

Inception Report

Consultancy to Develop Liberia's National GHGI and MRV System

June 2020



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Author	Emma Salisbury
Reviewed by	Melanie Hobson
Signature	
Date	4 th June 2020

Company Details:	Aether Ltd Oxford Centre for Innovation New Road Oxford OX1 1BY UK Registered in England 6630896
Contact:	emma.salisbury@aether-uk.com +44(0)1865 261466 www.aether-uk.com

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Glossary

BUR	Biennial Update Report
CH ₄	Methane
CI	Conservation International
CO ₂	Carbon dioxide
CRF	Common Reporting Format
EPA	Environmental Protection Agency
FOLU	Forestry and other land use
GHG	Greenhouse gas
HFCs	Hydrofluorocarbons
IPCC	Intergovernmental Panel on Climate Change
LDC	Least developed country
LULUCF	Land use, land use change and forestry
MoU	Memorandum of Understanding
MRV	Monitoring, Reporting and Verification
N ₂ O	Nitrous Oxide
NC	National Communication
NDC	Nationally Determined Contribution
NF ₃	Nitrogen Trifluoride
PFCs	Perfluorocarbons
QA/QC	Quality Assurance and Quality Control
SBI	Subsidiary Body for Implementation
SF ₆	Sulphur Hexafluoride
UNFCCC	United Nations Framework Convention on Climate Change
VUU	Virtual University of Uganda

1 Introduction

Global climate change is possibly the greatest environmental challenge facing the world this century. Reflecting this, governments came together in 1988 and formed the Intergovernmental Panel on Climate Change (IPCC). This led to the formation of the United Nations Framework Convention on Climate Change (UNFCCC¹), which entered into force on 21 March 1994. Currently, there are 197 Parties (196 States and 1 regional economic integration organization) to the UNFCCC. The aim of the UNFCCC is to stabilise greenhouse gas (GHG) concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.

Linked to the UNFCCC, is the Kyoto Protocol², which committed the developed country (Annex I) parties to the Convention to internationally binding emission reduction targets. Developing country (non-Annex I) parties did not have emission reduction obligations under the Convention and its Protocol. Liberia ratified the UNFCCC and the Kyoto Protocol in 2002.

Under the UNFCCC, Liberia is classified as a non-Annex I party and a Least Developed Country (LDC) and can submit National Communications (NCs) at their discretion. NCs include an inventory of sources and sinks of GHG emissions, a description on the steps taken by the Party to implement the Convention and any other relevant information relevant to the achievement of the objective. Liberia submitted its initial NC in 2013³. This highlighted that in 2000, the energy and agriculture sectors contributed approximately 67.5% and 32% of Liberia's GHG emissions respectively, but that overall Liberia was a net sink of greenhouse gases due to the level of carbon removals from the land use change and forestry (LULUCF) sector. The Initial NC however highlighted that the accuracy and completeness of the inventory was constrained by a lack of reliable and up to date activity data, particularly for the forestry, agriculture and waste sectors.

In 2015, 196 Parties came together under the Paris Agreement to set the world on a course towards sustainable development, aiming at limiting warming to 1.5 to 2 degrees centigrade above pre-industrial levels. The Agreement requests each country to outline and communicate its climate actions in the format of Nationally Determined Contributions (NDCs). Liberia submitted its Intended NDC (INDC) in September 2015⁴. This re-iterated Liberia's targets set out in the 2009 National Energy Policy:

- Reducing GHG emissions by at least 10% by 2030
- Improving energy efficiency by at least 20% by 2030
- Raising the share of renewable energy to at least 30% of electricity production and 10% of overall energy consumption by 2030
- Replacing cooking stoves with low thermal efficiency (5 – 10%) with the higher efficiency (40%) stoves.

The INDC has also set a long-term strategy of achieving carbon neutrality by 2050 and identified mitigation measures for the energy and waste sectors to help them achieve

¹ <https://unfccc.int/process-and-meetings/the-convention/what-is-the-united-nations-framework-convention-on-climate-change>

² https://unfccc.int/kyoto_protocol

³ <https://unfccc.int/documents/124386>

⁴ <https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Liberia%20First/INDC%20Final%20Submission%20Sept%2030%202015%20Liberia.pdf>

these targets. In order for progress towards these targets to be tracked, the next step is for Liberia to develop a more up to date and complete greenhouse gas inventory in preparation for the implementation of the modalities, procedures and guidelines (MPGs) under the Enhanced Transparency Framework of the Paris Agreement⁵. The MPGs require all parties to submit their first biennial transparency report (BTR) and national inventory report (NIR) by 31 December 2024⁶ with the added flexibility for LDCs to submit this information at their discretion.

