



IPCC Inventory Software

Virtual presentation

IPCC TFI TSU

ipcc
INTERGOVERNMENTAL PANEL ON climate change



Background

- ✓ produced, since 2012, by the IPCC Task Force on National Greenhouse Gas Inventories (IPCC TFI) to assist inventory compilers in using the 2006 IPCC Guidelines
- ✓ based on MS-Access for WindowsOS

Background

- ✓ Free to use

(download at <https://www.ipcc-nggip.iges.or.jp/software/index.html>)

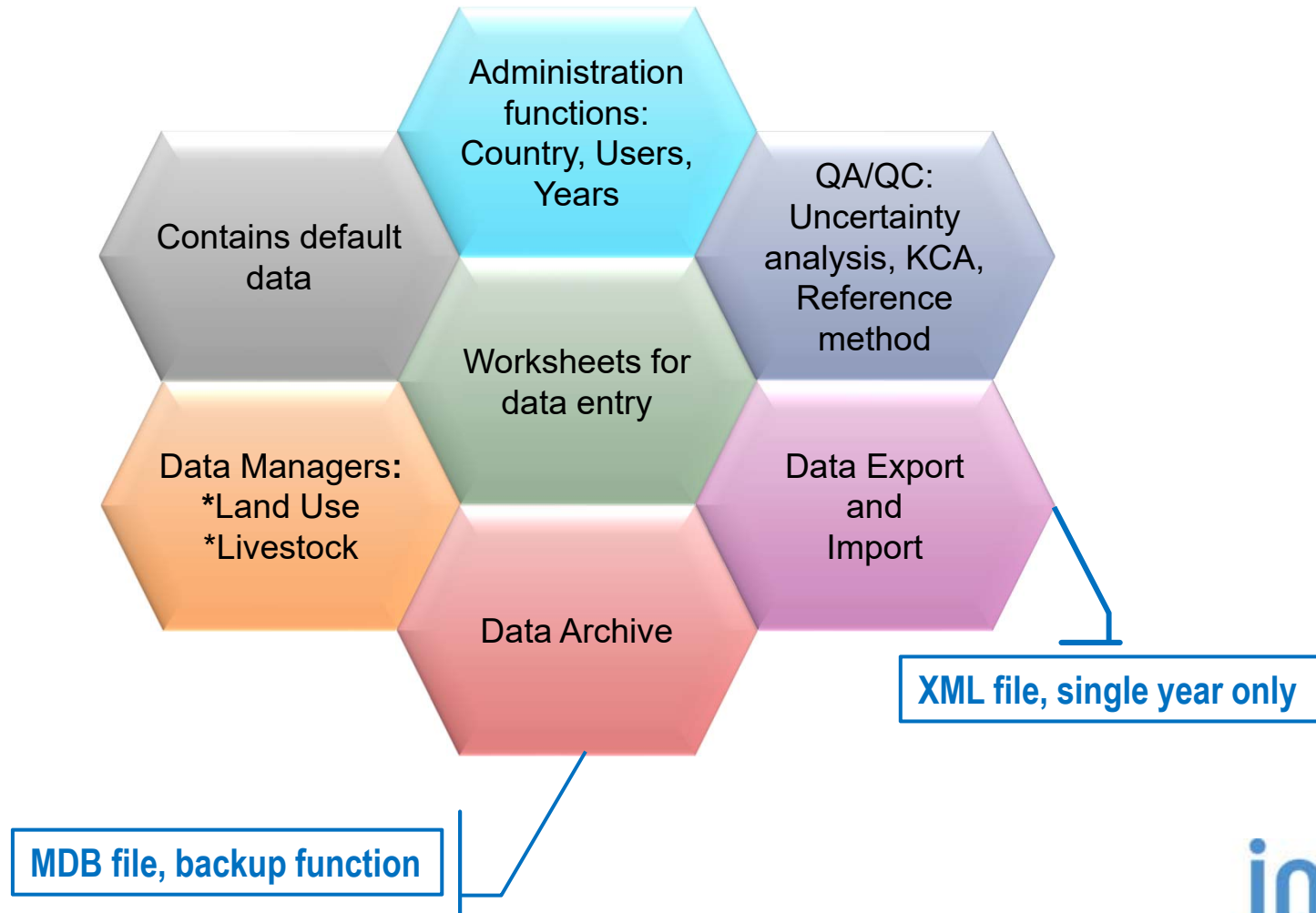
- ✓ Support to users provided by IPCC TFI TSU

- ✓ Plan for updating to full methods/tiers/approaches within the 2006 IPCC Guidelines funded

Background

- ✓ originally designed to implement Tier 1 Worksheets only **provides default data from the 2006 IPCC Guidelines**
- ✓ current **version 2.691** allows input of **user-specific values** for **EFs** and **parameters (Tier 2)** for **Energy, IPPU, Agriculture, Waste** categories
- ✓ can be **used for the whole inventory or just individual categories**
- ✓ **allows different sectors to be developed simultaneously**
- ✓ **can report outputs in non-Annex I National Communications format**
(reporting tables, consistent with Tables 1 and 2 in Annex to Decision 17/CP.8)

Software Functions



The Software

IPCC Inventory Software - sandro - [Worksheets]

Application Database Inventory Year Worksheets Reports Tools Export/Import Administrate Window Help

2006 IPCC Categories

- 1 - Energy
- 2 - Industrial Processes and Product Us
- 3 - Agriculture, Forestry, and Other Lan
- 4 - Waste
- 5 - Other

Time Series

Time Series

Category: 1 - Energy

Gas: CARBON DIOXIDE (CO2)

CARBON DIOXIDE (CO2) Emissions (Gg CO2 Equivalents)

