



INDIVIDUAL CONSULTANT PROCUREMENT NOTICE

3rd August 2018

Country: BOTSWANA

Description of the assignment: Preparation of Greenhouse Gas (GHG) Inventories for Biennial Update Report (BUR) of Botswana

Proposal should be submitted at the following address no later than **10th August 2018** Time **12:00 noon** (Botswana Time) to

The Resident Representative
United Nations Development Programme
P.O. Box 54
Gaborone

Or by email to
procurement.bw@undp.org

Any request for clarification must be sent in writing, or by standard electronic communication to the address or e-mail indicated above. UNDP Botswana will respond in writing or by standard electronic mail and will send written copies of the response, including an explanation of the query without identifying the source of the inquiry to all prospective facilitators.

1.0 Background

The United Nations Framework Convention on Climate Change (UNFCCC) sets an overall framework for intergovernmental efforts to tackle the challenge posed by climate change. According to Articles 4.1 and 12.1 All Parties must report on the steps they are taking or envisage undertaking to implement the UNFCCC () by: “reporting to the Conference of the Parties (COP) on emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol (greenhouse gas inventories”. The Conference of the Parties at its sixteenth session (COP 16) of the United Nations Framework Convention on Climate Change (UNFCCC) decided that non-annex 1 Parties, consistent with their

capabilities and the level of support provided for reporting, should also submit biennial update reports containing updates of national greenhouse gas inventories, including a national inventory report and information on mitigation actions, needs and support received. The activities undertaken by the GHG inventory consultancy will contribute towards strengthening institutional arrangements for compiling, archiving, updating and managing GHG inventories and follow UNFCCC and IPCC guidelines.

To this end, The United Nations Development Programme in collaboration with the Ministry of Environment, Natural Resource Conservation and Tourism wishes to put together a team of local experts to prepare the GHG inventory by sources and sinks of GHGs in Botswana. **The team should comprise: A team leader, and 5 experts for each of the sectors as indicated below. To that end, proposals should clearly indicate who the team leader and each sector expert will be.** Furthermore, each expert is to be engaged in their personal merit and their ability to work within a multi-disciplinary team. Experts will be contracted for a fixed number of days spread over the duration of the assignment.

2. SCOPE OF WORK, RESPONSIBILITIES AND DESCRIPTION OF THE PROPOSED ANALYTICAL WORK

2.0 Specific Duties

- Undertake national GHG inventories for the year 2014 and 2015 according to the guidelines for the preparation of National Communications (17/CP.8)
- Include information on the other non-direct GHGs: HFCs , PFCs and SF_6 as well as CO , NO_x , SO_x and NMVOCs .
- Recalculate the time series for the period 2000-2013 and provide information for 2014 and 2015
- Calculate emissions for the year 2014 and 2015 for all sectors
- Provide uncertainties in inventory estimates.
- Gather available data from national sources to fill inventory data gaps
- Revise the input data, taking into consideration data gaps and areas needing improvement identified in the stocktaking exercise
- Identify and develop methods for overcoming inventory data gaps if there is no available data
- Archive the GHG inventory data
- Discuss inventory data gaps
- Identify barriers to obtaining existing data for key sources and propose solutions
- Describe procedures and arrangements undertaken to collect and archive data for the preparation of national GHG inventories, as well as efforts to make this a continuous process, including information on the role of the institutions involved.
- Utilize the deliverables under the regional project, such as the National Strategy for improvement of the GHG Inventory, Manual of Procedures for GHG Inventory and the ACCESS database
- Organize (in cooperation with the Project Manager) a workshop for presentation and discussion on the results obtained from the GHG Inventory
- Prepare a summary on GHG Inventory that will go into the Botswana's Third National Communication Report.