Nonetheless, there is a present need to enhance the internal capacity within Liberia for the refinement of the draft national GHG inventory prepared for Liberia's Biennial Update Report, yet to be submitted to the UNFCCC; as well as establishing a national MRV (Monitoring, Reporting and Verification) system to be set up for data sharing that will respond to the emerging implementation of the Enhanced Transparency Framework.

Through funding made available from the Global Environment Facility (GEF), Conservation International has, therefore, entered into agreement with Aether Ltd to provide services under the: "Consultancy to Develop Liberia's National greenhouse gas inventory (GHGI) and monitoring, reporting and verification (MRV) System". The objectives of this project are to:

- Develop a national greenhouse gas inventory
- Develop a national MRV system for the greenhouse gas inventory
- Conduct sectoral training in greenhouse gas emissions and inventories.

The capacity building element of this project will address key challenges for developing countries in GHG inventories and MRV systems identified by the Subsidiary Body for Implementation (SBI) of the UNFCCC⁷. They include managing the national GHG inventory and emission database, institutional capacity, technical expertise, coordination across sectors and institutions, and development of national emission factors.

This inception report lays out the approach that will be taken by the project team to achieve these objectives whilst working closely with the Environmental Protection Agency's (EPA) Project Management Unit, the identified trainees and Conservation International-Liberia. Our approach will develop a national GHG inventory and MRV system in collaboration with local stakeholders that will build capacity and ensure that the identified weaknesses of the current system are addressed in line with a long-term vision.

An experienced project team has been selected for this project as shown in Figure 3 below. The project team is led by Aether, an environmental consultancy based in the UK that specialises in GHG inventories, MRV and capacity building with a wealth of experience in countries around the world. The project team includes Philip Acquah (Aether Associate) and experts from the University of Liberia, PetroMall and the Virtual University of Uganda (VUU). The roles and responsibilities of the team are as follows:

⁵ <https://unfccc.int/documents/184700>

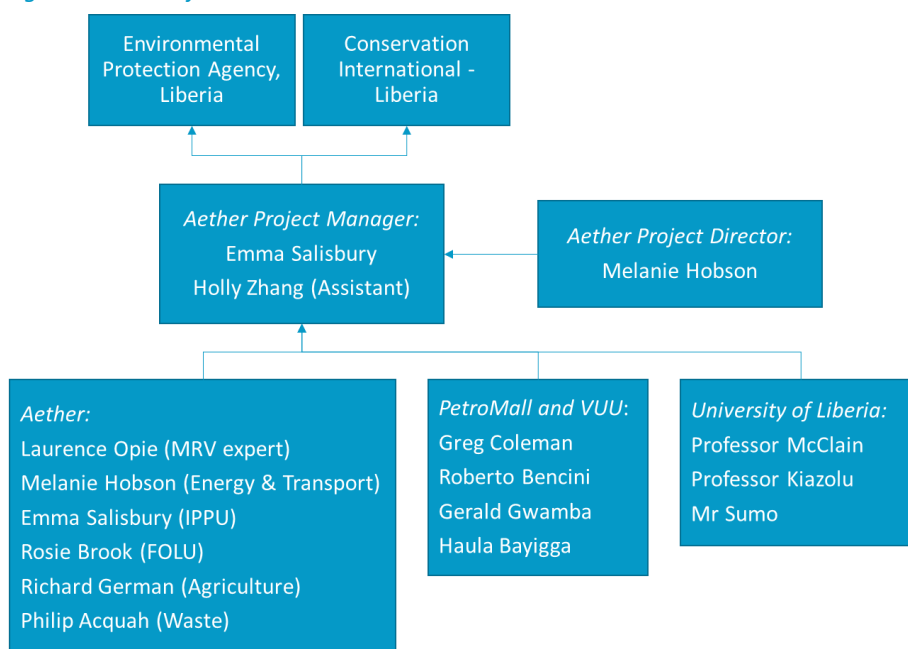
⁶ https://unfccc.int/sites/default/files/resource/cma2018_3_add2_new_advance.pdf

⁷ <https://unfccc.int/resource/docs/2018/sbi/eng/05.pdf>

- Aether will manage the project and provide sector expertise for the energy, transport, industrial processes and product use, agriculture, and land use sectors. Aether will also lead on developing and setting up the MRV system.
- PetroMall and the Virtual University of Uganda (VUU) will support the online training sessions and stakeholder workshops.
- The University of Liberia will provide local support and aid stakeholder engagement and data collection.
- Philip Acquah (an Aether Associate) will provide input to the waste sector and institutional, procedural and legal arrangements.

The named individuals in Figure 1 is the same as the team outlined in the project proposal with the addition of two individuals to provide further support: Holly Zhang (Aether) and Haula Bayigga (VUU). CVs for these two additional members of the team are available on request.

