

National GHG Inventory

Development and History of Thailand's National System



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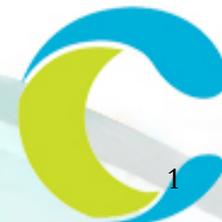
Greenhouse Gas Information Center

**Thailand Greenhouse Gas Management Organization
(Public Organization)**

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องค์การบริหารจัดการก๊าซเรือนกระจก (องค์การมหาชน)

Thailand Greenhouse Gas Management Organization (Public Organization)



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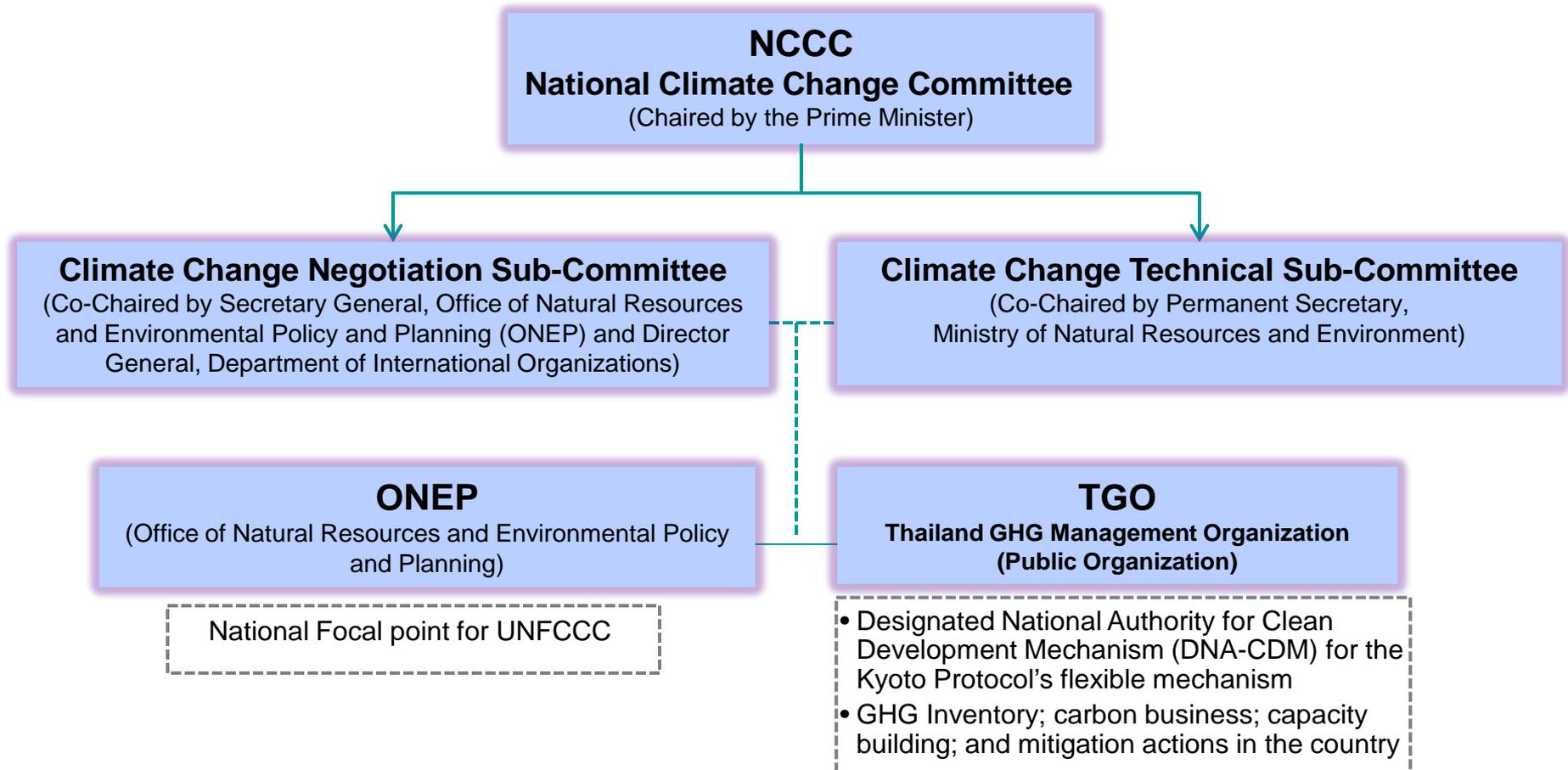
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Outline and characteristics of the national system



