 to November 2021

### **OBJECTIVES:**

The objective of the assignment is to carry out GHG emissions estimates for all relevant sectors as per the IPCC methodology, ensuring the inventories are complete, consistent, comparable, transparent and accurate. Specific objectives include:

1. Improve and upgrade previous GHG inventory including improved documentation and archiving.
2. Establishment of a network of contacts for accessing data and designing a system for data management for the sector.
3. Elaborate a report on GHG emissions for all sectors using the 2006 IPCC Guidelines.
4. Recommendations on areas to improve future inventories and to suggest ways for addressing data gaps.
5. Improvement of local capacities to prepare a GHG Inventory.
6. Identify shortcomings and gaps of previous GHG Inventory for all sectors.

### **BACKGROUND:**

The Federated States of Micronesia (FSM) as Non-Annex I Party to the United Nations Framework Convention on Climate Change (UNFCCC) should prepare and submit National Communications every four years to the Conference of the Parties (COP) containing information on their emissions by sources and removals by sinks of all GHGs not controlled by the Montreal Protocol, and on the steps taken or envisaged to implement the Convention. Further to this, Non-Annex I Parties are also requested to submit Biennial Update Reports to the UNFCCC every second year starting January 2014 containing updates of national GHG inventories, including a national inventory report and information on mitigation actions, needs and support received. The reporting guidelines for BUR are described in decision 2/CP.17, Annex III.

### **SCOPE OF WORK:**

The consultant will be responsible for designing the National Greenhouse Gas Inventory (NGI) for the Energy/IPPU/Agriculture/LULUCF/Waste sectors, the redaction of the National Inventory Report (NIR) and the development of the Chapters on GHG Inventory as part of the Third National Communication (TNC) for period 2001 to 2018 and 2017 for First Biennial Update Report (FBUR). This includes working together with stakeholders, including capacity building activities and trainings on data collection, analysis, indicators, the use of 2006 IPCC guidelines on national greenhouse gas inventories, the IPCC good practice guidance on the National GHG inventories and Uncertainty Management, the IPCC Good Practice Guidance on Land use, land-use change and forestry and implementing and maintaining a National Greenhouse Gas Inventory system.

The FBUR report is meant to be an update of the most recent National Communication submitted in 2015 covering the inventory years 1994 and 2000. This includes the NGI data covering the Energy/IPPU/Agriculture/LULUCF/Waste sectors. To generate this information, the consultant will be responsible for analyzing the national available information for year of the inventory to estimate the emission of the year based on the IPCC 2006 IPCC Guidelines.

Activity data collected should be combined with available country specific emission factors. If information on this is missing default emission factors from the 2006 IPCC Guidelines can be used. In any case the origin of the data needs to be documented.

The specific references that should be reviewed and will form the basis for the study are:

1. The Initial and Second National Communications

The following Methodologies for inventories should be considered:

1. 2006 IPCC Guidelines for National Greenhouse Inventories.
2. Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventory (2000) as the reference and standards for performing inventory estimates in the present work.
3. The Good Practice Guidance on LULUCF (2003).
4. Emission Factor Database (EPDB).
5. The 2003 UNFCCC User manual for the guidelines on national communication from NAI countries.
6. Field surveys, depending on need to compile or verify data for the inventory calculation.
7. Self Completion Questionnaire to be sent to concerned institutions that can provide activity data.
8. Default IPCC spread sheets of GHG inventory.