2.1 Specific Duties Under Each Sector

2.1.1 Energy Sector Activities

- Review the [*IPCC Guidelines for National Greenhouse Gas Inventories*](#) and *Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories*.
 - Understand the GHG categories that are sources in the Energy sector.
 - At minimum understand the Tier 1 methodologies, data needs, and other requirements for developing GHG estimates for the Energy sector and become familiar with those for Tier 2.
- Collaborate with the NIC to manage the Energy sector budget and develop a/an Energy sector-specific workplan and schedule that coincides with deliverables acknowledged in the overall National Inventory Schedule.
- Develop and implement an Energy sector-specific plan for archiving all relevant information and materials, in coordination with the archiving coordinator and adhering to any existing archiving guidance materials for your national inventory.
- Oversee the establishment and arrangements between Energy sector data collectors and third-party data providers.
 - If required, develop agreements such as Memorandums of Understanding (MOU) with necessary organizations (e.g., Ministry of Energy, Ministry of Transportation, universities) to assist with activities required by the Energy Sector Lead (e.g. data collection, generating GHG estimates), as appropriate.
 - Develop Statements of Work (SOW) to issue to engage contractors, and/or sector experts. Manage the work being carried out under these contracts to ensure it is meeting the requirements and needs of your GHG inventory sector.
- Coordinate with the energy data providers for fossil fuel combustion to determine how fuel was consumed and electricity was generated for each source category (e.g., energy industries, manufacturing industries, and other sectors).
- Coordinate with the Industrial Processes Sector Lead to determine if there will need to be any adjustments made for Energy fossil fuel combustion activity data.
- Coordinate with the Waste Sector Lead to determine the amount of waste incinerated used for electricity generation.
- Consider potential improvements identified in the previous inventory for this sector and assess whether to implement
- improvements based on the contribution to overall national emissions (by conducting a Key Category Analysis) and availability of resources.
- Oversee development of GHG estimates from all categories in the Energy sector.
 - Determine the most appropriate IPCC methodology to be used to estimate GHGs for each category.
 - Oversee choice and/or development of emission factors.
 - Document all methodologies and assumptions.
- Complete both the sectoral and reference approaches to calculating GHG emissions from fossil fuel combustion in the Energy sector and compare the two results.
- In consultation with the QA/QC coordinator, convene Energy sector working group to review calculations and perform initial Quality Assurance/Quality Control (QA/QC).

- QA includes review procedures conducted by personnel not involved in the inventory development process (e.g., experts not involved with estimate development, the public, other relevant agencies, non-governmental organizations, universities, etc.).
- QC includes routine reviews implemented by the inventory development team to measure and control the quality of the inventory as it is prepared (e.g., sector leads and supporting experts involved with estimate development).
- Coordinate the response to comments received from QA (external) reviews of the Energy sector GHG estimates and update the inventory if necessary.
- Review the final Energy sector GHG estimates and the narrative describing the assumptions, methodologies, and results.
- Oversee the development of the uncertainty analysis for the Energy sector.
- Identify and document any improvements needed for subsequent inventories, related to activity data, emission factors, methodologies, or other components of developing the estimates.

2.1.2 Industrial Process

- Review the [*IPCC Guidelines for National Greenhouse Gas Inventories*](#) and *Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories*.
 - Understand the GHG categories that are sources in the IP sector.
 - At minimum understand the Tier 1 methodologies, data needs, and other requirements for developing GHG estimates for the IP sector, and become familiar with those for Tier 2.
- Collaborate with the NIC to manage the IP sector budget and develop an IP sector-specific workplan and schedule that coincides with deliverables acknowledged in the overall National Inventory Schedule.
- Develop and implement an IP sector-specific plan for archiving all relevant information and materials, in coordination with the archiving coordinator and adhering to any existing archiving guidance materials for your national inventory.
- Oversee the establishment and arrangements between IP sector data collectors and third-party data providers.
 - If required, develop agreements such as Memorandums of Understanding (MOU) with necessary organizations (e.g., Ministry of Industry, Department of Mines and Geology, universities) to assist with activities required by the IP Sector Lead (e.g. data collection, generating GHG estimates, management/handling of confidential information), as appropriate.
 - Develop Statements of Work (SOW) to issue to engage contractors, and/or sector experts. Manage the work being carried out under these contracts to ensure it is meeting the requirements and needs of your GHG inventory sector.
 - If IP data are not publicly available or reported to the government, identify data providers for each industry (e.g. trade associations, private companies, etc.)
- Coordinate with the Energy Sector Lead to determine if there will need to be any adjustments made to either sector in cases where GHG estimates might overlap (e.g. iron and steel production, ammonia, etc.).
- Consider potential improvements identified in the previous inventory for this sector and assess whether to implement improvements based on the contribution to overall national emissions (by conducting a Key Category Analysis) and availability of resources.