History of development of national system

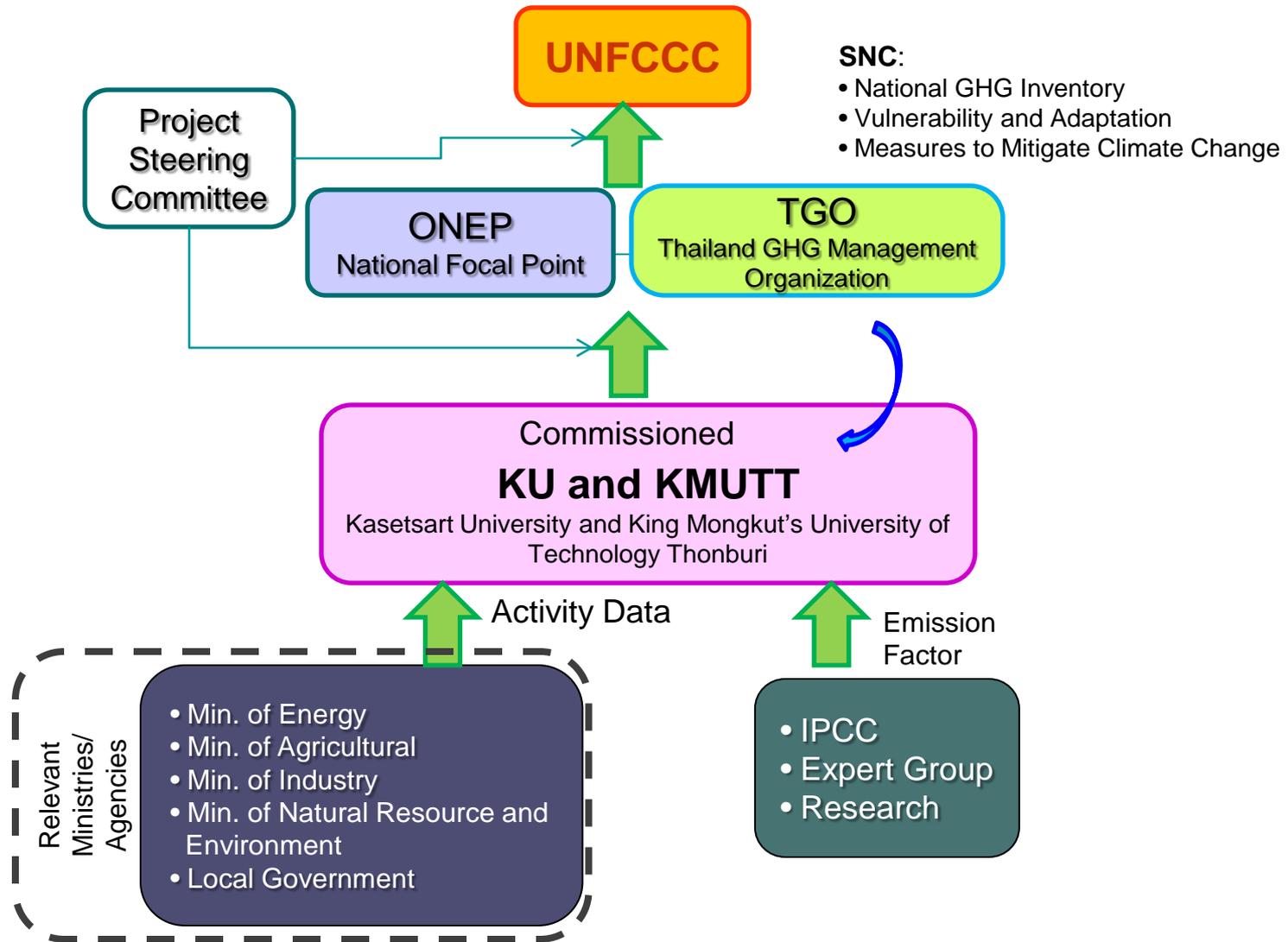
Initial National Communication (INC)