## **TASKS:**

1. Prepare a detailed work plan with milestones that will ensure a final GHG Inventory Chapters of FBUR and the final NIR can be completed by Date and the final GHG Inventory Chapter of TNC can be completed by Date.
2. Undertake the Key Source Analysis to determine priority areas of inventory work (e.g. those sources are more significant in terms of their contribution to national GHG emissions so that resources and efforts are prioritized).
3. Choose the estimation methods as appropriate.
4. Determine if the recalculation of inventories carried out under the INC and SNC would be needed to ensure consistency of a time series (to be reported under the Third NC/First BUR).
5. Identification and collection of new activity data needed for estimates of GHG emissions for period 2001 to 2018 (TNC) and 2017 (FBUR) for the sectors (Energy/IPPU/Agriculture/LULUCF/Waste).
6. Carry out greenhouse gas emission calculation as per 2006 IPCC Guidelines for National GHG Inventory in the five sectors of emissions and removals for period 2001 to 2018 (TNC) and 2017 (FBUR). by using the IPCC GHG-I software (updated version).
7. Consider country specific emission factors in comparison with international averages, if applicable.
8. Undertake or design of surveys for the base year and the years to be considered if no activity data is available. Specific institutions and/or individuals may be interviewed for the purpose of getting of compiling data and ensure support.
9. Recalculations may be carried out for previous inventory based on higher tier methodologies and refined activity and emission factor data.
10. Selection of emission factors to be utilized. Determine the application of Tier1, 2 or 3 for the sector as appropriate (following the IPCC guidelines).
11. Determine if establishment of country specific emission factors is feasible (will depend on whether emission factors at country level are available).
12. Design of a system for archiving, manage and update the inventory for the country.
13. Calculate the level of uncertainty associated with the inventory data for each considered sector, is feasible.

14. Sectoral tables will be produced using the excel sheets recommended by the IPCC Guidelines.
15. Address quality assurance and quality control procedures.
16. Determine data gaps and future needs.
17. Prepare and GHG Inventory workshops as trainer and participate in stakeholder workshops to raise awareness among them.
18. Support institutional strengthening and capacity building including the thematic working groups for efficient and timely development and submission of GHG inventories, providing trainings on data collection, analysis, indicators, the use of 2006 IPCC guidelines on national greenhouse gas inventories, the IPCC good practice guidance on the National GHG inventories and Uncertainty Management, the IPCC Good Practice Guidance on Land use, land-use change and forestry and implementing and maintaining a National Greenhouse Gas Inventory system.
19. Organize workshop for presentation and discussion on the results obtained from the GHG inventory for the sector.
20. Identify areas where technical support would be needed.

#### **DELIVERABLES AND PAYMENT SCHEDULE:**

Signing of Contract & Acceptance of workplan	10%
Submissions of GHG Inventory Report for BUR and TNC	25%
National Inventory Report for BUR	25%
For each source, a description of methodology, sources of data activity data, emission factors, methodologies, the actual data, and a description of uncertainties including, if possible, quantitative assessment of uncertainties;	10%
Submission of worksheets, or calculation sheets, showing how emissions are calculated, including all parameters used for calculations.	10%
Submission of tables of annual emission and removal estimates by source, with estimates expressed in units of mass/year and the year or years represented clearly noted;	10%
Submission of other informative background data, e.g. a national energy balance, a description of GHG sources that are believed to be important but cannot be estimated.	10%

#### **DURATION OF THE ASSIGNMENT:**

The consultancy work will be over a maximum period of 200 days with the work completed by November 30, 2021. Phasing of the consultancy work is at the consultant's discretion and is based on the work methodology that forms part of the workplan.

#### **QUALIFICATIONS:**

<b>Education:</b>	Master's degree or equivalent as in energy science, climate change, natural resource management or any relevant qualification in related field.
<b>Experience:</b>	A minimum of 5 years of relevant experience in conducting GHG Inventories for National Communications (NC) and/or Biennial Update Reports (BUR), presentation of NC and BUR to the UNFCCC and related activities;

	Substantial experience with the 2006 IPCC guidelines for GHG-I and the IPCC GHG-I Software.
<b>Competencies:</b>	<p>Good analytical and communication skills, including the ability to draft and to articulate ideas in a clear and concise manner;</p> <p>Good interpersonal skills and ability to work well in a team whilst also having the capacity and initiative to work independently;</p> <p>Highly developed oral and written communications skills with excellent writing skills in English.</p>

Further information may be obtained from the TNC/FBUR Project Management at the following address: **P.O. BOX PS69, Palikir, Pohnpei FM 96941; Tel: (691)320-8814/8815**