- Oversee development of GHG estimates from all categories in the IP sector.
 - Determine the most appropriate IPCC methodology to be used to estimate GHGs for each category.
 - Oversee choice and/or development of emission factors.
 - Document all methodologies and assumptions.
- In consultation with the QA/QC coordinator, convene IP sector working group to review calculations and perform initial Quality Assurance/Quality Control (QA/QC).
 - QA includes review procedures conducted by personnel not involved in the inventory development process (e.g., experts not involved with estimate development, the public, other relevant agencies, non-governmental organizations, universities, etc.).
 - QC includes routine reviews implemented by the inventory development team to measure and control the quality of the inventory as it is prepared (e.g., sector leads and supporting experts involved with estimate development).
- Coordinate the response to comments received from QA (external) reviews of the IP sector GHG estimates and update the inventory if necessary.
- Review the final IP sector GHG estimates and the narrative describing the assumptions, methodologies and results.
- Oversee the development of the uncertainty analysis for the IP sector.

Identify and document any improvements needed for subsequent inventories, related to activity data, emission factors, methodologies or other components of developing the estimates.

2.1.3 Agriculture Sector

- Review the [*IPCC Guidelines for National Greenhouse Gas Inventories*](#) and *Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories*.
- Understand the GHG categories that are sources in the Agriculture sector.
- At minimum understand the Tier 1 methodologies, data needs, and other requirements for developing GHG estimates for the Agriculture sector and become familiar with those for Tier 2.
- Collaborate with the NIC to manage the Agriculture sector budget and develop a/an Agriculture sector-specific workplan and schedule that coincides with deliverables acknowledged in the overall National Inventory Schedule.
- Develop and implement an Agriculture sector-specific plan for archiving all relevant information and materials, in coordination with the archiving coordinator and adhering to any existing archiving guidance materials for your national inventory.
- Identify the types of agricultural practices in your country that are relevant to production of GHG emissions (e.g., Crop Production, Livestock Management, Burning of Agricultural Residues or Grasslands), contact national, regional, and local experts to determine if the necessary data is readily available, and establish institutional arrangements for collecting activity data.
- Oversee the establishment and arrangements between Agriculture sector data collectors and third-party data providers.
- If required, develop agreements such as Memorandums of Understanding (MOU) with necessary organizations (e.g., Ministry of Agriculture, universities) to assist with activities required by the Agriculture Sector Lead (e.g. data collection, generating GHG estimates), as appropriate.
- Develop Statements of Work (SOW) to engage contractors, and/or sector experts. Manage the work being carried out under these contracts to ensure it is meeting the requirements and needs of your

GHG inventory sector.

- Contact federal agencies/ministries or non-governmental organizations to inquire about the existence of satellite imagery data for categories such as Agriculture Residue Burning. Ensure this is done in coordination with the LULUCF sector, which also requires access to imagery.
- Consider potential improvements identified in the previous inventory for this sector and assess whether to implement improvements based on the contribution to overall national emissions (by conducting a Key Category Analysis) and availability of resources.
- Oversee development of GHG estimates from all categories in the Agriculture sector.
- Determine the most appropriate IPCC methodology to be used to estimate GHGs for each category.
- Oversee choice and/or development of emission factors.
- Coordinate with the LULUCF Sector Lead to determine emission calculations and activity data adjustments for complex categories such as Agricultural Soil Management and Manure Management.
- Ensure consistency of data between enteric and manure management (e.g., livestock populations and characterization).
- Ensure consistency between nitrogen quantities in Manure Management and Agricultural Soil Management.
- Coordinate with the Waste sector to ensure assumptions on application of sewage sludge and nitrogen content are consistent.
- Document in a transparent manner all methodologies, data, emission factors, and assumptions in coordination with contractors and other technical experts that are developing the estimates.
- In consultation with the QA/QC coordinator, convene Agriculture sector working group to review calculations and perform initial Quality Assurance/Quality Control (QA/QC), consulting QA/QC coordinator.
- QA includes review procedures conducted by personnel not involved in the inventory development process (e.g., experts not involved with estimate development, the public, other relevant agencies, non-governmental organizations, universities, etc.).
- QC includes routine reviews implemented by the inventory development team to measure and control the quality of the inventory as it is prepared (e.g., sector leads and supporting experts involved with estimate development).
- Coordinate the response to comments received from QA (external) reviews of the Agriculture sector GHG estimates and update the inventory if necessary.
- Review the final Agriculture sector GHG estimates and the narrative describing the assumptions, methodologies, and results.
- Oversee the development of the uncertainty analysis for the Agriculture sector.

