

# Thailand's First Biennial Update Report

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Under the United Nations Framework Convention on Climate Change (UNFCCC)

The 14<sup>th</sup> Workshop on Greenhouse Gas Inventories in Asia: WGIA14  
July 27, 2016 | Ulaanbaatar, Mongolia



United Nations Framework  
Convention on Climate Change



กระทรวงทรัพยากรธรรมชาติและสิ่งแวดล้อม  
Office of Natural Resources and Environmental Policy and Planning



# HELLO!

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Office of Natural Resources and  
Environmental Policy and Planning

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A mother, wife, scientist,  
social architect,  
entrepreneur,  
environmentalist!

# OUTLINE

1 Thailand's NC & BUR Reports

2 National Circumstances

3 Institutional Arrangement

4 National GHG Inventory for 2011

5 Mitigation Measures

# 1 Thailand's NC & BUR Reports

Report	Data Year	Submission Year	Methodology
Initial National Communication	1994	2000	<ul style="list-style-type: none"><li>• 1996 IPCC Revised Guidelines</li></ul>
Second National Communication	2000-2004	2011	<ul style="list-style-type: none"><li>• 1996 IPCC Revised Guidelines</li><li>• 2003 GPG for Land Use, Land Use Change, and Forestry</li></ul>
BUR 1	2005-2011	2015	<ul style="list-style-type: none"><li>• 1996 IPCC Revised Guidelines</li><li>• 2000 GPG</li><li>• 2003 GPG for LULUCF</li></ul>
Third National Communication & BUR 2	2012-2013	2017	<ul style="list-style-type: none"><li>• 1996 IPCC Revised Guidelines</li><li>• 2000 GPG</li><li>• 2003 GPG for LULUCF</li></ul>

**I** National Circumstances

**II** National Greenhouse  
Gas Inventory for 2011

**III** Mitigation Measures

**IV** Constraints and Gap,  
Related Financial, Technical,  
and Capacity Needs

# STRUCTURE OF BUR1

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# 2

# National Circumstances



Land area: 514,000 sq. km.

Maritime area: 212,000 sq. km.

Population: 65,981,659 (2010)

Annual pop growth rate: 0.80% (2000-2010)

Economic growth: 3.0%, 2.8% (Q1, Q2 2015)

# 3

# Institutional Arrangement

## National Committee on Climate Change Policy (NCCC)

**Prime Minister**

**Chairman**

"HIERARCHICAL STRUCTURE"

**Minister of Natural Resources and Environment**

**Vice-Chairman**

**Minister of Foreign Affairs**

**NCCC members:**

- |   |   |
|---|---|
| 1. Prime Minister's Office                              | 9. Ministry of Science and Technology                                     |
| 2. Ministry of Finance                                  | 10. Ministry of Education   |
| 3. Ministry of Agriculture and Cooperatives             | 11. Ministry of Public Health   |
| 4. Ministry of Transport                                | 12. Ministry of Industry  |
| 5. Ministry of Information and Communication Technology | 13. Bangkok Metropolitan Administration                                   |
| 6. Ministry of Energy                                   | 14. Office of the National Economics and Social Development Board (NESDB) |
| 7. Ministry of Commerce                                 | 15. Bureau of Budget  |
| 8. Ministry of Interior                                 | 16. 5-9 Experts   |

Secretariat  
Permanent Secretary, Ministry of Natural Resources and Environment

ONEP  
TGO

### Integrated Policy and Plan Sub Committee

**Chair:** Permanent Secretary, MNRE  
**Vice-Chair1:** Secretary General, ONEP  
**Vice-Chair2:** Secretary General, NESDB  
**Members:** 24 persons  
**Secretariat:** ONEP

### Technical and GHG Database Sub Committee

**Chair:** Secretary General, ONEP  
**Vice-Chair:** Executive Director, TGO  
**Members:** 28 persons  
**Secretariat:** ONEP & TGO & DEQP

### Coordination & Negotiation Sub Committee

**Chair:** Permanent Secretary, MNRE  
**Vice-Chair1:** Secretary General, ONEP  
**Vice-Chair2:** Director-General of the Department of International Organizations (DIO)  
**Members:** 14 persons  
**Secretariat:** ONEP & DIO