- The 1st NI estimated the emission of **1994** as a part of Thailand's Initial National Communication (INC) under the UNFCCC
- **Submitted in year 2000**
- **Using the 1996 IPCC Revised Guidelines**
- Prepared by Office of Environmental Policy and Planning (OEPP), Ministry of Science and Technology

Second National Communication (SNC)

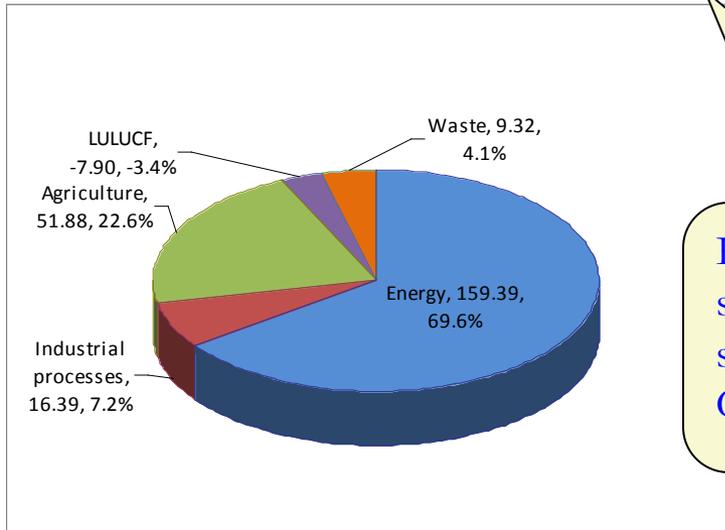
- The 2nd NI estimated the emission of **2000 – 2004** as a part of the Second National Communication (SNC)
- **Submitted in year 2011**
- Followed guidelines below;
 - **Revised 1996 IPCC** Guidelines for National Greenhouse Gas Inventories
 - **2000 IPCC Good Practice Guidance** and Uncertainty Management in National Greenhouse Gas Inventories
 - **2003 Good Practice Guidance** for Land Use, Land-Use Change and Forestry
- Prepared by Office of Natural Resources and Environmental Policy and Planning (ONEP), Ministry of Natural Resources and Environment

Institution Framework for SNC



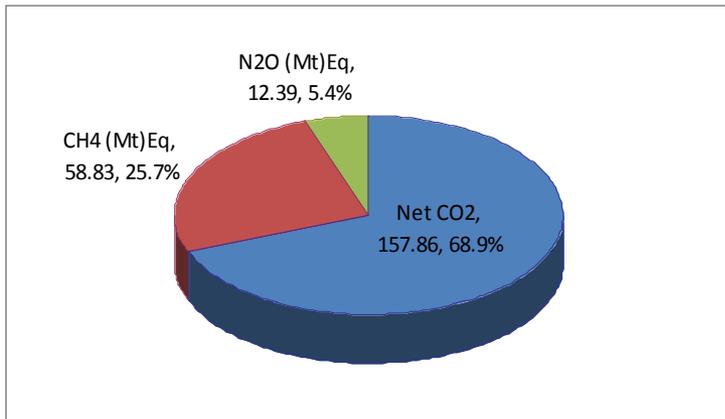
Total Emission (Data year 2000)

Total Emission (included LULUCF) = 229.08 Mt CO₂ eq



- GHG emission in 2000 (Mt CO₂ eq, %) - by sector

Include GHG emission from sources and removal from carbon sink in Land Use, Land Use Change and Forestry category

