

Capacity Building Programme for Indian Experts on National Greenhouse Gas Inventory Preparation as per the Enhanced Transparency Framework Guidelines

-- Onsite Training --

Date: 25 April to 1 May 2024

Timing: 9:30 - 17:30 Indian Standard Time

Venue: Indian Institute of Technology Gandhinagar, Gujarat, India

Rooms: AB 1/201 (150 capacity hall) for all plenary sessions, AB 7/101 and AB 7/102 (both 40 capacity virtual classrooms) for parallel/ breakout sessions

Meeting Link: Only for Virtual Trainers

Co-organized by Indian Institute of Technology Gandhinagar (IITGN) and Indian Institute of Management Ahmedabad (IIMA)

Supported by Capacity Building Initiative for Transparency - Global Support Programme (CBIT-GSP) and United States Environmental Protection Agency (US EPA)

Background

Greenhouse Gas (GHG) inventories offer valuable insights into the emissions and removals of GHG from various sources and sinks in the different sectors of the economy. Once this information is gathered, it becomes possible to identify suitable mitigation actions or policies, develop baseline scenarios, and formulate projections. Furthermore, countries that are parties to the United Nations Framework Convention on Climate Change (UNFCCC) and also the Paris Agreement must regularly submit their GHG inventories. From 2024 onwards, countries have to submit the Biennial Transparency Report (BTR) and one of the mandatory elements is the national inventory report, including the national GHG inventory document (NID) and common reporting tables.







accuracy, completeness, consistency and comparability). Furthermore, to improve GHG inventories over time, countries need to have a deep understanding of the importance of various components involved in the preparation and management of a GHG inventory, such as data collection and management (e.g. archiving), quality assurance and quality control (QA/QC), verification, key category analysis, recalculation and uncertainty assessment, and improvement planning.

Exploring the 2006 IPCC Guidelines for National Greenhouse Gas Inventories is essential in the Energy, IPPU, Agriculture, FOLU and Waste Sectors, providing a comprehensive roadmap for effective GHG emission and removal reporting measures. The 2006 IPCC guidelines cover all major sources and sinks of GHGs, providing guidance on data collection, emission/removal estimation, uncertainty assessment, and reporting requirements. This comprehensive coverage ensures that countries consider all relevant factors in their inventory preparation, leading to more accurate and comprehensive assessments of their emissions profile. The 2006 IPCC guidelines for national GHG inventories offer policymakers useful insights, allowing them to evaluate the efficacy of current climate policies, pinpoint areas that require immediate attention, and monitor advancements towards emission reduction goals. Precise and dependable inventories are crucial for formulating evidence-based policies that promote sustainable development and climate resilience.

The TACCC principles are fundamental guidelines for the preparation of national greenhouse gas inventories, ensuring robustness, comparability, and transparency in reporting emissions data. The TACCC principles stand for Transparency, Accuracy, Consistency, Completeness, and Comparability. Transparency requires clear documentation of methodologies, data sources, and assumptions to foster understanding and trust among stakeholders. Accuracy emphasizes the use of reliable data, emission factors, and estimation techniques to minimize errors and uncertainties. Consistency ensures that inventories are prepared using consistent methodologies and data sources over time, facilitating meaningful comparisons of emission trends. Completeness mandates the inclusion of all relevant emission sources and sinks within a country's boundaries, providing a comprehensive assessment of total GHG emissions. Comparability aims to standardize reporting formats, methodologies, and data quality assurance procedures to enable fair comparisons of emissions between countries or regions. Training will focus on adhering to these principles enhances the credibility and utility of GHG inventories, supporting informed decision-making and international collaboration in addressing climate change.

Energy sector plays a pivotal role in national greenhouse gas (GHG) inventories, encompassing emissions from fossil fuel combustion (e.g., electricity generation, industry, transport), and other energy-related activities (e.g., oil and gas production, coal mining, etc.). Accurate data collection and robust methodologies are essential to capture emissions across the energy value chain, including direct emissions from stationary and mobile sources as well as indirect emissions from energy consumption. Participants will delve into methodologies, principles, and reporting requirements, gaining insights to contribute meaningfully to the accurate measurement and reporting of greenhouse gas emissions and removals.