Figure 1: The Project Team and communication routes to EPA and CI



2 Programme of work

This section describes how the project team intend to carry out the requirements under this project. A summary of the tasks and deliverables are provided in Figure 1 and a Gantt chart for the project is provided in Figure 2.

2.1 General approach

The programme of work consists of various elements including the baseline study, pilot testing, developing the greenhouse inventory and MRV system and providing capacity building. Whilst these tasks are discussed separately below, there will be a substantial amount of overlap.

There will be a stakeholder engagement workshop at the beginning of the project to establish contact with key stakeholders and present the proposed approach agreed with the EPA and Conservation International during this inception phase of the project. Due to the current COVID-19 restrictions both in the UK and Liberia, this workshop will be

held remotely using Zoom. Similarly, the majority of the training that will be provided throughout the project will be undertaken remotely using VUU's remote learning Moodle platform. A Validation Workshop will be held at the end for the final GHG inventory and MRV training. It is envisaged that this will be an in-country event, but this will be dependent on any travel restrictions in place. A decision on this will be made at least 2 months before the event.

The MRV system will be developed and enhanced throughout the project. We will work closely with selected local stakeholders to ensure that the system that is chosen is the most appropriate and that the outputs meet the project's needs. MRV systems vary in what they include, but as agreed at the project kick off meeting, for this project the system will focus on the GHG inventory, emission mitigation and institutional arrangements components.

In order to keep the EPA and Conservation International updated on project progress, it was agreed at the project kick off meeting that calls will be had monthly throughout the project. These will be used to discuss important issues and any foreseen delays.

