Terms of Reference

GHG (CH_4) Measurement Using Closed Chambers for the Rice Carbon Pilot Project in An Giang Province, Vietnam

1. Context

Rikolto is an international NGO with over 50 years of experience in partnering with farmer organisations and food value-chain actors across Africa, Asia, Europe and Latin America. Rikolto works with farmers, private-sector actors, governments and other partners to make food systems more sustainable and inclusive. In Vietnam, Rikolto has supported sustainable rice production, including practices such as Alternate Wetting and Drying (AWD), and has worked to strengthen market linkages and an enabling environment for sustainable rice production.

Rikolto and Creattura Co., Ltd. are preparing a rice carbon pilot project in An Giang province, Vietnam. As part of the pilot, primary field measurements of methane (CH_4) emissions are required to support monitoring, reporting and verification (MRV), assess emission differences between baseline and project water-management practices, and inform future carbon activities.

The GHG measurement activity will use the closed-chamber approach described in the technical guidance provided by Creattura, which is based on Gold Standard guidelines. The guidance covers field stratification, selection of baseline and project reference fields, chamber design and installation, gas sampling, laboratory analysis and calculation of methane emission rates. Under this guidance, the closed-chamber procedure is used for CH_4 measurement and not for N_2O.

Rikolto therefore seeks a qualified consultant, research institution, university team or specialised technical service provider to plan and implement the closed-chamber GHG measurement activity in close coordination with Rikolto and Creattura.

2. Objective

The main objective of the consulting package is to generate reliable, well-documented field methane-emission data for the An Giang rice carbon pilot through the implementation of a technically sound closed-chamber measurement system. The following specific objectives are:

1. The project team has an agreed and detailed field measurement plan covering field stratification, site selection, chamber deployment, sampling schedules, laboratory analysis, and quality assurance/quality control (QA/QC) procedures.

2. The closed-chamber measurement system is appropriately designed, fabricated/procured, installed, and operated in accordance with Creattura's technical guidance for measuring methane (CH_4) emissions from rice fields.
3. Gas sampling is conducted at the required frequency, with complete field records, sample identification, and chain-of-custody documentation maintained throughout the measurement process.
4. Rikolto and Creattura receive complete raw data, processed datasets, calculation files, field documentation, and a final technical report suitable for project Measurement, Reporting and Verification (MRV) and technical review.

The consultant/team's role is to support the planning, implementation, documentation, and quality assurance of field methane-emission measurements. The reliability and completeness of the resulting data and documentation will support the project's MRV requirements and subsequent technical review.

3. Scope of work

Location: An Giang Province

Target activity: Field methane (CH_4) emission measurement for the An Giang rice carbon pilot using a closed-chamber measurement system.

The consultant/team will provide technical support to Rikolto and Creattura throughout the planning, implementation, monitoring and reporting of field methane-emission measurements. The scope of work includes, but is not limited to, the following tasks:

- Review project documents, field information and Creattura's technical guidance on closed-chamber methane measurement; conduct an inception meeting to agree on monitoring requirements and implementation arrangements;
- Develop a detailed field measurement plan covering field stratification, site selection, chamber design, sampling schedules, laboratory arrangements, data management, QA/QC and risk management;
- Support the stratification and selection of monitoring fields based on the parameters specified in Creattura's technical guidance and relevant local conditions;
- Design, fabricate/procure, install and operate a technically suitable closed-chamber system for measuring methane emissions from rice fields in accordance with Creattura's technical guidance;
- Conduct gas sampling at least once per week throughout the agreed monitoring period, maintaining complete field logs, sample identification and chain-of-custody documentation;
- Coordinate laboratory analysis of gas samples to determine CH_4 concentrations and ensure appropriate calibration, laboratory QA/QC and supporting records;

- Calculate methane quantities using measured CH_4 concentrations, chamber volume, temperature and applicable gas-law parameters, providing transparent and reproducible equations, assumptions and calculation files;
- Implement QA/QC procedures covering equipment checks, chamber sealing, sample handling, data validation, missing or invalid samples, deviation management and data version control;
- Maintain secure backups of raw and processed data, promptly report technical or data-quality issues to Rikolto and propose appropriate corrective actions;
- Coordinate with Rikolto and Creattura throughout implementation, incorporate consolidated technical feedback, and deliver complete raw data, processed datasets, calculation spreadsheets, field documentation and a final technical report suitable for project MRV and technical review;
- Ensure that field activities comply with applicable safety requirements and minimise disruption to farmers, rice crops and irrigation operations.

