



Food and Agriculture Organization
of the United Nations



Technical Training for Reporting Soil Carbon Stock Change in National Greenhouse Gas Inventories

Online Training:

November 29 to December 1

14:30 - 17:30 (BKK Time/UTC+07:00)

Register online [here](#)





Background – Understanding countries’ status and challenge for the estimation of carbon stock changes in mineral soils in national greenhouse gas inventories:

Despite the growing global support for capacity building to improve soil management, estimation and reporting of carbon stock changes (CSC) in mineral soils in national GHG inventories (GHGI) is still limited. Understanding of the main difficulties allows us to define targeted support to help countries to fulfil the completeness requirement of the Enhanced Transparency Framework (ETF).

The estimation of CSCs provides insights for developing targeted policies to encourage ambitious nationally determined contributions and tracking their implementation.

In 2021, IGES and FAO jointly conducted an online survey targeting GHGI experts and soil scientists in government or research and academic institutes.

Analysis of the survey findings led to the following recommendations;

- Provide clear technical guidance on how to collect and analyze data
- Conduct joint training programs for GHGI experts and soil scientists
- Share good practices and learning at regional level
- Ensure financial and human resources for data collection

This training workshop builds on the [online workshop](#) ‘Estimating carbon stock changes from soil for climate-resilient and sustainable rice production systems’ organised on 29-30 June 2022.

Objective

The objective of the training workshop is to introduce the basic rules, methodologies and tools related to GHGIs from land use, with a focus on soil, as well as data management and mapping to both GHGI experts and soil scientists.





Participants

The main target-audience of this training is

- GHG inventory experts (experts currently or potentially involved in developing their national GHG inventories related to land and/or the agricultural sector)
- Soil scientists and experts who are expected to take part in collecting/analysing soil data
- Others interested and willing to learn

Additional Information

- Online workshop “Estimating carbon stock changes from soil for climate-resilient and sustainable rice production systems” presentations and summary
- Survey findings and recommendations: Understanding countries’ status and challenges for the estimation of carbon stock changes from mineral soils in national greenhouse gas inventories: Preliminary survey findings
- Global Soil Partnership (GSP) activities
 - RECSOIL Recarbonization of global soils
 - GLOSOLAN
 - GLOSIS Soil information and data

The following FAO e-learning courses may also help.

- The national greenhouse gas inventory for land use
- The national greenhouse gas inventory for agriculture
- Preparing a greenhouse gas inventory under the enhanced transparency framework

All FAO E-learning courses are available free of charge [here](#).





Speakers/Facilitators for Soil GHGI-CSC Technical Training:

- Iordanis Tzamtzis, FAO
- Isabel Luotto, Global Soil Partnership (GSP)
- Guillermo Peralta (GSP)
- Natalai RodriguezEugenio (GSP)
- Dr. Sandro Federici, Head of the IPCC Task Force on National Greenhouse Gas Inventories Technical Support Unit (TFI-TSU)
- Dr. Yiyi Sulaeman, Senior Soil Researcher, National Research and Innovation Agency (BRIN), Republic of Indonesia
- Dr. Amnat Chidthaisong, King Mongkut's University of Technology Thonburi (KMUTT)
- Dr. Yasuhito Shirato, National Institute of Agro-Environmental Science (NIAES), NARO Japan
- Assoc. Prof. Fran Hoyle, Director SoilsWest, Murdoch University
- Dr. Suman George, Senior Lecturer, Murdoch University
- Professor Raphael Viscarra Rossel, Curtin University of Technology, Australia

Organizers:

This workshop is organised by FAO and GSP, with financial support from the Ministry of Agriculture, Forestry and Fishers (MAFF) of Japan.





Training Agenda

29th November to 1st December, 14.30 to 17.00 (Days 1 & 2), 14:30 to 17:30 (Day 3)

Time (BKK Time)	Sessions	Speakers/ Facilitators
Day 1 – Tue 29th November 2022 <i>The national greenhouse gas inventory for land use - with focus on soil</i>		
14:30 - 14:40	Opening, introduction and group photo	Akiko Nagano and MohamedLangston Diagne (FAO)
14:40 - 15:10	Enhanced Transparency Framework (ETF), and Article 13 of the Paris Agreement: <ul style="list-style-type: none"> • Modalities, procedures and guidelines (MPGs) • UNFCCC and IPCC, what is mandatory under UNFCCC and how does IPCC relate • Is reporting CSC mandatory? • What is the benefit from reporting emissions/removals from soils? 	Iordanis Tzamtzis, FAO
15:10 - 15:40	National greenhouse gas inventory for land use under the ETF (with a focus on soil) <ul style="list-style-type: none"> • Basic terminology; background science for C transfers among C pools & the atmosphere. What is a CSC, and what are the associated GHG emissions and CO2 removals • Emissions and removals in AFOLU and how they appear in GHGIs • 2006 IPCC Guidelines & methodologies to estimate GHG emissions/removals from soils from land • Land representation and stratification • Tier 1, what data and emission factors are needed to report CSC using the simplest method 	Iordanis Tzamtzis, FAO
10 Minutes Break		
15:50 - 16:40	National greenhouse gas inventory for land use under the ETF (with a focus on soil) (cont.) Reporting CSC from soils from land in GHGIs under the ETF Common Reporting Tables and National Inventory Document.	Iordanis Tzamtzis, FAO
16:40 - 17:00	Q & A	Mirella Salvatore and Iordanis Tzamtzis, FAO

Day 2 – Wed 30th November 2022 Tools and approaches to estimate CSC in soils in national GHGIs		
14:35 - 15:10	2006 IPCC Inventory Software, version 2.8x: <ul style="list-style-type: none"> • What does IPCC provide to assist countries and to develop the national GHGI 	Dr. Sandro Federici, Head of IPCC TFI-TSU
15:10 - 15:20	Short Q & A	Dr. Sandro Federici, IPCC TFI-TSU; Iordanis Tzamtzis, FAO
10 Minutes Break		
15:30- 16:30	Country experiences on estimating CSCs from soils <ul style="list-style-type: none"> • How are countries estimating CSC? • Experiences, challenges, potential solutions • Presentations from Indonesia, Thailand and Australia Moderated by: Dr Chisa Umemiya, IGES	Dr. Yiyi Sulaeman, BRIN, Republic of Indonesia; Dr. Amnat Chidthaisong, KMUTT, Thailand; Assoc. Prof. Fran Hoyle, Murdoch University, Australia; Dr Yasuhito Shirato, NARO (NIAES), Japan
16:30 - 17:00	Overall Q&A and discussion	All
Day 3 – Thu 1st December 2022 Soil data management and mapping - Unlocking the potential of soil organic carbon for sustainable development		
14:35 - 15:30	Setting up a monitoring, verification, and reporting (MRV) system for soil organic carbon in agricultural lands <ul style="list-style-type: none"> • How models can be used to in the MRV and to overcome data gaps 	Guillermo Peralta, FAO GSP
10 Minutes Break		
15:40 - 16:30	The Global Soil Organic Carbon Sequestration Potential Map (GSOCseq) RECSOIL - Country experiences	Isabel Luotto, FAO GSP Natalia Rodriguez, FAO GSP
16:30-16:45	Q&A and discussion	All
5 Minutes Break		
16:50 - 17:10	Measurement of GHGs; CO₂, N₂O and CH₄ High resolution, high throughput soil carbon measurement	Dr Suman George, Murdoch University, Australia Professor Raphael Visarra Rossel, Curtin University of Technology, Australia
17:10 - 17:30	Overall Q&A and discussion	All