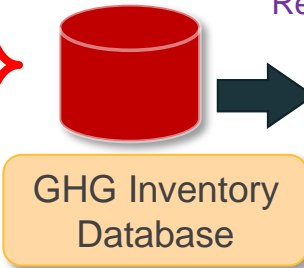
# Institutional Arrangement

## Activity Data Compilation

### Data Owners

- |        |        |
|--------|--------|
| • DEDE | • EPPO |
| • EGAT | • OTP  |
| • DIW  | • OIE  |
| • DPIM | • IEAT |
| • LDD  | • DOAE |
| • OAE  | • RD   |
| • PCD  | • DEQP |
| • BMA  | • DLA  |
| • RFD  | • DMCR |
| • DNP  | • ALRO |
| etc.   |        |

- MoEN MOT
- MOI
- MOAC
- PCD-MNRE
- RFD-MNRE



Prepare Draft GHG Inventory Report as a part of NC & BUR

Verification

Endorsement

NC-BUR submission

UNFCCC

National Climate Change Committee

Technical Sub-committee

EXPERT TEAM

ENERGY

IPPU

AGRI

LULUCF

WASTE

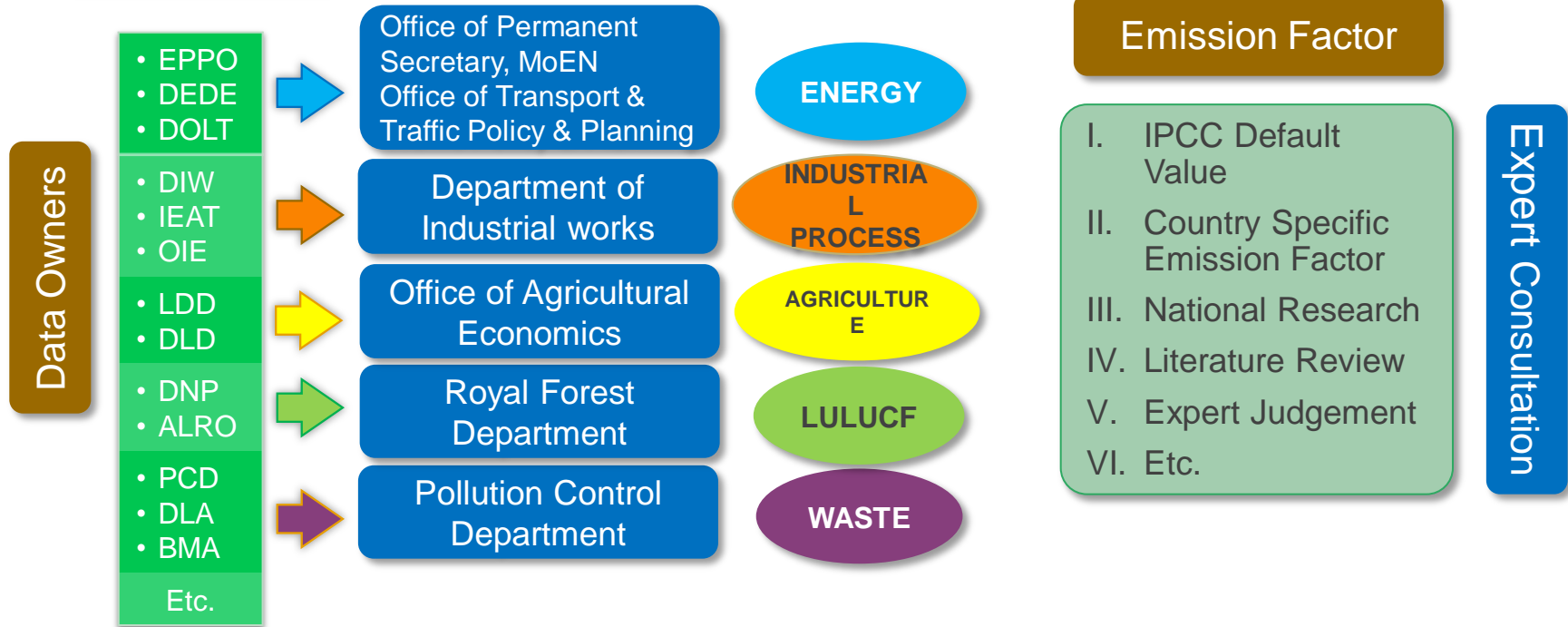
QA/QC



# Institutional Arrangement

Activity Data

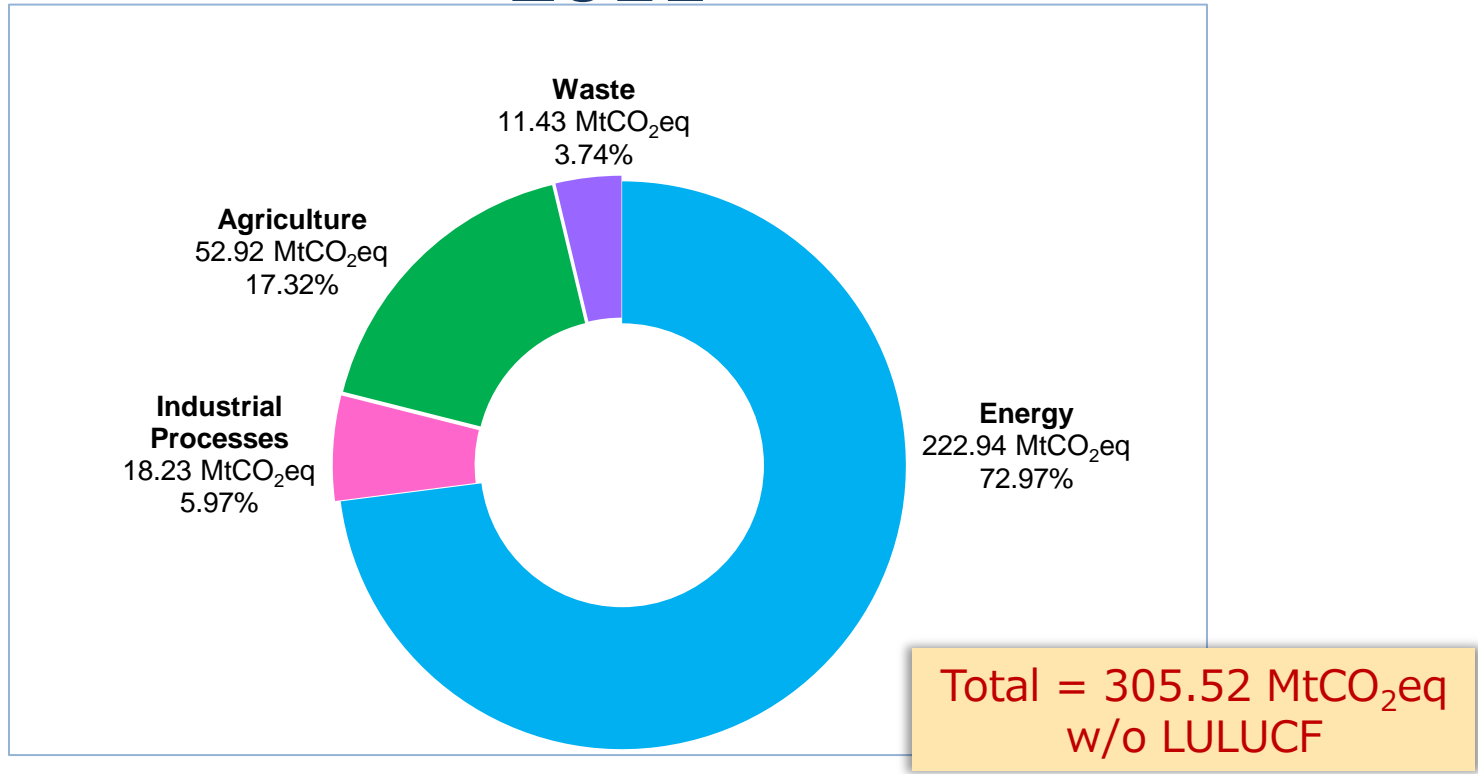
$GHG \text{ Emission} = \text{Activity Data} \times \text{Emission Factor}$