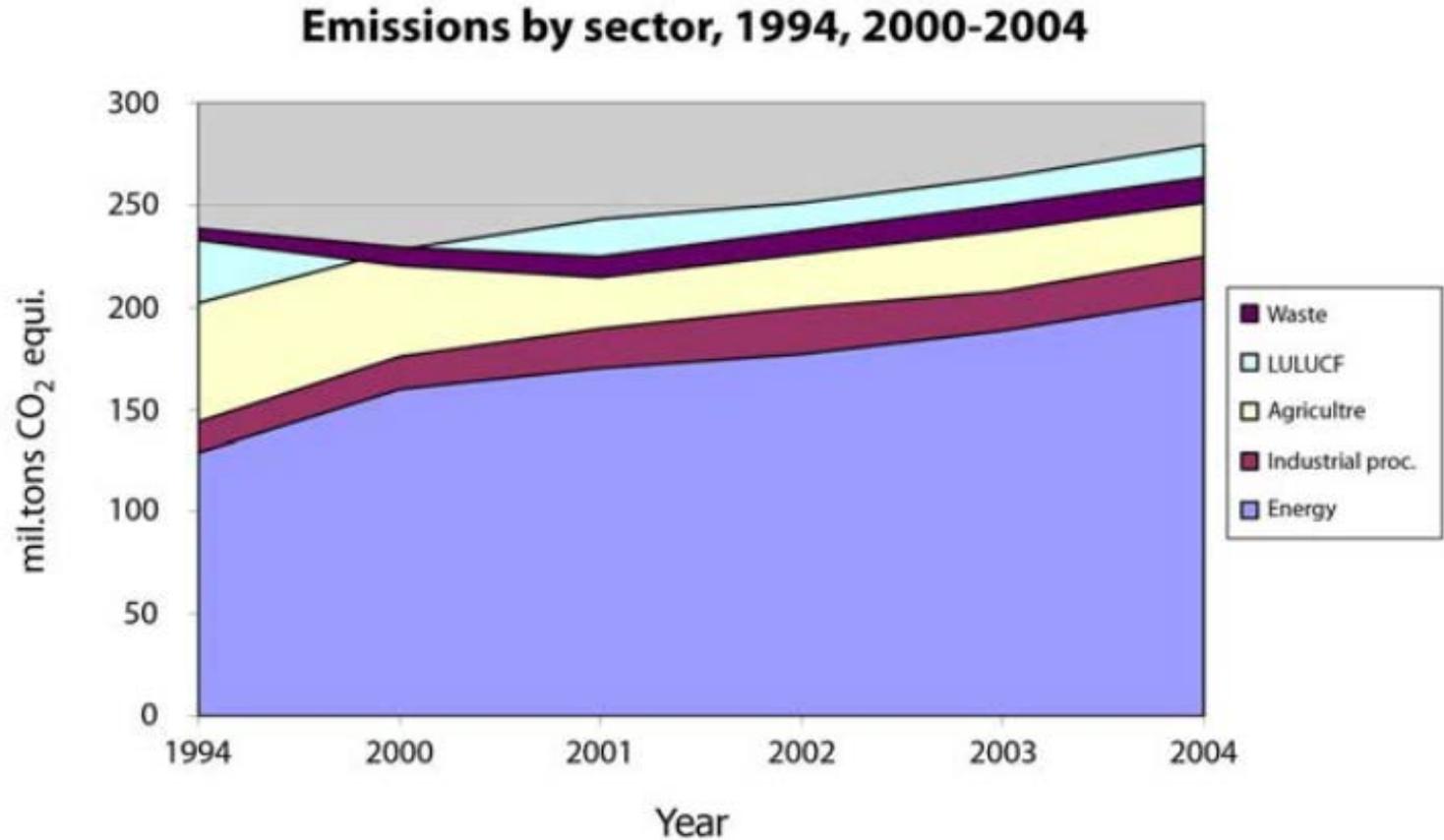


- GHG emission in 2000 (Mt CO₂ eq, %) - by Gas Type

Reference : Thailand 2nd NC



GHG emission trends by sector



Difficulties experienced through the development

- Normally, the GHG information was collected from the focal point of related government agencies and public and private sector based on concept of Top down approach though **each request in voluntary cooperation**.
- Nowadays, **the related agencies do not have mandatory to report GHG information** for supporting the national inventory so there are **not dedicated human resources responsible for GHG related tasks**.
- Main barrier of the successful and effectiveness of the national GHG inventory is **information management system** since the relevant information come from different sources, various organizations, and many standards. Also, those information are collected in accordance with their own demand not directly provide for the national GHG inventory system.