Industrial processes and product use (IPPU) emissions are a crucial component that needs to be reported in national greenhouse gas inventories. These emissions arise from various industrial activities such as chemical production, cement manufacturing, and metal processing, as well as from the use of products such as refrigerants and insulating foams. The quantification of these emissions is essential for understanding the overall impact of industrial processes on climate change and for developing effective mitigation strategies. Including industrial processes and product use emissions in national greenhouse gas inventories provides policymakers with valuable data to make informed decisions on reducing emissions and transitioning towards more sustainable industrial practices.

Agriculture is a complex sector with emissions arising from enteric fermentation, manure management, agricultural soils, rice cultivation, and biomass burning from cropland. The enhanced transparency framework emphasizes accurate measurement and reporting of agricultural emissions, including through sustainable practices. Robust collection of activity data and emission factor selection are crucial for assessing the sector's contribution to overall GHG emissions.

Forestry and Other Land Use (FOLU) are integral to GHG inventories due to their role in carbon sequestration (i.e. in biomass and soil) and emissions from deforestation, afforestation, and forest management practices. The enhanced transparency framework emphasizes reporting on forest carbon stocks, land-use changes, and emissions/removals from forestry activities. Comprehensive monitoring, reporting, and verification (MRV) systems are essential to track changes in forest carbon stocks accurately.

The Waste sector encompasses emissions from solid waste disposal (i.e., landfill), wastewater treatment, and biological treatment (e.g., composting, anaerobic digestion at biogas facilities), incineration and open burning. Meeting enhanced transparency requirements involves accurate accounting of waste generation, disposal practices, and methane capture/utilization. Reporting on waste management strategies, recycling efforts, and emissions reduction measures is critical for assessing the sector's environmental impact and contributing to circular economy goals.

Dive into the intricacies of the 2006 IPCC Guidelines for National Greenhouse Gas Inventory tailored for all sectors in this dedicated training workshop. Unveiling the compass for precise measurement and reporting of greenhouse gas emissions, participants will explore core principles, methodologies, and reporting intricacies outlined in these guidelines. Originating from the IPCC, these guidelines serve as an essential resource for nations navigating the assessment and reporting of greenhouse gas inventories in all sectors. This workshop aims to demystify key aspects, including inventory planning, data collection, and reporting practices, empowering participants to actively contribute to national and global efforts addressing climate change within the Energy, IPPU, Agriculture, FOLU and Waste Sectors.

Objectives and purpose of the training

The primary objectives of this training workshop are to provide participants with a comprehensive understanding of the 2006 IPCC Guidelines for National Greenhouse Gas Inventory in all Sectors. Participants will explore the fundamental principles, methodologies, and reporting requirements outlined in these guidelines, with a specific focus on their practical application.

The workshop aims to equip participants with the knowledge and insights necessary to actively contribute to accurate measurement and reporting of greenhouse gas emissions, fostering a deeper understanding of sustainability practices in these critical sectors.

Specific objectives:

- Equip participants with a deeper understanding of the IPCC 2006 guidelines for GHG inventory across five sectors.
- Familiarize participants with the Biennial Transparency Report requirements under the Paris Agreement and its Enhanced Transparency Framework (ETF).
- Guide participants in developing a comprehensive national inventory document.
- Provide hands-on training on utilizing the common reporting table for efficient reporting.
- Exchange experiences and lessons learned, corresponding to the application of tools and systems for reporting inventory data with ETF provisions.
- Foster collaboration and knowledge sharing among participants from diverse backgrounds and sectors.

Participants and resource persons

The participants for this training session include a diverse group comprising representatives from CIMFR, IIP, NIAS, CII, IARI, NDRI, CSTEP, IISC, FSI, NRSC and NEERI. An international team of experts, available through CBIT-GSP, is set to enrich the session with expertise. Additionally, a country expert, Prof. Amit Garg will support the training activities. The key resource institutes for this training workshop are US EPA and IPCC. With a wealth of experience, US EPA is poised to contribute valuable insights and knowledge, enriching the training session with practical expertise and guidance for participants. The collaboration of these individuals from various sectors and backgrounds promises a dynamic and comprehensive learning environment.