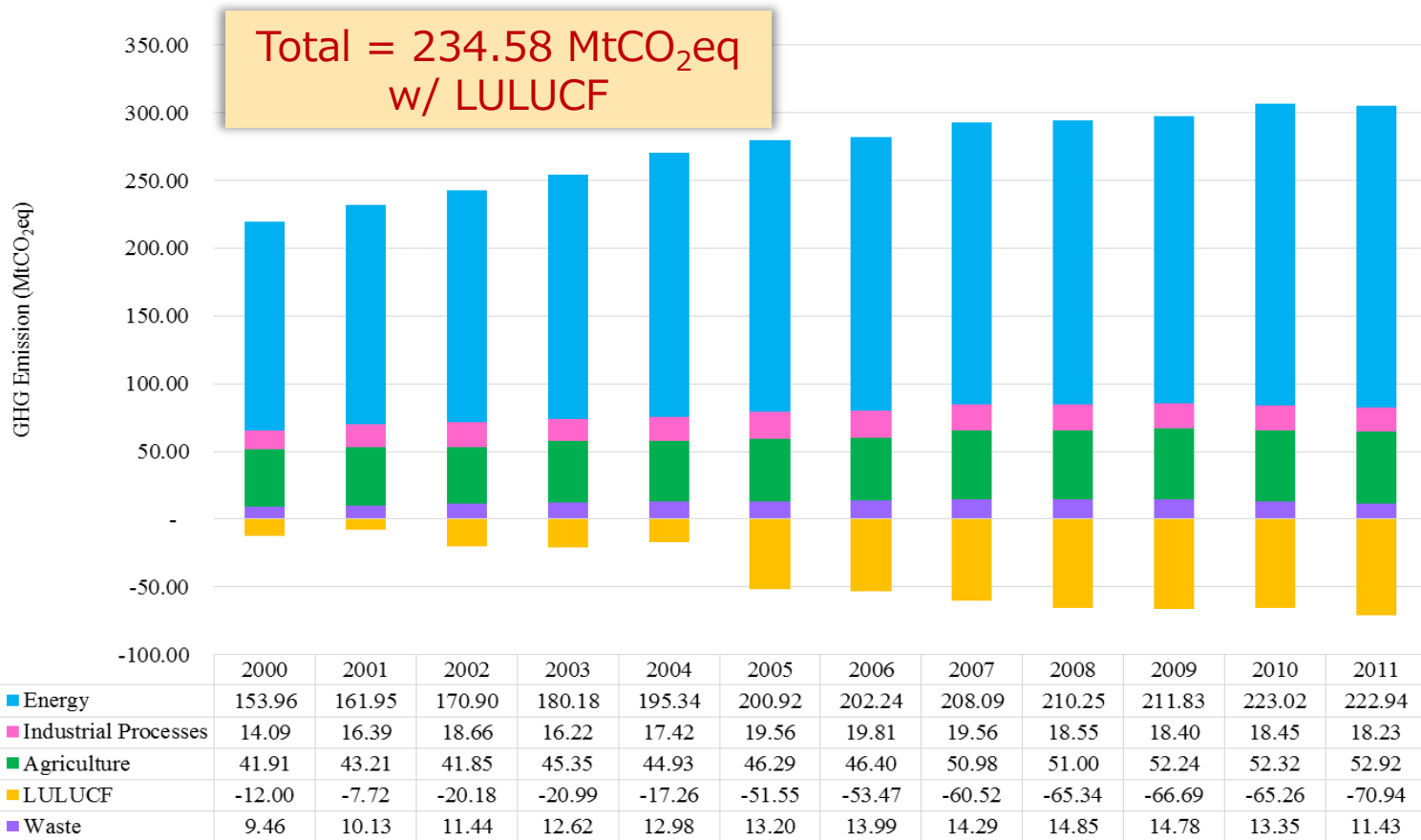
# 4 National GHG Inventory for 2011

- ❖ UNFCCC Guidelines for NC from Non-Annex I Parties
- ❖ Revised 1996 IPCC Guidelines, 2000 IPCC Good Practice Guideline, Uncertainty Management in National GHG Inventory, 2003 IPCC Good Practice for LULUCF
- ❖ Activity data was obtained from relevant agencies & reviewed by working group
- ❖ Emission Factors
  - Tier 1: default conversion factor from IPCC Guidelines
  - Tier 2: specific country emission factor
- ❖ 5 Sectors: (i) Energy; (ii) Industrial Processes; (iii) Agriculture; (iv) Land-Use, Land Use Change and Forestry; (v) Waste