Difficulties experienced through the development

- Quality of statistic report responding to activity data and EF
 - Dispersion of statistic data
 - Duplication
 - Discontinuous data collection
 - Unclassified data in statics
 - Lack of detailed (local specific) data
- Information neutral standardize system, national database, and information collecting guideline and protocol are critical elements that ensure to get the updated and applicability GHG information for more efficient and high quality of GHG inventory system.
- However, those requirements need huge amount of financial support and manpower for developing and continuing system operation which are the key challenges on national inventory system.

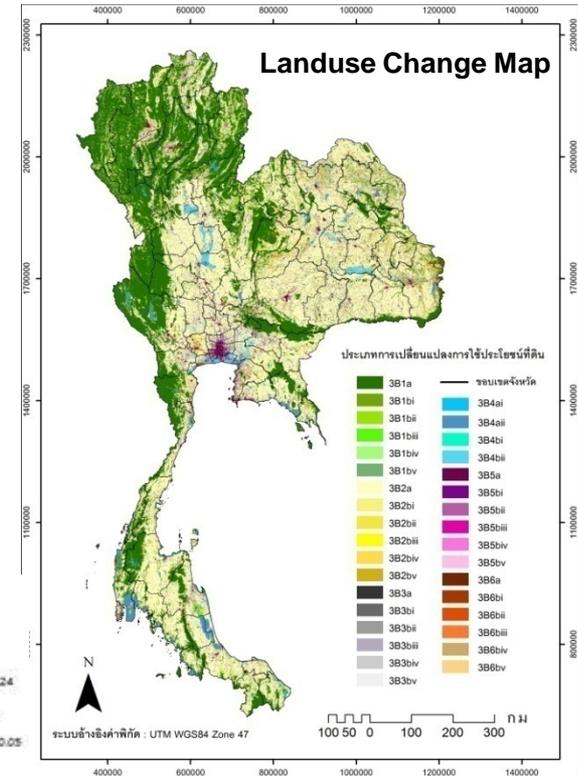
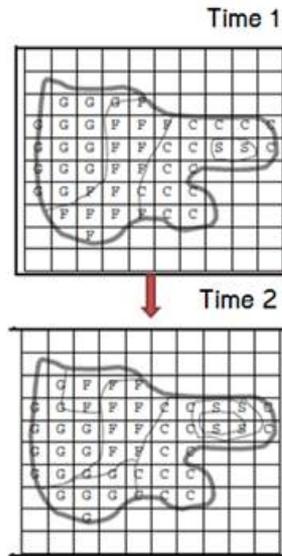
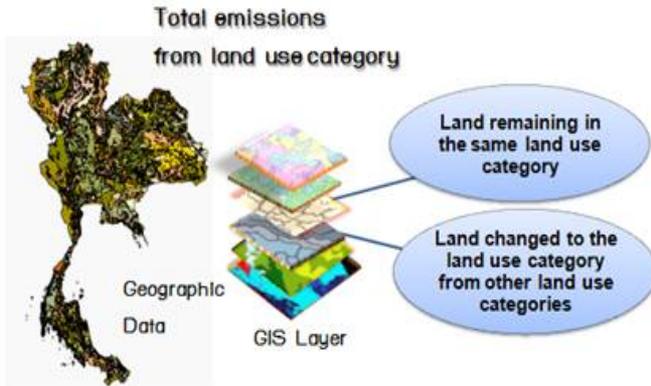