Figure 2: Outline of the Tasks against the project deliverables

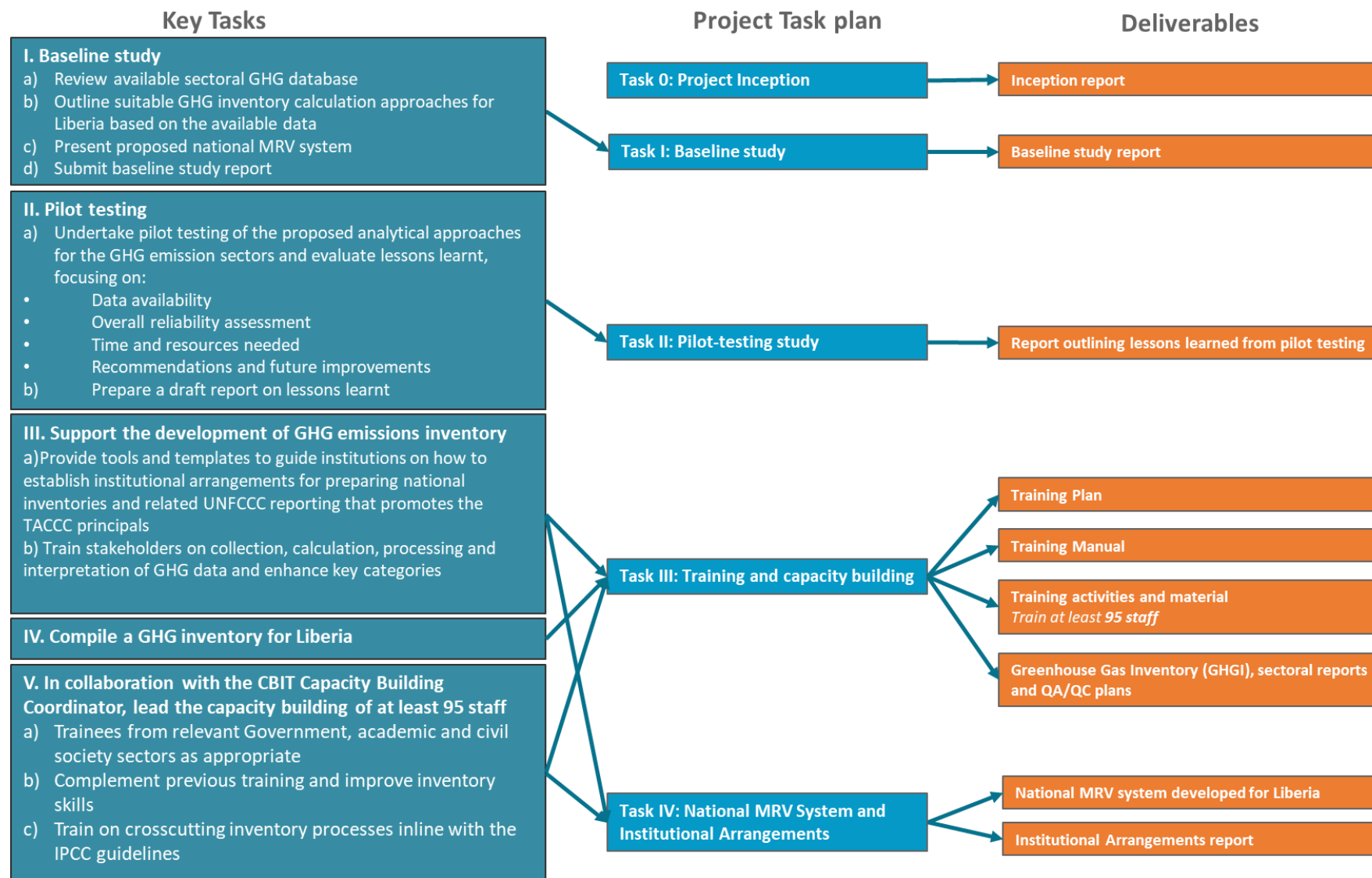
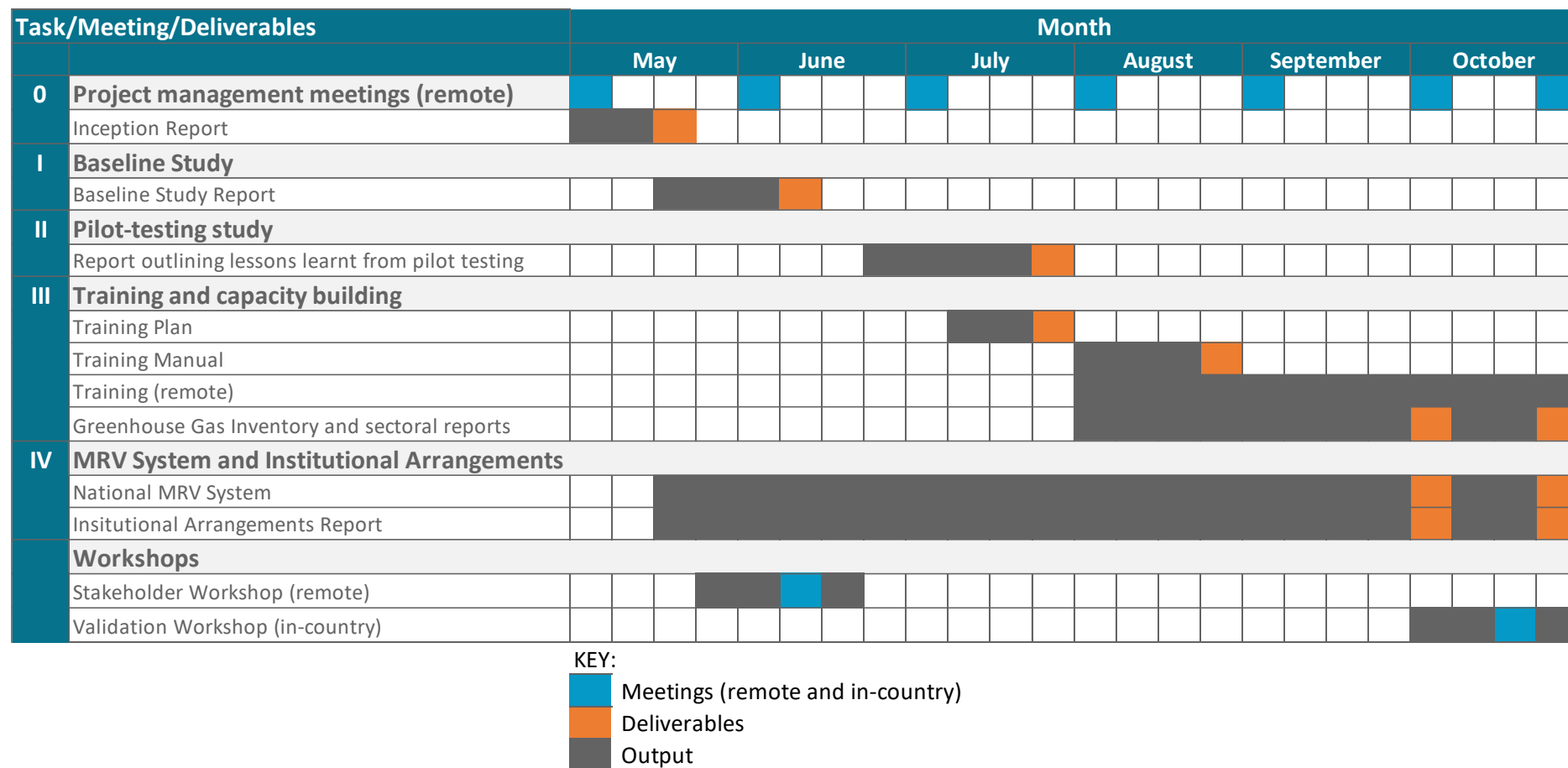


Figure 2: Gantt Chart to show timings of the different tasks



2.2 Task 0: Project Inception

This service agreement was made and entered into on the 1st May 2020. The project kick-off meeting subsequently took place on the 5th May⁸. The discussions and outcomes of this meeting are reflected in this inception report, which includes a detailed work plan, our approach to the work and the methodologies to be employed. This report was submitted three weeks after signing of the contract and was reviewed by all project partners, EPA and Conservation International.