Identify and document any improvements needed for subsequent inventories, related to activity data, emission factors, methodologies, or other components of developing the estimates

2.1.4 Land Use, Land-Use Change, and Forestry (LULUCF) Sector

- Review the [*IPCC Guidelines for National Greenhouse Gas Inventories*](#) and *Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories*.
- Understand the GHG categories that are sources/sinks in the LULUCF sector.
- At minimum understand the Tier 1 methodologies, data needs, and other requirements for developing GHG estimates for the LULUCF sector and become familiar with those for Tier 2.

- Collaborate with the NIC to manage the LULUCF sector budget and develop a LULUCF sector-specific workplan and schedule that coincides with deliverables acknowledged in the overall National Inventory Schedule.
- Develop and implement a LULUCF sector-specific plan for archiving all relevant information and materials, in coordination with the archiving coordinator and adhering to any existing archiving guidance materials for your national inventory.
- Oversee the establishment and arrangements between LULUCF sector data collectors and third-party data providers.
- If required, develop agreements such as Memorandums of Understanding (MOU) with necessary organizations (e.g., Ministry of Forestry, Ministry of Agriculture, universities) to assist with activities required by the LULUCF Sector Lead (e.g. data collection, generating GHG estimates), as appropriate.
- Contact federal agencies/ministries or non-governmental organizations to inquire about the existence of satellite imagery data for categories such as Agriculture Residue Burning. Ensure this is done in coordination with the Agriculture sector that may also require access to imagery.
- Develop Statements of Work (SOW) for government units to issue to engage contractors, and/or sector experts. Manage the work being carried out under these contracts to ensure it is meeting the requirements and needs of your GHG inventory sector.
- Identify which LULUCF categories are key categories in terms of their contribution to national emissions and removals.
- Consider potential improvements identified in the previous inventory for this sector and assess whether to implement improvements based on the contribution to overall national emissions (by conducting a Key Category Analysis) and availability of resources.
- Oversee development of GHG estimates from all categories in the LULUCF sector.
- Determine the most appropriate IPCC methodology to be used to estimate GHGs for each category.
- Oversee choice and/or development of emission factors.
- Document all methodologies and assumptions.
- Determine the methodologies to be used to estimate GHG emissions and/or sequestration for soils and other carbon pools.
- Develop a complete and consistent representation of the land base to establish a clear delineation of land use types (i.e., forestland, wetlands, croplands, grasslands, settlements, other) and conversions of lands between these land use types.
- Coordinate with the Agriculture Sector Lead to determine emission calculations and activity data adjustments for overlapping categories such as Agricultural Soil Management and Manure Management.
- In consultation with the QA/QC coordinator, convene LULUCF sector working group to review calculations and perform initial Quality Assurance/Quality Control (QA/QC), consulting QA/QC coordinator.
- QA includes review procedures conducted by personnel not involved in the inventory development process (e.g., experts not involved with estimate development, the public, other relevant agencies, non-governmental organizations, universities, etc.).
- QC includes routine reviews implemented by the inventory development team to measure and control the quality of the inventory as it is prepared (e.g. Sector leads and supporting experts involved with estimate development).
- Coordinate the response to comments received from QA (external) reviews of the LULUCF sector GHG estimates and update the inventory if necessary.

- Review the final LULUCF sector GHG estimates and the narrative describing the assumptions, methodologies, and results.
- Oversee the development of the uncertainty analysis for the LULUCF sector.
- Identify and document any improvements needed for subsequent inventories, related to activity data, emission factors, methodologies, or other components of developing the estimates.