Training Agenda

Time	Activity	Speaker	
	Day 01 - 25/04/2024 - Thursday		
08:45 - 09:45 (60 min)	Arrival and registration of participants	Admin Staff	
09:45 - 10:15 (30 min)	Opening session and welcoming remarks	 Prof. Amit Prashant Dean R&D, IITGN Dr. Sharath Kr. Pallerla Advisor, MoEFCC Dr. Ajay Raghava Additional Director, Climate Change, MOEFCC Prof. Amit Garg Professor, IIM Ahmedabad Prof. Vikrant Jain HOD Earth Sciences, IITGN Prof. Vimal Mishra Professor, IITGN Mr. Jaypalsinh Chauhan Asia Coordinator, UNEP CCC Prof. C. N. Pandey Professor, IITGN 	
10:15 - 10:30 (15 min)	Welcome by CBIT-GSP, Introduction to Trainers	Jaypalsinh Chauhan	
10:30 - 10:50 (20 min)	Purpose and Objectives for the next 7 days	Amit Garg	
10:50 - 11:00 (10 min)	Group Photo	Admin Staff	
11:00 - 11:20	Tea/Coffee Break		
11:20 - 11:45 (25 min)	Mentimeter Exercise	Jaypalsinh Chauhan	
11:45 - 12:30 (45 min)	Presentation: Introduction to the new requirements for reporting national GHG inventories under the Paris Agreement (MPGs) and associated flexibility provisions. Presentation of contents of the Common Reporting Table (CRT) followed by Q &A session	Jaypalsinh Chauhan	
12:30 - 13:30	Lunch Break		
13:30 - 14:15 (45 min)	Presentation: BUR and BTR status, plans for preparation of National GHG Inventory for BTR, challenges in preparing GHG Inventory under the ETF (NID/BTR) compared with the MRV	Sharath Kumar Pallerla/Ajay Raghava	