* Base year for assessment of uncertainty in trend: 1990

2006 IPCC Guidelines

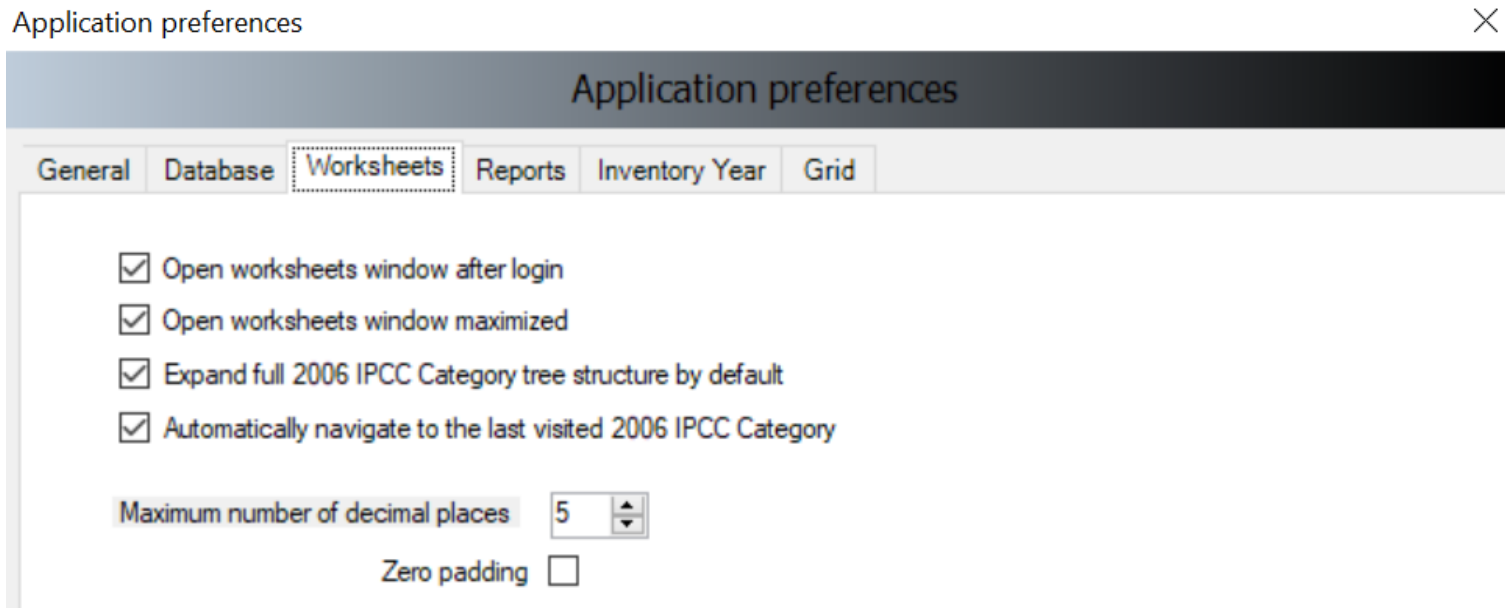
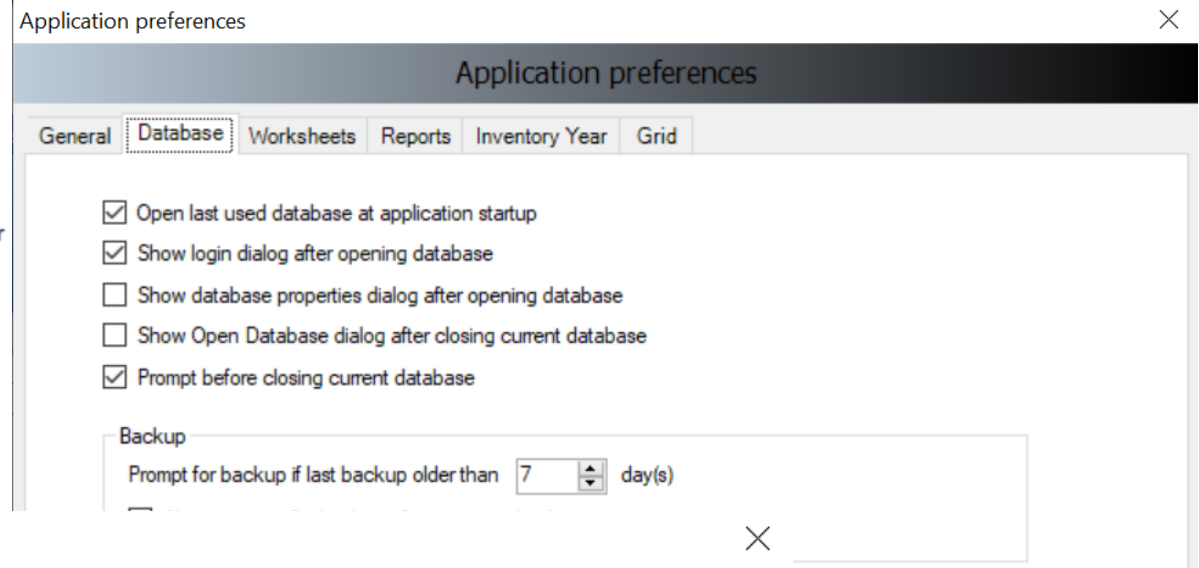
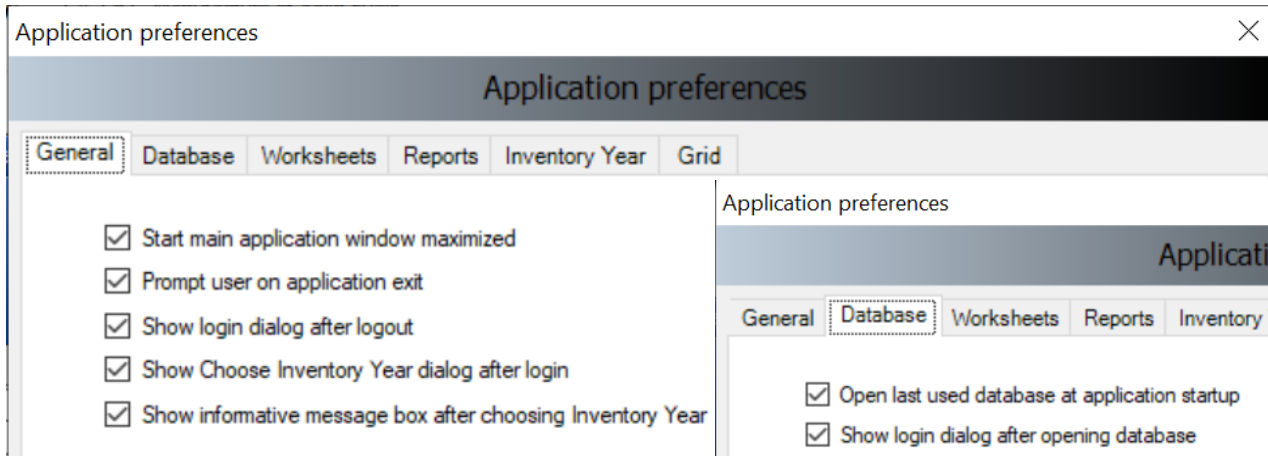
Worksheet remarks