2.3 Task I: Baseline Study

The **baseline study** will critically review the status of Liberia's latest GHG inventory and make recommendations for improvements. Liberia's First Biennial Update Report (1BUR) and Second National Communication (2NC) are currently being compiled for submission to the UNFCCC with a zero-order draft ready for review. The project team will review the inventory included in the zero order drafts if provided with the necessary documents. This would ideally include the outputs, calculations and underlying activity data used to compile the latest inventory. If these are not made available, the project team will review the inventory that was used as the basis for the Initial National Communication submitted by Liberia to the UNFCCC in 2013⁹.

The strong preference from the sector experts of the project team is to review the inventory that will be used in the 1BUR and 2NC because this represents the most up-to-date inventory compilation work and will ensure that the recommendations from the review are relevant and useful to the inventory compilers under the 1BUR and 2NC.

Each of the sector experts will undertake this comprehensive review of the inventory and provide comments along with recommendations for improvements in accordance with the IPCC Guidelines. This will include ideas as to where currently missing activity data could be collected from, along with a proposed methodology. These recommendations can be provided to the 1BUR and 2NC team to support the development of their outputs and help them to identify capacity building needs they may want to request through this project.

At the same time, the project team's MRV expert will conduct a review of Liberia's institutional arrangements and MRV systems including the REDD+ MRV system and Liberia's Environmental Knowledge Management System. The expert will propose an initial model for an integrated MRV system, which will include the GHG inventory, a reporting regime for mitigation actions and an initial model for the institutional arrangements. Alongside these proposals will be recommendations for implementation. The validity of this review will depend on the availability of key stakeholders to comprehensively discuss the current situation and planned work in Liberia concerning MRV of climate change activities as well as individuals that can confirm the IT structures that can be implemented in Liberia.

The Baseline Study Report will be submitted to the EPA and Conservation International by 20th June who will provide comments within five working days (i.e. by the 27th June).

⁸ Minutes from this meeting are available on request.

⁹ <https://unfccc.int/documents/124386>

The project team will address these comments and submit the final report within five working days (i.e. the 4th July).

Task summary: Review of the GHG inventory and MRV systems

Deliverable: Baseline study report (service agreement activity 1 deliverable)

Responsibility: Melanie Hobson with inputs from project team

Timescales: Work done in May-June; report submitted for comments by 20th June

2.4 Task II: Pilot-testing study

The next phase of the work will assess whether the recommendations made in the baseline report can be taken forward and incorporated into the development of the GHG inventory and MRV system for Liberia. This will include an assessment of the time and resources needed to implement the recommendations including capacity building requirements. The report will also assess which of these recommendations can be addressed within the scope of this project. It will directly feed into the training plan (Task III).

The **pilot testing report** will be submitted to the EPA and Conservation International by the 30th July who will provide comments within five working days (i.e. by close of play on the 6th August). The project team will address these comments and submit the final report within five working days (i.e. by the 13th August).

Task summary: Improvement recommendations for GHG inventory and MRV system

Deliverable: Pilot testing report (service agreement activity 2 deliverable)

Responsibility: Richard German with input project team

Timescales: Work done in June-July; report submitted for comments by 30th July

2.5 Task III: Training and capacity building

The next phase of the work is to structure and carry out capacity building related to the GHG inventories and MRV.

This phase will begin with developing a training plan using the information gathered during the pilot-test. This will be submitted for approval at the same time as the pilot testing report. Following the approval of the training plan, the project team will run the training programme to the identified stakeholders and produce a training manual. By the end of the training programme, the participants will have developed a complete GHG inventory and sector methodology reports.

The EPA is identifying the relevant people to receive training through this project. The project team has identified the following three separate groups that require different training approaches. A different training plan will be developed for these groups.

- Data providers and stakeholders with little/no experience in GHG inventories and MRV that want to learn the basics of GHG inventories (Group 1)
- Data providers and stakeholders with little/no experience in GHG inventories and MRV that want hands-on experience compiling an inventory (Group 2)
- Experienced GHG inventory compilers (Group 3)

As far as possible, the training plan for the experienced GHG inventory compilers (Group 3) will complement the work they are currently doing under the 1BUR and 2NC projects. The project team will engage with them directly during the pilot-testing task to discuss the recommendations identified during the base-line study and the most appropriate way for the capacity building under this project to support the implementation of those recommendations.