2.1.5 Waste Sector

- Review the [*IPCC Guidelines for National Greenhouse Gas Inventories*](#) and *Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories*.
- Understand the GHG categories that are sources in the Waste sector.
- At minimum understand the Tier 1 methodologies, data needs, and other requirements for developing GHG estimates for the Waste sector and become familiar with those for Tier 2.
- Collaborate with the NIC to manage the Waste sector budget and develop a Waste sector-specific workplan and schedule that coincides with deliverables acknowledged in the overall National Inventory Schedule.
- Develop and implement a Waste sector-specific plan for archiving all relevant information and materials, in coordination with the archiving coordinator and adhering to any existing archiving guidance materials for your national inventory.
- Oversee the establishment and arrangements between Waste sector data collectors and third-party data providers.
- If required, develop agreements such as Memorandums of Understanding (MOU) with necessary organizations (e.g., Ministry of the Environment, Department of Waste Management, universities) to assist with activities required by the Waste Sector Lead (e.g. data collection, generating GHG estimates), as appropriate.
- Develop Statements of Work (SOW) to issue to engage contractors, and/or sector experts. Manage the work being carried out under these contracts to ensure it is meeting the requirements and needs of your GHG inventory sector.
- Coordinate with the Energy Sector Lead to determine whether there is energy generated from waste incineration, and if so, whether that will be included in the Energy sector.
- Consider potential improvements identified in the previous inventory for this sector and assess whether to implement improvements based on the contribution to overall national emissions (by conducting a Key Category Analysis) and availability of resources.
- Oversee development of GHG estimates from all categories in the Waste sector.
- Determine the most appropriate IPCC methodology to be used to estimate GHGs for each category.
- Oversee choice and/or development of emission factors.
- Document all methodologies and assumptions.
- In consultation with the QA/QC coordinator, convene Waste sector working group to review calculations and perform initial Quality Assurance/Quality Control (QA/QC), consulting QA/QC coordinator.
- QA includes review procedures conducted by personnel not involved in the inventory development process (e.g., experts not involved with estimate development, the public, other relevant agencies, non-governmental organizations, universities, etc.).
- QC includes routine reviews implemented by the inventory development team to measure and

control the quality of the inventory as it is prepared (e.g., sector leads and supporting experts involved with estimate development).

- Coordinate the response to comments received from QA (external) reviews of the Waste sector GHG estimates and update the inventory if necessary.
- Review the final Waste sector GHG estimates and the narrative describing the as Oversee the development of the uncertainty analysis for the Waste sector.
- Identify and document any improvements needed for subsequent inventories, related to activity data, emission factors, methodologies, or other components of developing the estimates.

3. REQUIREMENTS FOR EXPERIENCE AND QUALIFICATIONS

3.0 QUALIFICATIONS AND EXPERIENCE

Post Graduate degree in Environmental Science/Management, Energy related or Statistics or any other relevant qualification in related fields.

The team contracted for undertaking project activities should meet the following minimum criteria:

- Demonstrated expertise and experience in conducting greenhouse gas inventories (according to the IPCC guidelines) for National Communications for Developing Country Parties to the UNFCCC.
- Sound, state-of-the-art scientific expertise on climate research and climate change mitigation
- Demonstrated expertise in the fields of emission factor development and data collection methods
- A strong professional background covering the areas of energy, industry, transport, agriculture, livestock production, forestry, waste
- Successful applicants must also demonstrate a thorough knowledge/ hands-on experience with the following:

- Decision Adopted by the COP Decision 17/CP.8: Guidelines for the Preparation of National Communications from Parties not Included in Annex 1 to the Convention Adopted by the Conference of the Parties

- Revised 1996 IPCC and 2006 IPCC guidelines for GHG inventories and the 2003 Good Practice Guidance for Land-use, Land-use change and Forestry

4. KEY DELIVERABLES

The following are expected deliverables for this assignment:

- An Inception Report which clearly indicates the methodology and anticipated target outputs-two weeks after signing contract
- A draft completed GHG Inventory report including the methodologies used in compiling the inventory and the data sources
- Workshop Reports /Expert review reports
- A final GHG inventory, 2 hard copies of the GHG inventory report
- GHG inventory Chapter for the Biennial update report and Third National Communication.