1 A.1.c.i - Time Series

Gas: CARBON DIOXIDE (CO2)

Country/Territory: Japan | Inventory Year: 1990 | Base year for assessment of uncertainty in trend: 1990 | CO2 Equivalents: SAR GWPs (100 year time horizon) | Database file: (C:\ProgramData\IPCC2006Software\ipcc2006.mdb)

Customization



Customization

The image displays three overlapping screenshots of the 'Application preferences' dialog box, illustrating different customization options:

- Top-left screenshot (Reports tab):** Shows settings for 'Decimal places' (Default number of decimal places: 3, Zero padding checked, Open report windows maximized checked).
- Top-right screenshot (Inventory Year tab):** Shows settings for 'Start inventory year' (1990), 'End inventory year' (2022), and 'Base year for assessment of uncertainty in trend' (1990).
- Bottom-left screenshot (Grid tab):** Shows settings for 'Look preset' (Office2003 - Blue Theme) and three sections: 'Header', 'Selected row', and 'Computed cells'. Each section includes options for 'Text color', 'Back color 1', 'Back color 2', and 'Gradient style'.

Database properties

Database properties

Database properties

Database file	C:\ProgramData\IPCC2006Software\ipcc2006.mdb	
Database version	2.76	
Database size	16261120 bytes	Compact and repair
Date created	06/11/2020 11:19:12	
Date modified	21/01/2021 14:12:13	
Last backup	04/01/2021	
CO2 Equivalent	SAR GWPs (100 year time horizon)	
Inventory Years	1990	
Users	sandro	

Close

Database properties

New inventory

Create new Inventory Year

New Inventory Year

Create empty inventory year
 Copy data from inventory year

Administrate

User Management

List of Users

- Superusers
 - sandro (You)
- Users

Selected User Details

Login: Superuser

- Allowed worksheets
 - 1 - Energy
 - 1.A - Fuel Combustion Activities
 - 1.B - Fugitive emissions from fuels
 - 1.C - Carbon dioxide Transport and Stora
 - 2 - Industrial Processes and Product Use
 - 2.A - Mineral Industry
 - 2.B - Chemical Industry
 - 2.C - Metal Industry
 - 2.D - Non-Energy Products from Fuels an
 - 2.E - Electronics Industry
 - 2.F - Product Uses as Substitutes for Ozo
 - 2.G - Other Product Manufacture and Use
 - 2.H - Other
 - 3 - Agriculture, Forestry, and Other Land Use
 - 3.A - Livestock
 - 3.B - Land
 - 3.C - Aggregate sources and non-CO2 em
 - 3.D - Other
 - 4 - Waste
 - 4.A - Solid Waste Disposal
 - 4.B - Biological Treatment of Solid Waste
 - 4.C - Incineration and Open Burning of Wa
 - 4.D - Wastewater Treatment and Discharg
 - 4.E - Other (please specify)
 - 5 - Other
 - 5.A - Indirect N2O emissions from the atm
 - 5.B - Other (please specify)

Save

Add new

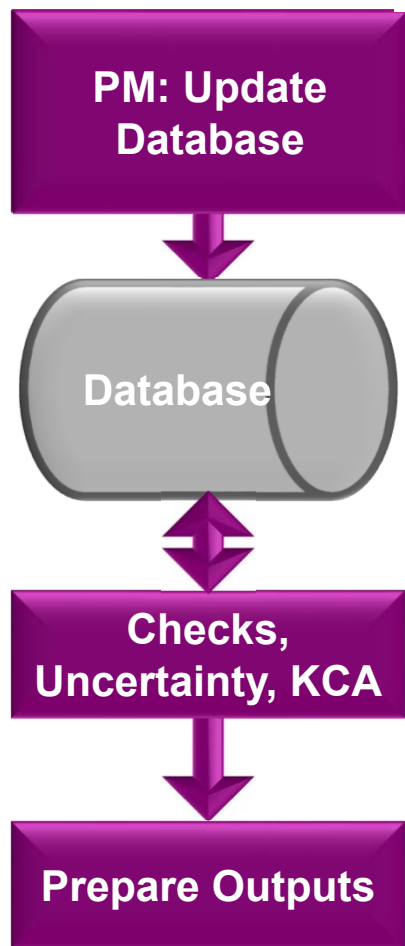
Delete

Set Password

Close

Multiple Users

Project manager



Sectoral Expert(s)

Distribute updated DB
(MDB file)



Combine Databases
(XML File)



Compile Sector 1
(Energy)

Compile Sector 2
(IPPU)



Compile Sector 5
(Other)

Using XML file aimed to
avoid losing or overwriting
the database unintentionally

Administrate

Choose Country/Territory

Choose Country/Territory

Region Asia ▾

Country/Territory Japan ▾

OK Cancel

Administrate

CO2 Equivalents

CO2 Equivalents

Type: SAR GWPs (100 year time horizon) [Set as default] [Add type...] [Delete type...]

Gas Group	
<input type="checkbox"/>	CO2, CH4 & N2O
<input type="checkbox"/>	HFCs
<input type="checkbox"/>	PFCs
<input type="checkbox"/>	SF6
<input type="checkbox"/>	Other GHGs

OK

Administrate AFOLU (Land Use Manager)

Land Use Manager

Land use structure

- Forest Land
 - Managed Forest Land
 - natural
 - oak
 - pine
 - Unmanaged Forest La
- Cropland
- Grassland
- Wetlands
- Settlements
- Other Land

Land use subdivision - common parameters

Land use subdivision name: natural

Country/Territory: Japan

Soil Type: High Activity Clay Mineral

Continent: Asia

Soil Status: Drained

Climate Region: Tropical Wet

It is not possible to change some of the parameters since subdivision is already being used in Land Representation Manager

Land use subdivision - Managed Forest Land specific parameters

Ecological zone: Tropical rain forest

Species: Other Broadleaf

Natural Forest Abandoned managed land

Plantation

Land mass: Insular

Age class (yr): User-defined range

giovene

Above-ground biomass stock (t d.m. / ha): 200.000

Above-ground biomass growth (G) (t d.m. / ha / yr): 0.500

Ratio of below-ground biomass to above-ground biomass (R) (t root d.m. / t shoot d.m.): 0.370

Biomass carbon fraction (t C / t d.m.): 0.470

Growing stock level (V) (m3 / ha): 121-200

175

Average net annual increment of growing stock (lv) (m3 / ha / yr):