The stakeholders with little/no experience in GHG inventories (Group 1 and Group 2) will be divided into two groups dependent on the time they will commit to the training programme. It is not effective to provide hands-on experience of GHG inventory compilation or MRV training (Group 2) to all of the identified 95 stakeholders because the work is very practical and would require a commitment of approximately 20 days to the training programme. However, it is important to ensure that a wide range of stakeholders are aware of the processes related to GHG inventory compilation and MRV, so the training programme includes an option to receive training on the basics of GHG inventories and MRV (Group 1) which requires each stakeholder to commit approximately 5 days to the training programme. The table below summarises the training groups under this programme.

Currently Liberia does not appear to have formal institutional, procedural and legal arrangements for obtaining data, and this is obtained by going to individual organisations and requesting data. This is time consuming and can be problematic as sometimes the data is not consistent over time, due to different data being collected because the organisation may have changed focus, or the key contact may have changed jobs. Therefore, more formalized institutional arrangements are critical for the sustainability of the GHG inventories. This aspect will therefore be incorporated into the training plan.

Across all training groups, we will separate discussions into the following teams: Energy and Transport, Industrial Processes and Product Use (IPPU), Agriculture, Forestry and Other Land Use (FOLU), Waste and MRV (including institutional, procedural and legal arrangements). It is worth noting that the industrial processes and product use (IPPU) sector was not identified in the request for the consultancy work, but this sector is thought to be of relevance and therefore this has been added into the table below. The training groups will also receive cross-cutting training relevant to all sectors. Within Group 2, we will ask the EPA to identify a main lead and a deputy. These people will then work closely with the allocated trainer to compile the inventory for that sector, so that they are directly involved in the process.

Table 1: Training groups available under the programme

Training Group	Description of group	Suggested number of stakeholders	Time commitment
1	Stakeholders that will learn the basics of GHG inventories	60	5 days
2	Stakeholders that will have hands-on experience compiling an inventory	30 (2-7 per team)	20 days
3	Experienced GHG inventory compilers for specific and technical training	5	5 days

The training will be delivered by international MRV and GHG inventory experts that will provide a wealth of knowledge from their experiences working with countries and

organisations across the world. They will be supported by the e-learning experts within the team to ensure that this knowledge is distilled and communicated to the stakeholders in an effective manner. The allocation of training responsibilities is given in the table below.

Table 2: Allocation of trainers

Training team	Name of trainer(s)	Training groups
Energy and Transport	Melanie Hobson	1, 2, 3
IPPU	Emma Salisbury	1, 2, 3
Agriculture	Richard German	1, 2, 3
FOLU	Rosie Brook	1, 2, 3
Waste	Philip Acquah	1, 2, 3
MRV and institutional arrangements	Laurence Opie	1, 2, 3

The training will be achieved by the following means:

- A Stakeholder Workshop at the beginning of the project
- A series of training sessions that will be conducted remotely
- Mentoring throughout the capacity building phase of the project
- An in-country Validation Workshop at the end of the project

The training will use the VUU's remote training platform based on a Moodle Learning Management System, which will provide a robust, secure, and integrated system to create a personalized learning environment. It will contain the training material from the course. Each participant will be given their own user account for the Moodle system.

The individual training sessions will use the Zoom web conferencing platform as this is considered the most used platform amongst the project stakeholders. Zoom has features including session recording, screen sharing, a versatile chat, and breakout rooms that will help to provide an interactive and engaging learning atmosphere.

PetroMall and VUU will provide timely online user support for troubleshooting all issues related to Moodle and Zoom to ensure a favourable learning experience for all.

The **Stakeholder workshop** will take place in June during the completion of the baseline study. Individuals that will engage with the capacity building will be invited to the workshop. They will submit an initial questionnaire to the project team prior to the event to explain their current level of experience and knowledge, and their training group and role under the programme. The workshop will be conducted online using Zoom hosted by VUU. It will include some simple overview training for all stakeholders regarding GHG inventories, MRV and the online platforms that we will use during the project. It will also include discussions regarding the findings under the baseline study.