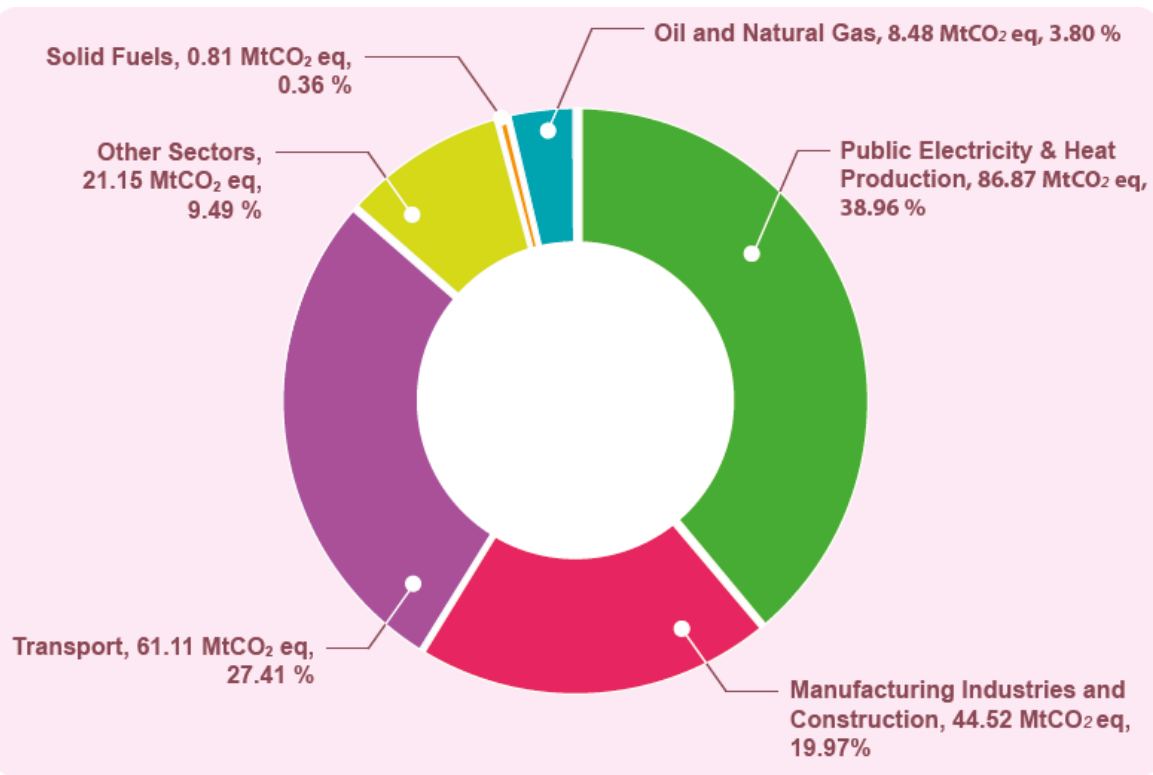
# Total GHG Emissions by Sectors in 2011