	(BUR), Institutional Arrangement followed by Q	
	&A session	
	Institutional Arrangement	
	 Overview of institutional arrangement for 	
	managing and supervising emissions	
14:15 - 14:45	reporting.	Javaalsink Chauhan
(30 min)	Discussion on roles and responsibilities of	
	key stakeholders.	
	Insights into successful institutional model	
	followed by Q&A session	
14:45 - 15:00	Tea/Coffee Break	
	Energy Sector: Key Challenges and Gaps, BUR	
15:00 - 16:15	and BTR preparation status, Difference in	Pinaki Sarkar (50 min)
(75 min)	reporting under BTR and BUR, Future	D. Mohanty (25 min)
	improvement plans	
	Day 02 - 26/04/2024 - Friday	
09:30-10:15	Demonstration of Common Reporting Tables	Amit Garg and Jaypalsinh
(45 min)	(CRTs) with 2019 GHG Inventory Data	Chauhan
	Transport Sector: Key Challenges and Gaps,	
10:15-11:15	BUR and BTR preparation status, Difference in	Sunil Pathak (30 min)
(60 min)	reporting under BTR and BUR, Future	Sumana Bhattacharya (30 min)
	improvement plans	
11:15-11:30	Tea/Coffee Break	
	Industry Sector: Key Challenges and Gaps, BUR	
11:30-12:30	and BTR preparation status, Difference in	CII Team (Arun, Priyanka, Neha
(60 min)	reporting updar DTD and DUD. Future	and lacleon)
, ,	reporting under BTR and BOR, Future	and Jasieen)
, , ,	improvement plans	
	improvement plans Agriculture Sector: Key Challenges and Gaps,	Niveta Jain (50 min)
12:30-13:45	Agriculture Sector: Key Challenges and Gaps, BUR and BTR preparation status, Difference in	Niveta Jain (50 min)
12:30-13:45 (75 min)	Agriculture Sector: Key Challenges and Gaps, BUR and BTR preparation status, Difference in reporting under BTR and BUR, Future	Niveta Jain (50 min) Aarti Bhatia
12:30-13:45 (75 min)	Agriculture Sector: Key Challenges and Gaps, BUR and BTR preparation status, Difference in reporting under BTR and BUR, Future improvement plans	Niveta Jain (50 min) Aarti Bhatia Gautam Mondal (25 min)
12:30-13:45 (75 min) 13:45-14:30	Agriculture Sector: Key Challenges and Gaps, BUR and BTR preparation status, Difference in reporting under BTR and BUR, Future improvement plans	Niveta Jain (50 min) Aarti Bhatia Gautam Mondal (25 min)
12:30-13:45 (75 min) 13:45-14:30 14:30-15:15	Agriculture Sector: Key Challenges and Gaps, BUR and BTR preparation status, Difference in reporting under BTR and BUR, Future improvement plans Lunch Break Carbon sequestration by the mangroves on	Niveta Jain (50 min) Aarti Bhatia Gautam Mondal (25 min)
12:30-13:45 (75 min) 13:45-14:30 14:30-15:15 (45 min)	improvement plans Agriculture Sector: Key Challenges and Gaps, BUR and BTR preparation status, Difference in reporting under BTR and BUR, Future improvement plans Lunch Break Carbon sequestration by the mangroves on Gujarat coast	Niveta Jain (50 min) Aarti Bhatia Gautam Mondal (25 min) C N Pandey
12:30-13:45 (75 min) 13:45-14:30 14:30-15:15 (45 min)	Agriculture Sector: Key Challenges and Gaps, BUR and BTR preparation status, Difference in reporting under BTR and BUR, Future improvement plans Lunch Break Carbon sequestration by the mangroves on Gujarat coast LULUCE Sector: Key Challenges and Gaps, BUR	Niveta Jain (50 min) Aarti Bhatia Gautam Mondal (25 min) C N Pandey Prakash Lakhchaura
12:30-13:45 (75 min) 13:45-14:30 14:30-15:15 (45 min)	improvement plans Agriculture Sector: Key Challenges and Gaps, BUR and BTR preparation status, Difference in reporting under BTR and BUR, Future improvement plans Lunch Break Carbon sequestration by the mangroves on Gujarat coast LULUCF Sector: Key Challenges and Gaps, BUR and BTR preparation status, Difference in	Niveta Jain (50 min) Aarti Bhatia Gautam Mondal (25 min) C N Pandey Prakash Lakhchaura Rajesh Kumar
12:30-13:45 (75 min) 13:45-14:30 14:30-15:15 (45 min) 15:15 - 16:15 (60 min)	Agriculture Sector: Key Challenges and Gaps, BUR and BTR preparation status, Difference in reporting under BTR and BUR, Future improvement plans Lunch Break Carbon sequestration by the mangroves on Gujarat coast LULUCF Sector: Key Challenges and Gaps, BUR and BTR preparation status, Difference in reporting under BTR and BUR. Future	Niveta Jain (50 min) Aarti Bhatia Gautam Mondal (25 min) C N Pandey Prakash Lakhchaura Rajesh Kumar Girish Pujar
12:30-13:45 (75 min) 13:45-14:30 14:30-15:15 (45 min) 15:15 - 16:15 (60 min)	Teporting under BTR and BOR, Futureimprovement plansAgriculture Sector: Key Challenges and Gaps,BUR and BTR preparation status, Difference inreporting under BTR and BUR, Futureimprovement plansLunch BreakCarbon sequestration by the mangroves onGujarat coastLULUCF Sector: Key Challenges and Gaps, BURand BTR preparation status, Difference inreporting under BTR and BUR, Futureimprovement plans	Niveta Jain (50 min) Aarti Bhatia Gautam Mondal (25 min) C N Pandey Prakash Lakhchaura Rajesh Kumar Girish Pujar Indu Murthy
12:30-13:45 (75 min) 13:45-14:30 14:30-15:15 (45 min) 15:15 - 16:15 (60 min)	Teporting under BTR and BOR, Futureimprovement plansAgriculture Sector: Key Challenges and Gaps,BUR and BTR preparation status, Difference inreporting under BTR and BUR, Futureimprovement plansLunch BreakCarbon sequestration by the mangroves onGujarat coastLULUCF Sector: Key Challenges and Gaps, BURand BTR preparation status, Difference inreporting under BTR and BUR, Futureimprovement plans	Niveta Jain (50 min) Aarti Bhatia Gautam Mondal (25 min) C N Pandey Prakash Lakhchaura Rajesh Kumar Girish Pujar Indu Murthy Rajiv Chaturvedi
12:30-13:45 (75 min) 13:45-14:30 14:30-15:15 (45 min) 15:15 - 16:15 (60 min) 16:15 - 16:30	Teporting under BTR and BOR, Futureimprovement plansAgriculture Sector: Key Challenges and Gaps,BUR and BTR preparation status, Difference inreporting under BTR and BUR, Futureimprovement plansLunch BreakCarbon sequestration by the mangroves onGujarat coastLULUCF Sector: Key Challenges and Gaps, BURand BTR preparation status, Difference inreporting under BTR and BUR, Futureimprovement plansTea/Coffee Break	Niveta Jain (50 min) Aarti Bhatia Gautam Mondal (25 min) C N Pandey Prakash Lakhchaura Rajesh Kumar Girish Pujar Indu Murthy Rajiv Chaturvedi
12:30-13:45 (75 min) 13:45-14:30 14:30-15:15 (45 min) 15:15 - 16:15 (60 min) 16:15 - 16:30	Teporting under BTR and BOR, Futureimprovement plansAgriculture Sector: Key Challenges and Gaps,BUR and BTR preparation status, Difference inreporting under BTR and BUR, Futureimprovement plansLunch BreakCarbon sequestration by the mangroves onGujarat coastLULUCF Sector: Key Challenges and Gaps, BURand BTR preparation status, Difference inreporting under BTR and BUR, Futureimprovement plansTea/Coffee BreakWaste Sector: Key Challenges and Gaps, BUR	Niveta Jain (50 min) Aarti Bhatia Gautam Mondal (25 min) C N Pandey Prakash Lakhchaura Rajesh Kumar Girish Pujar Indu Murthy Rajiv Chaturvedi
12:30-13:45 (75 min) 13:45-14:30 14:30-15:15 (45 min) 15:15 - 16:15 (60 min) 16:15 - 16:30 16:30 - 17:15	Teporting under BTR and BOR, Futureimprovement plansAgriculture Sector: Key Challenges and Gaps,BUR and BTR preparation status, Difference inreporting under BTR and BUR, Futureimprovement plansLunch BreakCarbon sequestration by the mangroves onGujarat coastLULUCF Sector: Key Challenges and Gaps, BURand BTR preparation status, Difference inreporting under BTR and BUR, Futureimprovement plansTea/Coffee BreakWaste Sector: Key Challenges and Gaps, BURand BTR preparation status, Difference in	Niveta Jain (50 min) Aarti Bhatia Gautam Mondal (25 min) C N Pandey Prakash Lakhchaura Rajesh Kumar Girish Pujar Indu Murthy Rajiv Chaturvedi M. Karthik (25 min)
12:30-13:45 (75 min) 13:45-14:30 14:30-15:15 (45 min) 15:15 - 16:15 (60 min) 16:15 - 16:30 16:30 - 17:15 (45 min)	Teporting under BTR and BOR, Futureimprovement plansAgriculture Sector: Key Challenges and Gaps,BUR and BTR preparation status, Difference inreporting under BTR and BUR, Futureimprovement plansLunch BreakCarbon sequestration by the mangroves onGujarat coastLULUCF Sector: Key Challenges and Gaps, BURand BTR preparation status, Difference inreporting under BTR and BUR, Futureimprovement plansTea/Coffee BreakWaste Sector: Key Challenges and Gaps, BURand BTR preparation status, Difference inreporting under BTR and BUR, Futureimprovement plansTea/Coffee BreakWaste Sector: Key Challenges and Gaps, BURand BTR preparation status, Difference inreporting under BTR and BUR, Future	Niveta Jain (50 min) Aarti Bhatia Gautam Mondal (25 min) C N Pandey Prakash Lakhchaura Rajesh Kumar Girish Pujar Indu Murthy Rajiv Chaturvedi M. Karthik (25 min) Debarshee Khan (20 min)