The **series of training and mentoring sessions** will take place from August after the pilot-testing and training plan have been completed. The sessions will continue until October. For training Group 2, the stakeholders will compile a national GHG inventory during this period (as detailed under Task V below). For all training groups, the topics may include those listed below depending on the outcomes of the baseline study, pilot-testing, and Stakeholder workshop:

- The suggested institutional arrangements and how these should be set up

- The 2006 IPCC guidelines and the 2019 refinement
- Data collection processes and requirements
- Sector specific training
- Methodologies and tools for collecting, processing, documenting and archiving GHG data by inventory sector
- Training and support to fill the remaining gaps in the Inventory
- Introduction and training on the Improvement Plan
- Key category analysis
- Uncertainty analysis
- QA/QC training including the transparency, accuracy, consistency, comparability and completeness (TCCCA) criteria as well as simple and effective QA/QC approaches including colour coding in the excel spreadsheets and providing comments.
- UNFCCC reporting
- Introduction and training on the MRV System

The **Validation workshop** will take place in October towards the end of the capacity building sessions after training Group 2 has compiled a draft GHG inventory and prior to the finalisation of this work. All stakeholders involved in the training programme will be invited. It is envisaged that the workshop will take place in-person in Liberia, but this is dependent on travel policies, and the workshop can be conducted online similarly to the Stakeholder workshop if required. A final decision on the format for the workshop will be made at least 2 months before the event. A member from each sector team under Group 2 will make a presentation on the draft GHG inventory outlining the trends, methods, assumptions, data gaps and potential improvements. They will facilitate break-out groups by sector to discuss the draft inventory and gather further input and information from relevant stakeholders.

The **capacity building** outlined above will be conducted after the baseline study and pilot-testing have been completed.

Task summary: Providing capacity building to stakeholders

Deliverable: Delivery of capacity building (service agreement activity 4(iii) deliverable)

Responsibility: Project team

Timescales: Work done August-October; training manual is detailed below

The training will be conducted after the baseline study and pilot-testing have been completed. The **training plan** will be delivered alongside the pilot-testing report to the EPA and Conservation International by 30th July.

Task summary: Providing capacity building to stakeholders

Deliverable: Training plan (service agreement activity 3 and 4(ii) deliverable)

Responsibility: Laurence Opie with inputs from project team

Timescales: Work done in July; plan submitted for comments by 30th July which is one month earlier than the service agreement

The project team will provide a **training manual** for the stakeholders, which will include information on the training material and tools available to them. This will support future capacity building beyond the end of the project. The manual will be compiled at the start of the capacity building sessions and will be delivered one month into this period.

This will ensure that the project team can include practical advice and information gained during the initial engagement with stakeholders.

The training manual will be submitted to the EPA and Conservation International by 31st August who will provide comments within five working days. The project team will address these comments and submit the final report within five working days.

Task summary: Providing capacity building to stakeholders

Deliverable: Training manual (service agreement activity 4(ii) deliverable)

Responsibility: Rosie Brook with inputs from project team

Timescales: Work done July-August; plan submitted for comments by 31st August

2.5.1 Scope of the GHG Inventory for Liberia

The detailed sectoral training will take the group 2 and 3 stakeholders through the different steps for inventory compilation facilitating collaboration between Aether and the in-country sector experts for the compilation of the inventory. The years 2014-2017 will be compiled. Emission estimates will be made for the following gases: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O) and F-gases (HFCs, PFCs and SF₆).

Within the sectors, emission estimates will be calculated by Common Reporting Format (CRF) sub-categories as defined by the 2006 IPCC reporting guidelines and the 2019 refinement. The methodologies set out in the IPCC Guidelines are classified as Tier 1, Tier 2 and Tier 3. Each tier represents an improvement in the detail of the methodology employed and integration of country specific activity data or emission factors.

The highest tier will be used where possible, although it is recognised that a Tier 1 approach is likely to be used in most cases due to availability of data. Completeness of the inventory is paramount and where required input data is unavailable, expert judgement will be used, or data from neighbouring countries if appropriate.

2.5.2 Tools to support capacity building activities

To compile the inventory, the stakeholders will be provided with transparent user friendly excel spreadsheet templates along with accompanying training material. We do not envisage providing training on the IPCC Software as we find the use of excel spreadsheets more transparent and flexible. Throughout the compilation process, Aether and the in-country team will undertake checks on the outputs and ensure that the inventory follows the TCCCA criteria (Transparency, Completeness, Consistency, Comparability and Accuracy).

Aether has created a simple and intuitive excel Key Category Analysis Tool that will be shared with the stakeholders to create the outputs of the key category analysis, but also, importantly, provide a template for documentation and discussion points related to the analysis. The tool is designed to be easy to use and understand, making it perfect for new teams.

As with analysis of key categories, understanding the uncertainties of emission estimates can be extremely useful to inventory compilers for prioritising improvements. It is also important to communicate this information for effective policy delivery, to avoid inaccuracies or overconfidence in presentation of the source contributions. Aether's approach is to provide guidance on how to define uncertainty values,

particularly for key activity data and any country-specific emission factors. Contribution may be sought from key data providers or further analysis recommended and built into any improvement plans. Aether has created an excel Uncertainty Analysis Tool for emission inventory compilers to quantify this information, in line with international guidance.