Biomass conversion and expansion factor for increment (BCEFI) (t d.m. / m3 wood volume): Specified

Biomass conversion and expansion factor for standing stock (BCEFs) (t d.m. / m3 wood volume): Specified

Biomass conversion and expansion factor for wood and fuelwood removal (BCEFr) (t d.m. / m3 wood volume): Specified

0.000

Basic wood density (D) (t d.m. / m3 fresh volume):

Biomass expansion factor for conversion of annual net increment to above-ground biomass increment (BEF1) (t d.m. / m3 fresh volume):

Biomass expansion factor for conversion of merchantable volume to above-ground biomass (BEF2) (t d.m. / m3 fresh volume):

Reference soil organic carbon stock (SOCref) (t C / ha): 0.000

Relative C stock change factors

Land use (FLU): 1.000

Management (FMG): 1.000

Input (FI): 1.000

Add Copy Delete

Save Undo Close

Administrate AFOLU (Livestock Manager)

Livestock Manager

Geographical zones Livestock Manure Management System

Save Undo Close

Geographical zone	Average annual temperature [°C]	Remark
*		

Livestock Manager

Geographical zones Livestock Manure Management System

Save Undo Close

Category	
▶ Dairy Cows	
▶ Other Cattle	
▶ Buffalo	
▶ Sheep	
▶ Goats	
▶ Camels	
▶ Horses	
▶ Mules and Asses	
▶ Swine	
▶ Poultry	

Livestock Manager

Geographical zones Livestock Manure Management System

Save Undo Close

System	Definition
<input type="checkbox"/> Pasture/Range/Paddock	The manure from pasture and range grazing animals is allowed to lie as deposited, and is not managed.
<input type="checkbox"/> Daily spread	Manure is routinely removed from a confinement facility and is applied to cropland or pasture within 24 hours of excretion.
<input type="checkbox"/> Solid storage	The storage of manure, typically for a period of several months, in unconfined piles or stacks. Manure is able to be stacked due to the presence of a sufficient amount of bedding material or loss of moisture by evaporation.
<input type="checkbox"/> Dry lot	A paved or unpaved open confinement area without any significant vegetative cover where accumulating manure may be removed periodically.
<input type="checkbox"/> Liquid/Slurry	Manure is stored as excreted or with some minimal addition of water in either tanks or earthen ponds outside the animal housing, usually for periods less than one year.
<input type="checkbox"/> Uncovered anaerobic lagoon	A type of liquid storage system designed and operated to combine waste stabilization and storage. Lagoon supernatant is usually used to remove manure from the associated confinement facilities to the lagoon. Anaerobic lagoons are designed with varying lengths of storage (up to a year or greater), depending on the climate region, the volatile solids loading rate, and other operational factors. The water from the lagoon may be recycled as flush water or used to irrigate and fertilise fields.
<input type="checkbox"/> Pit storage below animal confinements	Collection and storage of manure usually with little or no added water typically below a slatted floor in an enclosed animal confinement facility, usually for periods less than one year.
<input type="checkbox"/> Anaerobic digester	Animal excreta with or without straw are collected and anaerobically digested in a large containment vessel or covered lagoon. Digesters are designed and operated for waste stabilization by the microbial reduction of complex organic compounds to CO ₂ and CH ₄ , which is captured and flared or used as a fuel.
<input type="checkbox"/> Burned for fuel	The dung and urine are excreted on fields. The sun dried dung cakes are burned for fuel.
<input type="checkbox"/> Cattle and Swine deep bedding	As manure accumulates, bedding is continually added to absorb moisture over a production cycle and possibly for as long as 6 to 12 months. This manure management system also is known as a bedded pack manure management system and may be combined with a dry lot or pasture.
<input type="checkbox"/> Composting - invessel	Composting, typically in an enclosed channel, with forced aeration and continuous mixing.
<input type="checkbox"/> Composting - Static pile	Composting in piles with forced aeration but no mixing.
<input type="checkbox"/> Composting - Intensive windrow	Composting in windrows with regular (at least daily) turning for mixing and aeration.
<input type="checkbox"/> Composting - Passive windrow	Composting in windrows with infrequent turning for mixing and aeration.
<input type="checkbox"/> Poultry manure with litter	Similar to cattle and swine deep bedding except usually not combined with a dry lot or pasture. Typically used for all poultry breeder flocks and for the production of meat type chickens (broilers) and other fowl.
<input type="checkbox"/> Poultry manure without litter	May be similar to open pits in enclosed animal confinement facilities or may be designed and operated to dry the manure as it accumulates. The latter is known as a high-rise manure management system and is a form of passive windrow composting when designed and operated properly.
<input type="checkbox"/> Aerobic treatment	The biological oxidation of manure collected as a liquid with either forced or natural aeration. Natural aeration is limited to aerobic and facultative ponds and wetland systems and is due primarily to photosynthesis. Hence, these systems typically become anoxic during periods without sunlight.

efined Livestock categories will show under 3.A.1j and 3.A.2j respectively (Other - please specify)

Worksheets

IPCC Inventory Software - sandro - [Worksheets]

Application Database Inventory Year Worksheets Reports Tools Export/Import Administrate Window Help

2006 IPCC Categories

- 1 - Energy
 - 1.A - Fuel Combustion Activities
 - 1.A.1 - Energy Industries
 - 1.A.1.a - Main Activity El
 - 1.A.1.a.i - Electricity
 - 1.A.1.a.ii - Combined
 - 1.A.1.a.iii - Heat Plan
 - 1.A.1.b - Petroleum Refin
 - 1.A.1.c - Manufacture of
 - 1.A.1.c.i - Manufactur
 - 1.A.1.c.ii - Other Ener
 - 1.A.2 - Manufacturing Industr
 - 1.A.2.a - Iron and Steel
 - 1.A.2.b - Non-Ferrous Me
 - 1.A.2.c - Chemicals
 - 1.A.2.d - Pulp, Paper and
 - 1.A.2.e - Food Processin
 - 1.A.2.f - Non-Metallic Min
 - 1.A.2.g - Transport Equip
 - 1.A.2.h - Machinery
 - 1.A.2.i - Mining (excludin
 - 1.A.2.j - Wood and wood
 - 1.A.2.k - Construction
 - 1.A.2.l - Textile and Leat
 - 1.A.2.m - Non-specified I
 - 1.A.3 - Transport

