



# Update on IPCC Inventory Software

The 19<sup>th</sup> Workshop on Greenhouse Gas Inventories in Asia

12 July 2022

IPCC TFI TSU

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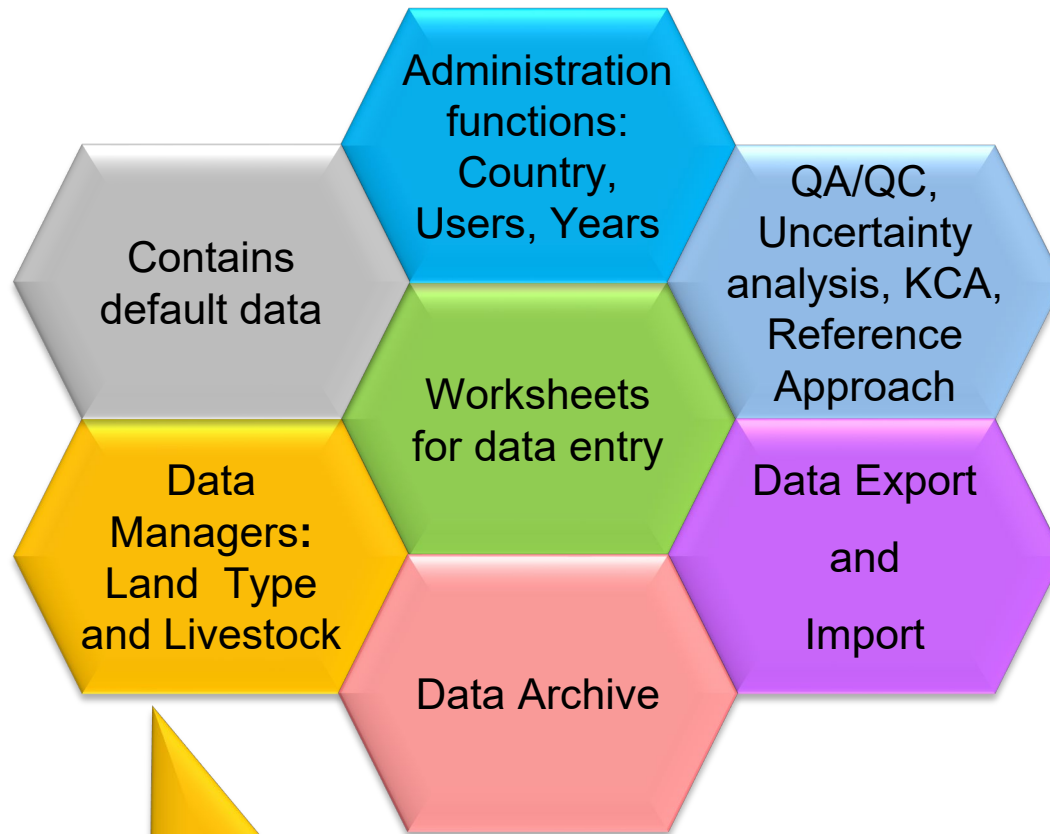
INTERGOVERNMENTAL PANEL ON climate change



# IPCC Inventory Software

- Launched in 2012
  - Implements the *2006 IPCC Guidelines (Tier 1 methods)*
- Version 2.691 released in January 2020 is available at <https://www.ipcc-nggip.iges.or.jp/software/index.html>
  - Tier 2 methods for most categories of Energy, Industrial Processes and Product Use (IPPU) and Waste sectors as well as Agriculture categories of Agriculture, Forestry and Other Land Use (AFOLU) sector
- Upgraded version 2.80 is now under testing
  - All tiers and approaches provided in the *2006 IPCC Guidelines* and its *Wetlands Supplement* in AFOLU and Energy sectors
  - Subnational disaggregation at a category level

# Software functions



Additional data managers (version 2.80):

- Land Representation
- Fuel

# Upgrades: AFOLU

- Land Representation Manager (LRM)
  - New element
  - Allows to use any of three Approaches for land representation
  - Ensures consistency of land representation through tracing units of land
- Stock Difference (SD) method
  - Can be selected in LRM for each C pool of each unit of land
  - Once selected SD method worksheets are displayed automatically in corresponding land use category and C pool

# Upgrades: AFOLU

- *Wetlands Supplement*
  - Additional categories and methods
- SOC stock change in mineral soils (Equation 2.25 - two formulations A and B )
  - Formulation A
  - The software applies the formulation A (for Approach 1) and formulation B (for Approach 2 and 3) according to the approach used for land representation
- Other additional functionalities, for example:
  - Button “P” (Pools) to select the method (e.g., default or SD method) to estimate C stock changes for each C pool (under Land representation tab)

# Upgrades: Energy

- Fuel manager
  - New element
  - Contains main parameters of fuels, i.e., fuel type, calorific value, carbon content and allows input of user-defined fuels and parameters
  - Information entered are transferred to all corresponding worksheets
- Fuel combustion activities
  - Worksheets are reorganized to have separate worksheets for Fuel consumption data and Fuel combustion emissions
- Additional functionalities
  - Fuel consumption validation: estimation of fuel use from the distance travelled data based on the types of fuel/vehicle/road

# Upgrades: Energy

- Tier 2 methods
  - Abandoned underground coal mines (CH<sub>4</sub>)
  - Oil venting (CO<sub>2</sub> and CH<sub>4</sub>)
  - Oil flaring (CO<sub>2</sub> and CH<sub>4</sub>)
- Tier 3 methods
  - Road transportation (CH<sub>4</sub> and N<sub>2</sub>O)
  - Railways (CH<sub>4</sub> and N<sub>2</sub>O)
  - Off-road transportation (CH<sub>4</sub> and N<sub>2</sub>O)
  - Abandoned underground coal mines (CH<sub>4</sub>)

# Ongoing and planned updates/upgrades

- Guidebook for inventory compilers
- Interoperability with reporting tool referred to in UNFCCC Decision 5/CMA.3
  - Software generates an output file (e.g., XML) - input to the UNFCCC reporting tool for GHG inventory
  - Data/information in the IPCC Inventory Software rearranged/mapped to fit common reporting tables in Annex I to Decision 5/CMA.3
- Add-ons for land representation
  - Wall-to-wall data collection and analysis (maps) - under development by FAO SEPAL Technical Unit
  - Sampling data collection and analysis (inventories) - under development by FAO COLLECT EARTH Technical Unit



# Ongoing and planned updates/upgrades

- Additional elements and functionalities
  - AR5 GWP100
  - Indirect CO<sub>2</sub> and N<sub>2</sub>O emissions
  - Time series export/import
  - Uncertainty analysis (Approach 2)
  - Key category analysis (Approach 2)
  - Multi-users at category level

# Support to users

- Organizing expert meetings annually
  - IPCC Expert Meeting to collect Software and EFDB users' feedback to be held on 26-28 July 2022, Rome, Italy.
- Help Desk [ipcc-software@iges.or.jp](mailto:ipcc-software@iges.or.jp)
- User Manual <https://www.ipcc-nggip.iges.or.jp/software/index.html>
- Frequently Asked Questions  
<https://www.ipcc-nggip.iges.or.jp/software/index.html>
- Collaboration with other organizations (e.g., UNFCCC regional workshops)

# Thank you

<https://www.ipcc-nggip.iges.or.jp/index.html>