17:15 - 17:45	Installation of IPCC Inventory Software,	Javnalsinh Chauhan
(30 min)	Information on UNFCCC ETF Reporting Tool	
	Day 03 - 27/04/2024 - Saturday	Y
09:00 - 09:30	Trainers and Participants: Get to know each	Jaypalsinh Chauhan and US
(30 min)	other	EPA Team
09:30 - 10:00 (30 min)	Carbon sequestration: Examples from India	Pankaj Khanna
10:00 - 11:10 (80 min)	 IPCC 2006 Guidelines (Activity Data, Emission Factors and different Tiers) and Modalities, Procedures and Guidelines (MPGs) including Hands on exercise. A. Approaches to Data Collection, Existing Data Management System, Gaps, and Suggestions B. Time Series Consistency including Splicing Techniques (Including practical exercise) 	A. Mausami Desai B. Kenna Rewcastle
11:10 - 11:20 (10 min)	Group Photo	Admin Staff
11:20 - 11:40	Tea/Coffee Break	
11:40 - 12:30 (50 min)	C. Methodological Choice and Identification of Key CategoriesD. Uncertainty analysis	C. Mausami Desai D. Jaypalsinh Chauhan
12:30 - 13:30 (60 min)	E. Quality Assurance/Quality Control and VerificationF. Archiving	E. Mausami DesaiF. Mausami Desai and KeyleHorton
13:30 - 14:30	Lunch Break	
14:30 - 15:00 (30 min)	G. Recalculation (Change of GWP Values)H. Flexibility Provisions	G. Jaypalsinh Chauhan H. Mausami Desai
15:00 - 15:45 (45 min)	Data Management, Approach and Data Collection (What types of data to be collected, format). What kind of data required when we are moving towards to Tier 1 to Tier 2/Tier 3	US EPA Team
15:45 - 16:00	Tea/Coffee Break	
16:00 - 17:30 (75 min)	Introduction to the tools and software available for facilitating reporting, Case Studies, Best Practices and Examples.	US EPA Team and IPCC TFI Team
	Day 04 - 28/04/2024 - Sunday	
10:00	Field Trip (Local City)	
16:30	Field Trip (Local City)	
	Day 05 - 29/04/2024 - Monday (Breakou	it Room 1)
08:30 - 09:30 (60 min)	Demonstration of IPCC Inventory Software with interoperability with the ETF Reporting Tool.	IPCC team (Sandro and Lisa)