2006 IPCC Guidelines

Worksheet: Fuel Combustion Activities

Sector: Energy
 Category: Fuel Combustion Activities
 Subcategory: 1.A.1.a.i - Electricity Generation
 Sheet: CO2, CH4 and N2O from fuel combustion by source categories - Tier 1

1990

Data

Fuel Type: Liquid Fuels Conversion Factor Type: NCV GCV

Liquid Fuels	Energy Consumption			CO2			CH4		N2O			
	A Consumption (Mass, Volume or Energy Unit)	B Conversion Factor (TJ/Unit) (NCV)	C Consumption (TJ) (C=A*B)	D CO2 Emission Factor (kg CO2/TJ)	Z Amount Captured (Gg CO2)	E CO2 Emissions (Gg CO2) E=C*D/10 ^6-Z	F CH4 Emission Factor (kg CH4/TJ)	G CH4 Emissions (Gg CH4) G=C*F/10 ^6	H N2O Emission Factor (kg N2O/TJ)	I N2O Emissions (Gg N2O) I=C*H/10^6		
Fuel	Gg											
Total			0			0		0		0		

Time Series data entry... Delete selected rows...

Worksheet remarks

1.A.1.a.i - Time Series

CARBON DIOXIDE (CO2) Emissions (Gg CO2 Equivalents)

* Base year for assessment of uncertainty in trend: 1990

Gas: CARBON DIOXIDE (CO2)

Country/Territory: Japan | Inventory Year: 1990 | Base year for assessment of uncertainty in trend: 1990 | CO2 Equivalents: SAR GWPs (100 year time horizon) | Database file: (C:\ProgramData\IPCC2006Software\ipcc2006.mdb)

Worksheets (timeseries data entry)

Time Series Data Entry

1.A.1.a.i - Electricity Generation

Sector Energy
Category Fuel Combustion Activities
Category code 1.A.1.a.i - Electricity Generation
Sheet CO2, CH4 and N2O from fuel combustion by source categories - Tier 1

Parameter Consumption (Mass, Volume or Energy Unit)

Fuel	Consumption Unit	Conversion Factor (TJ/Unit)	1990
------	------------------	-----------------------------	------

This worksheet allows Ctrl+C/Ctrl+V to copy/paste data. Only editable cells can be overwritten when pasting.

Export to Excel Import from Excel Save current row

Time Series

Worksheets (uncertainties)

Uncertainties by Fuel Type ×

Liquid Fuels

Category

Activity Data Uncertainties

Lower	<input type="text" value="-5.00 %"/>	Upper	<input type="text" value="+5.00 %"/>
-------	--------------------------------------	-------	--------------------------------------

Emission Factors Uncertainties

Gas

Lower	<input type="text" value="-5.33 %"/>	Upper	<input type="text" value="+6.14 %"/>
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Tools (Reference Approach)

IPCC Inventory Software - sandro - [Worksheets]

Application Database Inventory Year Worksheets Reports Tools Export/Import Administrate Window Help

2006 IPCC Categories

- 1 - Energy
- 2 - Industrial Processes and Product Use
- 3 - Agriculture, Forestry, and Other Land Use
- 4 - Waste
- 5 - Other

Time Series

Time Series

Category 1 - Energy

Gas CARBON DIOXIDE (CO2)

IPCC Inventory Software - sandro - [1.A - Reference Approach]

Application Database Inventory Year Worksheets Reports Tools Export/Import Administrate Window Help

Reference Approach Data Estimating Excluded Carbon Comparison

Sector Energy
 Category Fuel combustion activities
 Category code 1.A
 Sheet 1 of 1 (CO2 from energy sources - Reference Approach)

1990

Fuel Types	Unit	Step 1					Step 2		Step 3	
		A Production	B Imports	C Exports	D International Bunkers	E Stock change	F Apparent Consumption	G Conversion Factor (TJ/Unit)	H Apparent Consumption (TJ)	I Carbon content (t C/TJ)
		F=A+B-C-D-E					H=F*G		J=H*I/1000	
☑ Liquid Fuels: 22 item(s)								0		0
☑ Solid Fuels: 11 item(s)								0		0
☑ Gaseous Fuels: 1 item(s)								0		0
☑ Other Fossil Fuels: 3 item(s)								0		0
☑ Peat: 1 item(s)								0		0
Total								0		0

1) Values in column K are taken from column E of Estimating Excluded Carbon worksheet

Export to Excel Import from Excel

Time Series

Emissions (Gg CO2 Equivalents)

* Base year for assessment of uncertainty in trend: 1990

Country/Territory: Japan | Inventory Year: 1990 | Base year for assessment of uncertainty in trend: 1990 | CO2 Equivalents: SAR GWPs (100 year time horizon) | Database file: (C:\ProgramData\IPCC2006Software\ipcc2006.mdb)

Tools (Uncertainty Analysis)

IPCC Inventory Software - sandro - [Worksheets]

Application Database Inventory Year Worksheets Reports Tools Export/Import Administrate Window Help

2006 IPCC Categories

- 1 - Energy
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- 4 - Waste
- 5 - Other

Time Series
Time Series
Category 1 - Energy
Gas CARBON DIOXIDE (CO2)

IPCC Inventory Software - sandro - [Uncertainty Analysis]

Application Database Inventory Year Worksheets Reports Tools Export/Import Administrate Window Help

Uncertainty Analysis - Approach 1 (Table 3.2)