4. Main activities, deliverables and schedule

The assignment is expected to require approximately 68 working days for the preparation, implementation and reporting of field methane-emission measurements, subject to the agreed monitoring period and field conditions.

The exact allocation of working days may be adjusted between activities in consultation with Rikolto and Creattura, provided that all required deliverables are completed within the agreed contractual period.

#	Key activities	Expected deliverables/results	Estimated time (Working days)
1	Inception report and detailed measurement protocol	Inception report and detailed measurement protocol, including work plan, field design, chamber design, sampling schedule, laboratory plan and QA/QC plan	5
2	Field stratification and monitoring-site selection	Field stratification and monitoring-site selection note, including field IDs, locations, baseline/project classification and final chamber allocation	3
3	Chamber fabrication/procurement, installation and commissioning	Chamber fabrication/procurement, installation and commissioning record, including photos and equipment inventory	35

4	Mid-season progress monitoring	Mid-season progress notes summarising implementation status, data completeness, issues and corrective actions	5
5	Draft technical report and calculation workbook	Draft technical report and complete calculation workbook, including chamber- and plot-level CH_4 emission rates and methodology documentation	10
6	Technical consultation and review	Technical consultation/review meeting with Rikolto and Creattura on draft results	5
7	Final technical reporting and data submission	Final technical report, final cleaned dataset, raw data archive, calculation files, field/lab records and photo documentation	5
	Total (days)		68

5. Requirements

Rikolto welcomes proposals from qualified research institutions, universities, technical firms or consultant teams that can demonstrate the following capacities:

- A team leader with a PhD degree in agronomy, soil science, environmental science, atmospheric science, agricultural engineering, climate change/GHG measurement or a closely related field.
- Demonstrated experience with CH_4 sample analysis using GC-FID and access to a suitable, functioning laboratory for the assignment and experience in field measurement of greenhouse-gas emissions using closed/static chambers, preferably in flooded rice systems.
- Experience with methane-flux calculation, field experimental design, QA/QC, data processing and technical reporting.
- Knowledge of carbon-project MRV and relevant carbon standards/methodologies is strongly preferred.
- Field experience in the Mekong Delta, and preferably in An Giang province or comparable irrigated rice areas.
- Adequate field staff/technicians to implement weekly sampling throughout the agreed monitoring period without interruption.
- Ability to work in Vietnamese for field implementation and to prepare key technical deliverables in English. Bilingual field records are encouraged.

6. Application

Interested consultants and consulting firms are invited to submit:

- Company/consultant profile.
- CV(s) of key team members and description of relevant assignments completed in the last five years.
- Cover letter.
- Technical proposal describing the applicant's understanding of the assignment and proposed technical approach and methodology, including the closed-chamber measurement system, field experimental design, sampling logistics, laboratory analysis and QA/QC procedures.
- Implementation roadmap: A detailed work plan and staffing plan aligned with the rice-cropping calendar, required sampling frequency, and key deliverables.
- Proposed lead time from contract signing to field mobilization and chamber installation.
- At least two references for comparable assignments were available.
- Financial proposal, including:
  - ✓ Professional fees, specifying daily rates and estimated working days for each proposed expert;
  - ✓ Chamber materials, equipment fabrication/procurement and installation;
  - ✓ Field travel, accommodation, meals/per diem and other field implementation expenses;
  - ✓ Sampling consumables, sample transport and storage, and laboratory analysis;
  - ✓ Data processing, technical reporting and other assignment-related or incidental costs; and
  - ✓ Applicable taxes/VAT.

Applications should be submitted by October 31, 2026, to: vietnam@rikolto.org

Only shortlisted applicants will be invited for an interview.