09:30 - 10:30 (60 min)	Energy Sector: Stationary Combustion: IPCC 2006 Guidelines, Mandatory Requirements (including CRT data inputs) and Flexibility Provisions (including Hands on exercise)	Amit Garg/Jaypalsinh Chauhan
10:30 - 11:00	Tea/Coffee Break	
11:00 - 12:15 (75 min)	Energy Sector: Mobile Combustion: IPCC 2006 Guidelines, Mandatory Requirements (including CRT data inputs) and Flexibility Provisions (including Hands on exercise)	Amit Garg/Jaypalsinh Chauhan
12:15 - 13:15	Lunch Break	
13:15 - 14:00 (45 min)	Energy Sector: Fugitive Emissions: IPCC 2006 Guidelines, Mandatory Requirements (including CRT data inputs) and Flexibility Provisions (including Hands on exercise)	Virtual Session Amit Garg/Jaypalsinh (Data Entry - Lisa)
14:00 - 15:00 (60 min)	Energy Sector: Importance of Data Management, National Energy Balance, Reference and Sectoral Approach (including Hands on exercise)	Virtual Session Brett Cohen (Data Entry - Lisa)
15:00 - 15:20	Tea/Coffee Break	
15:20 - 16:20 (60 min)	Energy Sector: Cross linkage within sector and with other sector, double counting, data gaps, higher tier level methodology	Virtual Session US EPA Team
	Day 05 - 29/04/2024 - Monday (Breakou	t Room 2)
08:30 - 09:30 (60 min)	US Experience Compiling ODS Substitutes	Virtual Session Dave Godwin, US EPA
09:30 - 10:30 (60 min)	Part 1: IPPU Sector: Mineral, Chemical and Metal Industry: IPCC 2006 Guidelines, Mandatory Requirements and Flexibility	Mausami Desai and Lisa Hanle
	Provisions	
10:30 - 10:45	Provisions Tea/Coffee Break	
10:30 - 10:45 10:45 - 11:45 (60 min)	Provisions Tea/Coffee Break Part 2: IPPU Sector Data Entry: Mineral, Chemical and Metal Industry: IPCC 2006 Guidelines, Mandatory Requirements and Flexibility Provisions (including Hands on exercise)	Lisa Hanle
10:30 - 10:45 10:45 - 11:45 (60 min) 11:45 - 13:00	Provisions Tea/Coffee Break Part 2: IPPU Sector Data Entry: Mineral, Chemical and Metal Industry: IPCC 2006 Guidelines, Mandatory Requirements and Flexibility Provisions (including Hands on exercise) Lunch Break	Lisa Hanle
10:30 - 10:45 10:45 - 11:45 (60 min) 11:45 - 13:00 13:00 - 15:00 (120 min)	Provisions Tea/Coffee Break Part 2: IPPU Sector Data Entry: Mineral, Chemical and Metal Industry: IPCC 2006 Guidelines, Mandatory Requirements and Flexibility Provisions (including Hands on exercise) Lunch Break IPPU Sector: Mineral, Chemical and Metal Industry – moving forwards: Tier 2 requirements for key categories, data collection, improvements, enhancing category- level quality control	Lisa Hanle Virtual Session Sina Wartmann, Ricardo