Base year for assessment of uncertainty in trend 1990 Year T 1990

A	B	C	E	F	G	H
2006 IPCC Categories	Gas	Base Year emissions or removals (Gg CO2 equivalent)	Activity Data Uncertainty (%)	Emission Factor Uncertainty (%)	Combined Uncertainty (%)	Contribution to Variance in Year T
1.A - Fuel Combustion Activities						
1.A.3.b.vi - Urea-based catalysts	CO2	0.000	0.000	0.000	0.000	
1.B.1 - Fugitive Emissions from Fuels - Solid Fuels						
1.B.1.a.i.1 - Mining	CO2	0.000	0.000	0.000	0.000	
	CH4	0.000	0.000	0.000	0.000	
1.B.1.a.i.2 - Post-mining seam gas emissions	CO2	0.000	0.000	0.000	0.000	
	CH4	0.000	0.000	0.000	0.000	
1.B.1.a.i.3 - Abandoned underground mines	CH4	0.000	5.000	0.000	5.000	
1.B.1.a.i.4 - Flaring of drained methane or conversion of methane to CO2	CH4	0.000	5.000	0.000	5.000	
	CO2	0.000	5.000	0.000	5.000	
1.B.1.a.ii.1 - Mining	CO2	0.000	0.000	0.000	0.000	
	CH4	0.000	0.000	0.000	0.000	
1.B.1.a.ii.2 - Post-mining seam gas emissions	CO2	0.000	0.000	0.000	0.000	
	CH4	0.000	0.000	0.000	0.000	
1.B.2 - Fugitive Emissions from Fuels - Oil and Natural Gas						
1.C - CO2 Transport Injection and Storage						
1.C.1.a - Pipelines	CO2	0.000	0.000	0.000	0.000	
1.C.1.b - Ships	CO2	0.000	0.000	0.000	0.000	
1.C.1.c - Other (please specify)	CO2	0.000	0.000	0.000	0.000	
1.C.2 a - Injection	CO2	0.000	0.000	0.000	0.000	

Number of decimal places 3 Zero padding

Refresh Data Export to Excel

Documentation box

Save

Country/Territory: Japan | Inventory Year: 1990 | Base year for assessment of uncertainty in trend: 1990 | CO2 Equivalents: SAR GWPs (100 year time horizon) | Database file: (C:\ProgramData\IPCC2006Software\ipcc2006.mdb)

Tools (Key Category Analysis)

IPCC Inventory Software - sandro - [Worksheets]

Application Database Inventory Year Worksheets Reports Tools Export/Import Administrate Window Help

2006 IPCC Categories

- 1 - Energy
- 2 - Industrial Processes and Product Us
- 3 - Agriculture, Forestry, and Other Lan
- 4 - Waste
- 5 - Other

Time Series
Time Series
Category 1 - Energy
Gas CARBON DIOXIDE (CO2)

Reference Approach
Uncertainty Analysis
Key Category Analysis

IPCC Inventory Software - sandro - [Key Category Analysis]

Application Database Inventory Year Worksheets Reports Tools Export/Import Administrate Window Help

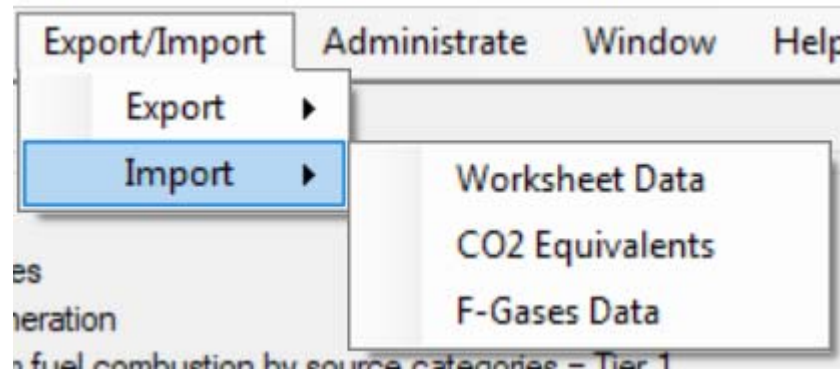
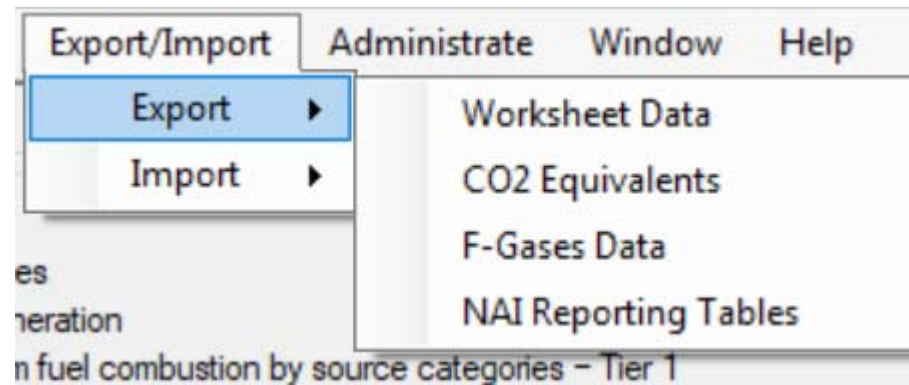
Approach 1: Level Assessment Approach 1: Trend Assessment

A	B	C	D	E	F	G
IPCC Category code	IPCC Category	Greenhouse gas	1990 Ex,t (Gg CO2 Eq)	[Ex,t] (Gg CO2 Eq)	Lx,t	Cumulative Total of Column F
3.B.1a	Forest land Remaining Forest land	CARBON DIOXIDE (CO2)	-2.47902	2.47902	1	1
1.A.1	Energy Industries - Liquid Fuels	CARBON DIOXIDE (CO2)	0	0	0	1
		METHANE (CH4)	0	0	0	1
		NITROUS OXIDE (N2O)	0	0	0	1
	Energy Industries - Solid Fuels	CARBON DIOXIDE (CO2)	0	0	0	1
		METHANE (CH4)	0	0	0	1
		NITROUS OXIDE (N2O)	0	0	0	1
	Energy Industries - Gaseous Fuels	CARBON DIOXIDE (CO2)	0	0	0	1
		METHANE (CH4)	0	0	0	1
		NITROUS OXIDE (N2O)	0	0	0	1
	Energy Industries - Other Fossil Fuels	CARBON DIOXIDE (CO2)	0	0	0	1
		METHANE (CH4)	0	0	0	1
		NITROUS OXIDE (N2O)	0	0	0	1
Energy Industries - Peat	CARBON DIOXIDE (CO2)	0	0	0	1	
	METHANE (CH4)	0	0	0	1	
	NITROUS OXIDE (N2O)	0	0	0	1	
Energy Industries - Biomass	CARBON DIOXIDE (CO2)	0	0	0	1	
	METHANE (CH4)	0	0	0	1	
	NITROUS OXIDE (N2O)	0	0	0	1	
1.A.2	Manufacturing Industries and Construction - Liquid Fuels	CARBON DIOXIDE (CO2)	0	0	0	1
		METHANE (CH4)	0	0	0	1
		NITROUS OXIDE (N2O)	0	0	0	1
	Manufacturing Industries and Construction - Solid Fuels	CARBON DIOXIDE (CO2)	0	0	0	1
		METHANE (CH4)	0	0	0	1
		NITROUS OXIDE (N2O)	0	0	0	1
	Manufacturing Industries and Construction - Gaseous Fuels	CARBON DIOXIDE (CO2)	0	0	0	1
		METHANE (CH4)	0	0	0	1
		NITROUS OXIDE (N2O)	0	0	0	1
	Manufacturing Industries and Construction - Other Fossil Fuels	CARBON DIOXIDE (CO2)	0	0	0	1
		METHANE (CH4)	0	0	0	1
		NITROUS OXIDE (N2O)	0	0	0	1