5. DOCUMENTS TO BE INCLUDED WHEN SUBMITTING THE PROPOSALS.

Interested individual consultants must submit the following documents/information to demonstrate their qualifications:

1. **Technical Proposal:** The technical proposal should include the following:

- Statement explaining why the Team is the most suitable for the assignment
- Profile of consultants and an outline of recent experience on assignments of a similar nature.
- References from the consultant's clients for similar assignments.
- The consultant's comments or suggestions on the TORs and appreciation of the assignment – the objectives, tasks and deliverables.
- A clear description of the methodology and work plan that the consultants propose to execute the assignment, illustrated where appropriate, with bar charts of activities.
- A timeline for carrying out the assignment. Proposal should include duration of consultancy in form of milestone chart as suggested by the Team. The consultancy should not be more than 8 weeks (2 months).

2. **Financial proposal:** The financial proposal should list the costs associated with the assignment clearly indicating daily rate and an indication of whether the rate is flexible.

3. **Personal CV** including past experience in similar projects and at least three references

6. FINANCIAL PROPOSAL

The financial proposal will specify the daily fee, travel expenses and per diems quoted in separate line items, and payments are made to the Individual Consultant based on the number of days worked. The expected duration of the assignment is thirty (30) working days spread over three (3) months.

Travel;

All envisaged travel costs must be included in the financial proposal. This includes all travel to join duty station/repatriation travel. In general, UNDP should not accept travel costs exceeding those of an economy class ticket. Should the Consultant wish to travel on a higher class he/she should do so using their own resources.

In the case of unforeseeable travel, payment of travel costs including tickets, lodging and terminal expenses should be agreed upon, between the respective business unit and Individual Consultant, prior to travel and will be reimbursed

7. EVALUATION

Individual consultants will be evaluated based on the Cumulative Analyses methodology (weighted scoring method), where the award of the contract will be made to the individual consultant whose offer has been evaluated and determined as:

- a) Responsive / compliant / acceptable, and
- b) Having received the highest score out of a pre-determined set of weighted technical and financial criteria specific to the solicitation.
 - Technical Criteria weight; (70%)
 - Financial Criteria weight; (30%)

The following criteria and allocated points will be used in Technical Evaluation.

- **Expertise of each member** - Demonstrated expertise and experience in conducting greenhouse gas inventories (according to the IPCC guidelines) for National Communications for Developing Country Parties to the UNFCCC (20 points).
- **Team Composition including Relevant Professional /Work Experience** - Provide information regarding previous assignments of a similar nature (including those listed in the Qualifications) (20 points).
- **Technical Competence/ Methodology** – Detailed methodology/strategy to be adopted in executing the mandate during the period. Methodology to be used in analyzing the data collected. Demonstrate understanding of the assignment/terms of reference (40 points)
- **Detailed Workplan including presentation and packaging of the proposal** - Propose the timelines for the main activities of the assignment, their content and duration, phasing and interrelations, milestones (including interim approvals by the Client), and delivery dates of the reports. The work plan should be consistent with the technical approach and methodology, showing understanding of the TOR and ability to translate them into a feasible working plan. In addition, the **presentation & packaging** of the proposals will be taken into account. (20 points)

Only Individual Consultants obtaining a minimum of 70% of the obtainable points of 100 points in technical evaluation would be considered for the Financial Evaluation. The total number of points allocated for the price component is 100. The maximum number of points will be allotted to the lowest price proposal that is opened and compared among those technical qualified candidates who have attained a minimum of 70% score in the technical evaluation. All other price proposals will receive points in inverse proportion to the lowest price.

UNDP applies a fair and transparent selection process that would take into account both the technical qualification of Individual Consultants as well as their price proposals. The contract will be awarded to the candidate obtaining the highest combined technical and financial scores.

UNDP retains the right to contact references directly.

8. PAYMENT SCHEDULE

The payment schedule will be as follows:

- a) 50% upon approval of:
 - an Inception Report which clearly indicates the methodology and anticipated target outputs-two weeks after signing contract
 - A Draft completed GHG Inventory Report including the methodologies used in compiling the inventory and the data sources
 - Workshop Reports /Expert review reports

- b) 50% upon approval of Final Report.
 - A final GHG inventory, 2 hard copies of the GHG inventory report
 - GHG inventory Chapter for the Biennial update report and Third National Communication.