	IPPU Sector: Electronics Industry, Non- Energy
	Products from Fuels and Solvent Use, ODS and
	Other Product manufacture and use:
	- 25 min methodology/data presentation on
	ODS (the theoretical basis)
	15 min questions and answers
	clarification questions on methodology
	claimeation questions on methodology
	- 40 min presentation + discussion of US EPA
	approach on estimating electronics
	emissions (Stephanie Bogle)
	- 5 min break
	- 35 min discussion session on getting
	started with estimating ODS substitutes in
	India:
	\circ 5 min presentation on how to start
	estimating ODS substitutes (which
	gases/applications to focus on where
	to find data, key assumptions
15:15 - 17:00	improvements over time, helpful tools and we shall be a set of the
(105 min)	like IPCC Excel Sheets US EPA's draft
	tool for estimating ODS substitutes
	 Discussion on key points for getting
	started with ODS substitutes
	estimation in India
	 Which gases/applications to
	focus on?
	 Which data sources to consider
	(e.g. customs, reporting under
	Montreal protocol re HECs
	medical industry, etc)
	 Key assumptions (e.g. lifetime of
	equipment, number of pieces of
	equipment in nousenoids like
	mages, aircons, etc.)
	 Information required for CRTs
	 Discussion on key points for getting
	started with electronics production

	estimation in India (similar to ODS		
	discussions) – should time allow		
Day 05 - 29/04/2024 - Monday (Breakout Room 3)			
08:30 - 09:30 (60 min)	Demonstration of IPCC Inventory Software with interoperability with the ETF Reporting Tool.	IPCC team (Sandro and Lisa)	
09:30 - 11:00 (90 min)	Discussion of AFOLU key categories according to India's TNC. Introduction to IPCC Inventory Software. Livestock estimates (enteric fermentation and manure management); IPCC 2006 Guidelines, flexibility provisions Discuss data requirements for movement to Tier 2 for livestock emissions (3A1 and 3A2).	Kenna Rewcastle (USEPA) and Leandro Buendia (IPCC lead author) with support from Sandro Federici (IPCC Inventory Software/TSU team lead expert)	
11:00 - 11:15	Tea/Coffee Break		
11:15 - 12:30 (75 min)	Calculate 2019 estimates for enteric fermentation and manure management using IPCC Inventory Software.	Kenna Rewcastle (USEPA) and Leandro Buendia (IPCC lead author) with support from Sandro Federici (IPCC Inventory Software/TSU team lead expert)	
12:30 - 13:30	Lunch Break		
13:30 - 15:30 (120 min)	Agriculture soil management & rice cultivation; IPCC 2006 guidelines and calculation of 2019 estimates using IPCC Inventory Software.	Kenna Rewcastle (USEPA) and Leandro Buendia (IPCC lead author) with support from Sandro Federici (IPCC	
	Discuss data requirements for movement to Tier 2 for emissions from 3C4, 3C5, 3C7)	Inventory Software/TSU team lead expert)	
15:30 - 15:45	Tea/Coffee Break		
15:45 - 17:15 (90 min)	Other agriculture emissions (grassland and savanna burning, field burning of agricultural residues, liming, urea); IPCC 2006 Guidelines, calculate 2019 estimates using IPCC Inventory Software.	Kenna Rewcastle (USEPA) and Leandro Buendia (IPCC lead author) with support from Sandro Federici (IPCC Inventory Software/TSU team lead expert)	
Day 06 - 30/04/2024 - Tuesday (Breakout Room 1)			
09:00 - 10:15 (75 min)	IPCC Inventory Software - Waste (data entry and CRTs)	Sandro Federici, IPCC team with support from EPA team	
10:15 - 10:30	Lea/Cottee Break		
(60 min)	Energy, IPPU and Waste	All Resource Persons	
11:30 - 12:30	Lunch Break		
12:30 - 14:30	Waste Sector Overview	Virtual Session	