Improvements of GHG Inventory System

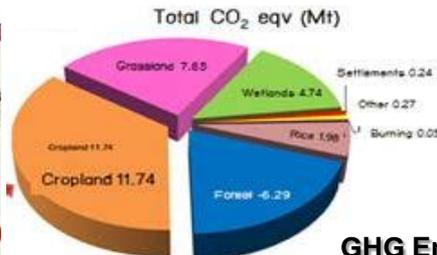
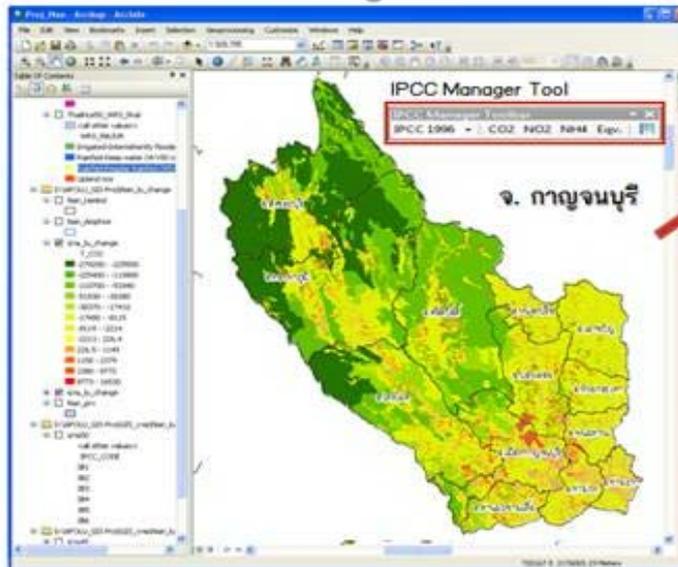
- GHG inventory method
 - GHG inventory for AFOLU sector was improved to **approach 3 with GIS technique**
- Inventory tools
 - **Database**: TGO organizational structure is responsible for preparing national GHG inventory and developing database system to collect the activity data from official statistic reports.
 - **Spatial GHG inventory program** was developed for calculate the GHG emission and removal in AFOLU Sector
- Specific emission factors
 - Such as **carbon content of fossil field**; because the standard heating value specific of Thailand are available.
 - **Gather and revise the specific EF** relate for IPCC Guideline 2006 method
 - Biomass growth for each forest and landuse type
 - CH₄ emission for rice ecosystem, etc.