Refresh Data Export to Excel

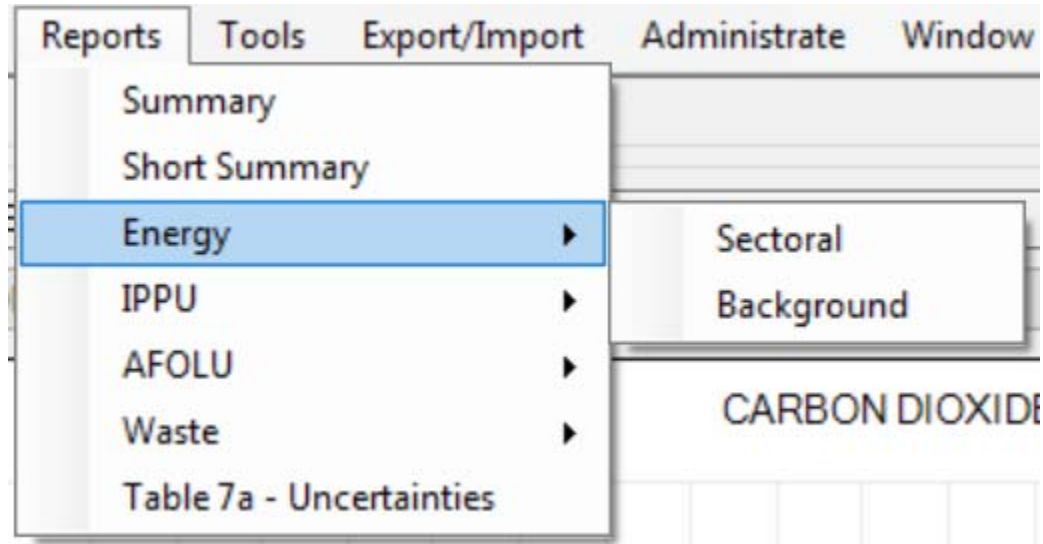
Country/Territory: Japan Inventory Year: 1990 Base year for assessment of uncertainty in trend: 1990 CO2 Equivalents: SAR GWPs (100 year time horizon) Database file: (C:\ProgramData\IPCC2006Software\ipcc2006.mdb)

Export/Import



as XML files
but NAI as Excel file

Reporting



Reporting (sectoral)

IPCC Inventory Software - sandro - [Energy Sectoral Table]

Application Database Inventory Year Worksheets Reports Tools Export/Import Administrate Window Help

Table 1 Energy Sectoral Table Memo and Information Items

Categories	Emissions (Gg)						
	CO2	CH4	N2O	NOx	CO	NMVOcs	SO2
1 - Energy	0.000	0.000		0.000	0.000	0.000	0.000
1.A - Fuel Combustion Activities	0.000			0.000	0.000	0.000	0.000
1.A.1 - Energy Industries				0.000	0.000	0.000	0.000
1.A.1.a - Main Activity Electricity and Heat Production				0.000	0.000	0.000	0.000
1.A.1.a.i - Electricity Generation				0.000	0.000	0.000	0.000
1.A.1.a.ii - Combined Heat and Power Generation (CHP)				0.000	0.000	0.000	0.000
1.A.1.a.iii - Heat Plants				0.000	0.000	0.000	0.000
1.A.1.b - Petroleum Refining				0.000	0.000	0.000	0.000
1.A.1.c - Manufacture of Solid Fuels and Other Energy Industries				0.000	0.000	0.000	0.000
1.A.1.c.i - Manufacture of Solid Fuels				0.000	0.000	0.000	0.000
1.A.1.c.ii - Other Energy Industries				0.000	0.000	0.000	0.000
1.A.2 - Manufacturing Industries and Construction				0.000	0.000	0.000	0.000
1.A.2.a - Iron and Steel				0.000	0.000	0.000	0.000
1.A.2.b - Non-Ferrous Metals				0.000	0.000	0.000	0.000
1.A.2.c - Chemicals				0.000	0.000	0.000	0.000
1.A.2.d - Pulp, Paper and Print				0.000	0.000	0.000	0.000
1.A.2.e - Food Processing, Beverages and Tobacco				0.000	0.000	0.000	0.000
1.A.2.f - Non-Metallic Minerals				0.000	0.000	0.000	0.000
1.A.2.g - Transport Equipment				0.000	0.000	0.000	0.000
1.A.2.h - Machinery				0.000	0.000	0.000	0.000
1.A.2.i - Mining (excluding fuels) and Quarrying				0.000	0.000	0.000	0.000

Number of decimal places: 3 Zero padding

Export to Excel

Legend

(1) To be reported as a memo item, and not part of the national inventory.

(2) Multilateral operations pursuant to the Charter of the United Nations: including emissions from fuel delivered to the military in the country and delivered to the military of other countries.

(3) Emissions that are not included in the national total should be reported as memos.

* Cells to report emissions of NOx, CO, NMVOC and SO2 have not been shaded although the physical potential for emissions is lacking for some categories. **Precursors are editable.**

Documentation box

Save

Country/Territory: Japan | Inventory Year: 1990 | Base year for assessment of uncertainty in trend: 1990 | CO2 Equivalents: SAR GWPs (100 year time horizon) | Database file: (C:\ProgramData\IPCC2006Software\ipcc2006.mdb)

Reporting (background)

IPCC Inventory Software - sandro - [Energy Background Tables]

Application Database Inventory Year Worksheets Reports Tools Export/Import Administrate Window Help

Table 1.1 Energy Background Table: 1.A.1 - 1.A.2 Table 1.2 Energy Background Table: 1.A.3 - 1.A.5 Table 1.3 Energy Background Table: 1.B Table 1.4b Energy Background Table: 1.C - Overview Table 1.5 Energy Background Table: Refer <