In collaboration with the stakeholders, the Aether team will establish a strategic QA/QC system with quality objectives. This will include the development of sector specific QA/QC for key categories to ensure the continual development of a high-quality outputs in line with best practice. Sector-specific QA/QC planning ensures a synchronised approach, shared across the inventory team, data suppliers and wider stakeholders. This is a regular item that comes up through inventory reviews. Completing this process well can significantly reduce review comments and required actions. A QA/QC Plan will be provided, which will include the following elements:

- Roles and responsibilities – identifying the roles and responsibilities within the QA/QC procedures to ensure that all steps are undertaken
- Work plan – documenting the timelines that should be followed to ensure that there is sufficient time to carry out all QA/QC activities
- Quality control (QC) procedures – identifying and tracking activities to ensure sufficient quality control procedures are carried out
- Quality assurance (QA) procedures – identifying and tracking activities to ensure sufficient quality assurance procedures are carried out.

The draft inventory, sector reports and QA/QC plan will be presented at the Validation workshop in October. The final inventory, sector reports and QA/QC plan will be submitted to the EPA and Conservation International by 20th October who will provide comments within five working days. The project team will address these comments and submit the final report within five working days.

Task summary: Support stakeholders in the compilation of a national GHG inventory

Deliverable: Greenhouse Gas Inventory, Sectoral Inventory Reports, QA/QC plan (service agreement activity 5 deliverable)

Responsibility: Emma Salisbury (project manager) and sector experts

Timescales: Work done August-October; draft inventory, reports and QA/QC plan presented during Validation workshop (October); final inventory, reports and QA/QC plan submitted for comments by 20th October

2.6 Task IV: National MRV system and Institutional Arrangements

Institutional arrangements and Monitoring, Reporting and Verification (MRV) is a fundamental element of effective management of climate change data and information. It consists of developing and establishing the roles and responsibilities for the monitoring activities that track relevant information and data to support development of climate policies, reporting this information to share its messages, challenges and opportunities; verifying all of the information and processes within the system to ensure that users believe the results and consider the system to be robust.

The review of the current understanding and framework regarding institutional arrangements, MRV and national MRV systems will take place under Task I: Baseline study and Task II: Pilot-test study. The results from these initial analyses will be included

in the respective reports for these tasks. During Task III: Training and Capacity Building, specific sessions related to MRV systems, MRV and institutional arrangements will be conducted by the team to ensure that all stakeholders are fully aware of the importance of these elements.

The project team has a wealth of experience designing, implementing and supporting institutional arrangements and MRV systems in developing and developed countries across Africa, Europe, South America and the Caribbean. As such, the team understands the critical importance of instigating discussions regarding these elements as soon as possible. They often require many iterations and discussions with different groups of stakeholders to fully map the current and future approach that is nationally appropriate. Thus, these discussions began on 15th May prior to the finalisation of this inception report. Laurence Opie will be dedicated to the development of institutional arrangements, MRV and the MRV System providing necessary input to Tasks I, II and III as well as conducting specific stakeholder engagement meetings related to these elements. Approximately two stakeholders engaged in the training programme will be dedicated to these elements. Once identified, they will be invited to all discussions and work with Laurence to develop the framework.

As well as the MRV and institutional arrangements input for the baseline study (Task I), pilot-testing study (Task II) and the training and capacity building activities (Task III), the project team will deliver two outputs specifically related to MRV and institutional arrangements: institutional arrangements report and MRV system.

Consolidating all information gathered during the course of the project, the project team will produce an Institutional Arrangements report to highlight the current status in Liberia regarding roles and responsibilities for climate change mitigation and GHG inventories including the legal framework defining these roles. The report will identify gaps and recommendations for improvements.

After considering the current situation regarding MRV systems in Liberia, the project team will work to enhance the MRV system for GHG inventories and mitigation action tracking. This may lead to working on an MRV System that is already established in Liberia or developing a separate system for these purposes. The most appropriate approach will be formulated during the baseline study (Task I) and the pilot-testing study (Task II).

Task summary: MRV System

Deliverable: MRV System (service agreement activity 5 deliverable)

Responsibility: Laurence Opie with input from project team

Timescales: Work done May-October; handover of final version by 20th October

Task summary: Institutional arrangements

Deliverable: Institutional arrangements report (service agreement activity 4(i) deliverable)

Responsibility: Laurence Opie with input from project team

Timescales: Work done May-October; report submitted by 20th October



Oxford Centre for Innovation

New Road

Oxford

OX1 1BY UK

+44(0)1865 261466

www.aether-uk.com