Application of GIS for Spatial GHG Inventory in AFOLU Sector

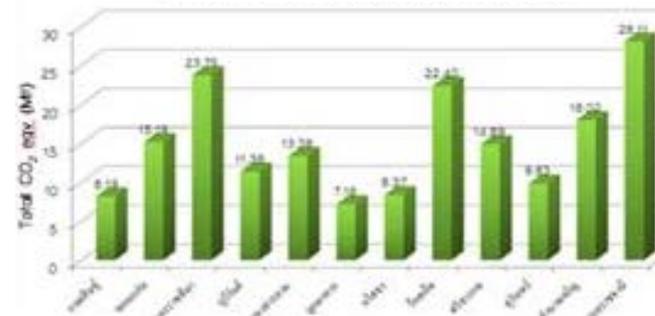
APPROACH 3: GEOGRAPHICALLY EXPLICIT LAND USE DATA



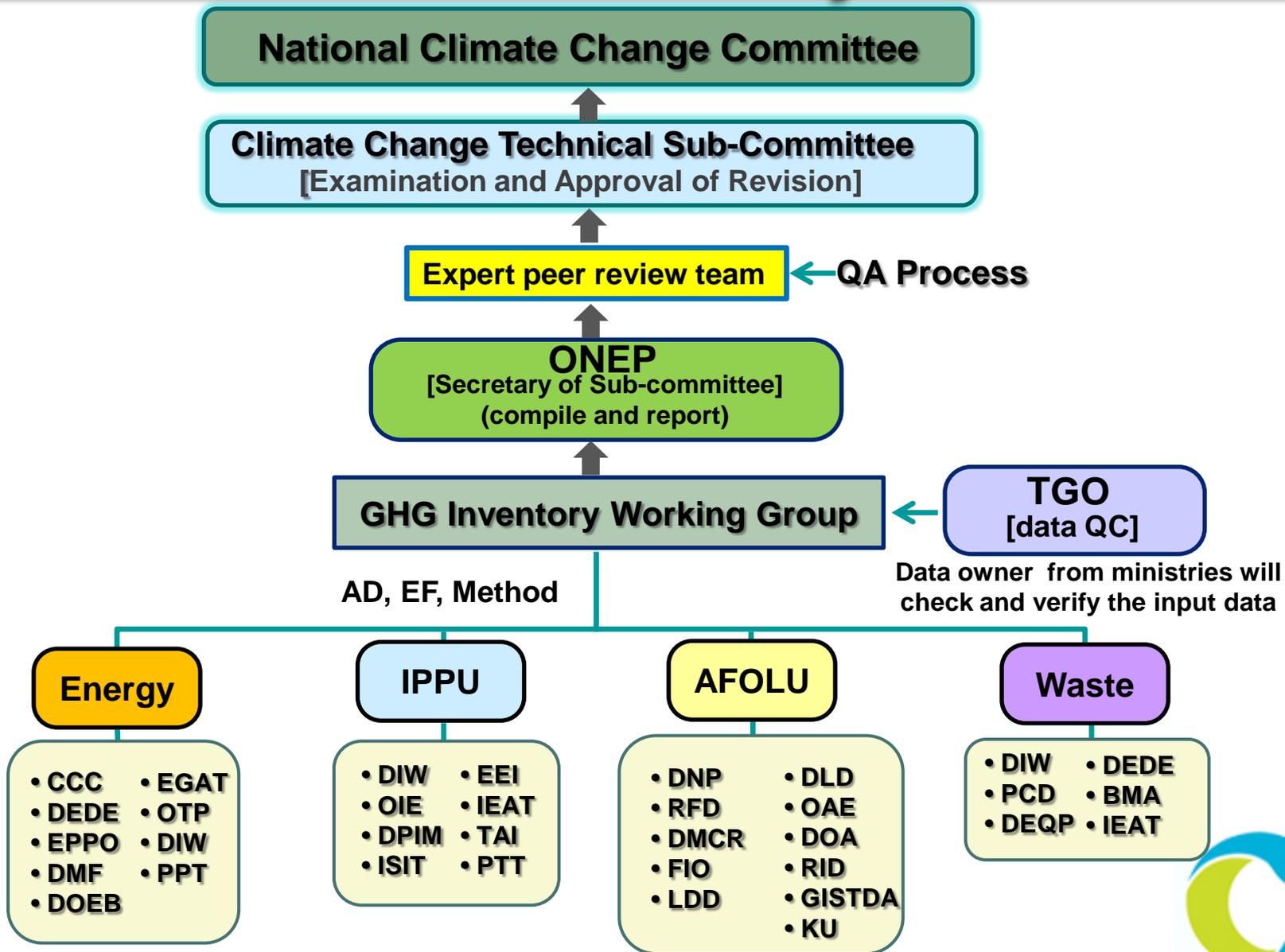
IPCC Manager Tool



GHG Emission at Provincial Level



Thailand Institutional Arrangement for GHG Inventory



Relevant Organizations

No.	Department/office	Abbreviation
1	Thailand Greenhouse Gas Management Organization (Public Organization)	TGO
2	Office of Natural Resources and Environmental Policy and Planning	ONEP
3	Climate Change Coordinator	CCC
4	Department of Alternative Energy Development and Efficiency	DEDE
5	Energy Policy and Planning Office	EPPO
6	Department of Mineral Fuels	DMF
7	Department of Energy Business	DOEB
8	The Electricity Generating Authority of Thailand	EGAT
9	Office of Transport and Traffic Policy and Planning	OTP
10	Department of Industrial Works	DIW
11	PTT Public Company Limited	PTT
12	Office of Industrial Economics	OIE
13	Department of Primary Industries and Mines	DPIM
14	Iron and Steel Institute of Thailand	ISIT
15	Electrical and Electronics Institute	EEI
16	Industrial Estate Authority of Thailand	IEAT
17	Thailand Automotive Institute	TAI
18	Pollution Control Department	PCD
19	Department of Environment Quality Promotion	DEQP
20	Bangkok Metropolitan Administration	BMA
21	Department of Livestock Development	DLD
22	Office of Agricultural Economics	OAE
23	Royal Forest Department	RFD
24	Department of National Parks, Wildlife and Plant conservation	DNP
25	Land Development Department	LDD
26	Department of Agriculture	DOA
27	Department of Marine and Coastal Resources	DMCR
28	Forest Industry Organization	FIO

Thank you for your kind attention

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