(120 min)	Emissions reported in TCN, GHGI Completeness,	Sandro Federici,
	Cross linkage within and with other sector,	Sabino Del Vento and
	Double counting, Data collection\gaps, Higher	Serena Churchill
	tier level methodology, Mandatory	
	Requirements and Flexibility Provisions	
	Solid Waste Disposal:	
	 Key methodological approaches in the 	
	IPCC 2006 GL	
	Recalculations	
	 Moving from Tier 1 to Tier 2 	
	Emission estimates using the IPCC Waste	
	Model (including Hands on exercise?)	
14:30 - 14:45	Tea/Coffee Break	
	Waste Sector: Wastewater Treatment and	
	Discharge:	
11.15 - 16.15	 Key methodological approaches in the 	Virtual Session
(120 min)	IPCC 2006 GL	Sabino Del Vento and Serena
(120 mm)	 Moving from Tier 1 to Tier 2 	Churchill
	Emission estimates using the All Worksheets in	
	Vol.5 (including Hands on exercise?)	
	Group Dinner	
	19:30 Onwards	
	IIT Gandhinagar Campus	
Day 06 - 30/04/2024 - Tuesday (Breakout Room 2)		
		Kenna Rewcastle (USEPA) and
		Leandro Buendia (IPCC lead
09:00 - 10:45	General LULUCF methods from 2006 IPCC	author) with support from
(105 min)	Guidelines, land representation data entry.	Sandro Federici (IPCC
		Inventory Software/TSU team
		lead expert)
10:45 - 11:00	Tea/Coffee Break	
11:00 - 12:45 (105 min)	Forest estimates, overview of gain-loss and stock difference methods. Soil carbon stock change estimates (using simulated time series). Demonstration in IPCC Inventory Software to estimate forest removals using 2019 data.	Kenna Rewcastle (USEPA) and Leandro Buendia (IPCC lead author) with support from Sandro Federici (IPCC Inventory Software/TSU team lead expert)
12:45 - 13:45	Lunch Break	
13:45 - 15:30 (105 min)	Wetland estimates, introduction of guidance from IPCC 2013 Wetlands Supplement, spreadsheet tools.	Kenna Rewcastle (USEPA) and Leandro Buendia (IPCC lead author) with support from Sandro Federici (IPCC Inventory Software/TSU team lead expert)

15:30 - 15:45	Tea/Coffee Break	
15:45 - 17:00 (75 min)	Soil carbon stock change estimation, exercise in IPCC Inventory Software using 2019 data and simulated data to create a time-series.	Kenna Rewcastle (USEPA) and Leandro Buendia (IPCC lead author) with support from Sandro Federici (IPCC Inventory Software/TSU team lead expert)
	Group Dinner	
19:30 Onwards		
	IIT Gandhinagar Campus	
	Day 07 - 01/05/2024 - wednesd	ay
09:30 - 11:30 (120 min)	 methodology for LULUCF categories Discuss stock-difference data requirements Discuss data needed across time series to estimate soil carbon stock changes Identify and discuss measures to address any completeness elements 	Kenna Rewcastle (USEPA) and Leandro Buendia (IPCC lead author) with support from Sandro Federici (IPCC Inventory Software/TSU team lead expert)
11:30 - 13:00	Lunch Break	
13:00 - 14:45 (105 min)	 Demonstration of completing CRTs for AFOLU estimates. To start Agriculture matrix for ETF Reporting Tool are available at this time but will crosswalk ALU results with CRT structure for all AFOLU source-categories, including LULUCF tables. Discuss information needed for CRT completion, including level of disaggregation needed to report emissions, activity data, and other parameters. Discuss the land-use matrix component of CRTs 	Kenna Rewcastle (USEPA) and Leandro Buendia (IPCC lead author) with support from Sandro Federici (IPCC Inventory Software/TSU team lead expert)
14:45 - 15:00	Tea/Coffee Break	
15:00 - 17:00 (120 min)	Preliminary improvement plan, Exercise/Test for participants Wrapping-up and Mentimeter Certificate distribution Vote of thanks, Concluding remarks, End of the session	Organizers