2006 IPCC Categories	Emissions Solid Fuel (Gg)			Emissions Liquid Fuel (Gg)			Emissions Gas (Gg)			Emissions Other Fossil Fuels (Gg)			Emissions Peat (Gg)			Emissions Biomass			Emissions Total (Gg)			Information Items (Gg)		
	CO2	CH4	N2O	CO2	CH4	N2O	CO2	CH4	N2O	CO2	CH4	N2O	CO2	CH4	N2O	CH4	N2O	CO2	CH4	N2O	CO2	CH4	N2O	CO2 Amount Captured
1.A - Fuel Combustion Activities																		0.000	0.000	0.000				
1.A.1 - Energy Industries																		0.000	0.000	0.000				
1.A.1.a - Main Activity Electricity and Heat Production																		0.000	0.000	0.000				
1.A.1.a.i - Electricity Generation																		0.000	0.000	0.000				
1.A.1.a.ii - Combined Heat and Power Generation (CHP)																		0.000	0.000	0.000				
1.A.1.a.iii - Heat Plants																		0.000	0.000	0.000				
1.A.1.b - Petroleum Refining																		0.000	0.000	0.000				
1.A.1.c - Manufacture of Solid Fuels and Other Energy Industries																		0.000	0.000	0.000				
1.A.1.c.i - Manufacture of Solid Fuels																		0.000	0.000	0.000				
1.A.1.c.ii - Other Energy Industries																		0.000	0.000	0.000				
1.A.2 - Manufacturing Industries and Construction																		0.000	0.000	0.000				
1.A.2.a - Iron and Steel																		0.000	0.000	0.000				
1.A.2.b - Non-Ferrous Metals																		0.000	0.000	0.000				
1.A.2.c - Chemicals																		0.000	0.000	0.000				
1.A.2.d - Pulp, Paper and Print																		0.000	0.000	0.000				
1.A.2.e - Food Processing, Beverages and Tobacco																		0.000	0.000	0.000				
1.A.2.f - Non-Metallic Minerals																		0.000	0.000	0.000				
1.A.2.g - Transport Equipment																		0.000	0.000	0.000				
1.A.2.h - Machinery																		0.000	0.000	0.000				
1.A.2.i - Mining (excluding fuels) and Quarrying																		0.000	0.000	0.000				
1.A.2.j - Wood and wood products																		0.000	0.000	0.000				
1.A.2.k - Construction																		0.000	0.000	0.000				
1.A.2.l - Textile and Leather																		0.000	0.000	0.000				

Number of decimal places: 3 Zero padding Export to Excel

Legend

(1) Although peat is not strictly speaking a fossil fuel, the CO2 emissions from combustion of peat are included in the national emissions as for fossil fuels. See Chapter 1 of Energy Volume, page 1.15.

(2) Information items that are not themselves emissions, therefore not included in the national total. The carbon should be converted to carbon dioxide. It is subtracted in the CO2 emission columns (net emissions). Only CO2 captured for permanent storage in geological reservoirs should be subtracted.

Documentation box

Save

Country/Territory: Japan | Inventory Year: 1990 | Base year for assessment of uncertainty in trend: 1990 | CO2 Equivalents: SAR GWPs (100 year time horizon) | Database file: (C:\ProgramData\IPCC2006Software\ipcc2006.mdb)

Reporting

Main Menu

→ Report

Report	Level	Contents
Summary (IPCC)	1.A.1	Emissions/Removals
Short summary (IPCC)	1.A	Emissions/Removals
Sectoral (IPCC)	1.A.1.a.ii (most disaggregated level)	Emissions/Removals
Background (IPCC)	1.A.1.a.ii (most disaggregated level)	AD, Emissions/Removals

Main Menu

→ Export

Report	Level	Contents
NAI 1 & 2 (UNFCCC 17/CP.8)	1.A.1	Emissions/Removals

Note: All reports can be exported as MS Excel file

Ongoing work

- **Implementation of all IPCC Tier 2 & 3 methods provided in the 2006 IPCC Guidelines and the Wetlands Supplement**
Work completed for AFOLU, including WS, and Energy sectors
- **Approach 2 for Uncertainty Analysis** – working on specifications
- **Approach 2 for Key categories analysis** – working on specifications
- **Subnational disaggregation** of categories (e.g. federal states inventories) – work completed
- **Multi-users at category level**
- **Time series export/import -XML file-**
- **Translation into the 5 non-English UN languages**

Supporting Tools

Excel-based tool:

- HWP excel-based tool for data retrieval from FAOSTAT website and upload to the IPCC Inventory Software (*under testing*)
- Excel-based complete set of the IPCC Inventory Software worksheets, for QC as well as for data compilation (*UNDP GSP*)
- Data compilation of land representation and upload to the IPCC Inventory Software (*under development*)

Guidebook for inventory compilers (*under development*)

- ✓ Expected to be produced sector by sector
- ✓ All UN languages, beginning with English,
- ✓ Simulating the use of the software for each inventory category, providing most relevant references to good practice set in the 2006 IPCC Guidelines and its Supplements

Supporting Tools

Add-ons for Land Representation:

- based on wall-to-wall data collection and analysis (maps),
- based on sampling data collection and analysis (inventories),
implemented through FAO-COLLECT EARTH

Connection with the IPCC Emission Factors DataBase

COP26/CMA3 decision

FCCC/PA/CMA/2021/L.21: Guidance operationalizing the modalities, procedures and guidelines for the enhanced transparency framework referred to in Article 13 of the Paris Agreement) the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement

Interoperability between the IPCC Inventory Software and the UNFCCC Common Reporting Tables (CRT) reporting software:

COP26/CMA3 decision

- requests the secretariat to provide training and advice to developing country Parties on the use of the reporting tools and to provide technical support to these countries, including those that use the Intergovernmental Panel on Climate Change inventory software, to the extent possible, on integrating the reporting tools into their national greenhouse gas inventory arrangements [paragraph 16]
- requests the secretariat to facilitate interoperability between the reporting tools and the Intergovernmental Panel on Climate Change inventory software [paragraph 19]
- invites the Intergovernmental Panel on Climate Change to engage in the work referred to in paragraph 19 above [paragraph 20]

Support

TSU is supporting the IPCC Inventory Software

- ✓ **User Manual**
- ✓ **Help Desk E-mail** ipcc-software@iges.or.jp
- ✓ **Pool of voluntary testers, to support software development and use**
- ✓ **Annual meeting on feedbacks** from software users, including issues where support is needed or a software improvements is envisaged



Thank you

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

ipcc

INTERGOVERNMENTAL PANEL ON climate change