# GHG Emission and Removal, 2000 - 2011



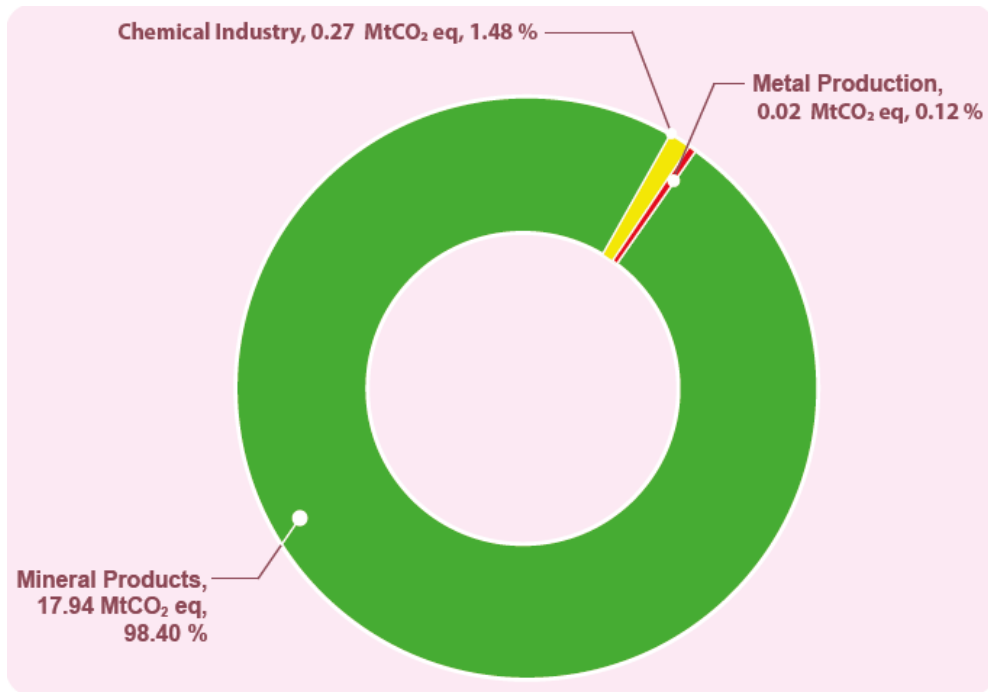
# GHG Emission from Energy, 2011



Total Emission = 222.94  
MtCO<sub>2</sub>eq

1A: Fuel Combustion  
1A1: Public Electricity & Heat  
Production  
1A2: Manufacturing Industries  
& Construction  
1A3: Transport  
1B: Fugitive Emissions from  
Fuels

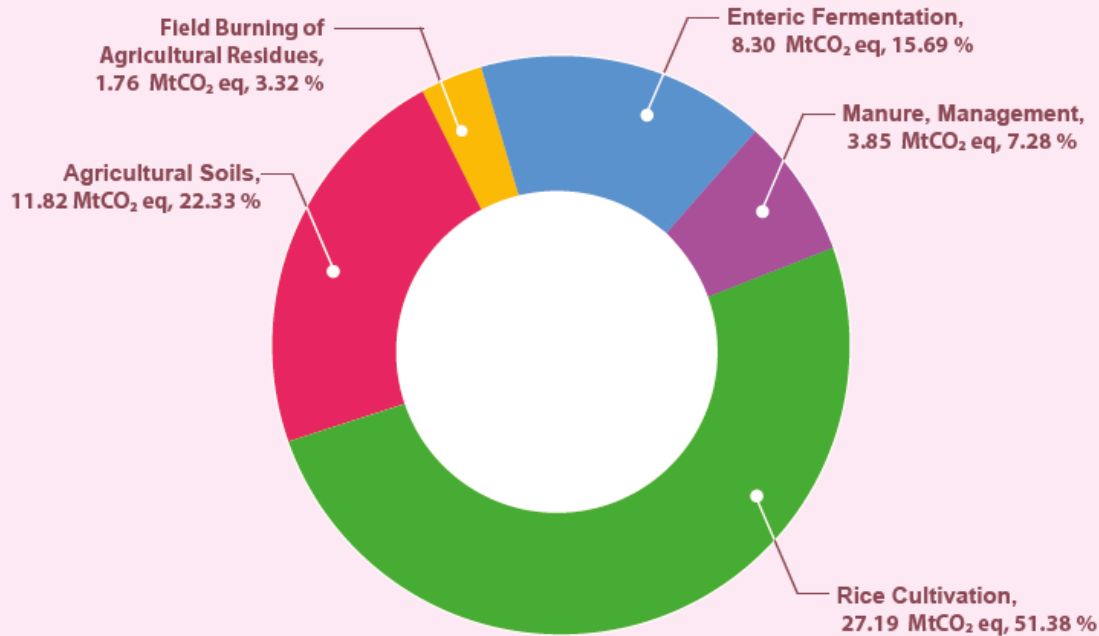
# GHG Emission from Industrial Processes, 2011



Total Emission = 18.23  
MtCO<sub>2</sub>eq

2A: Mineral Products  
2B: Chemical Industry  
2C: Metal Production

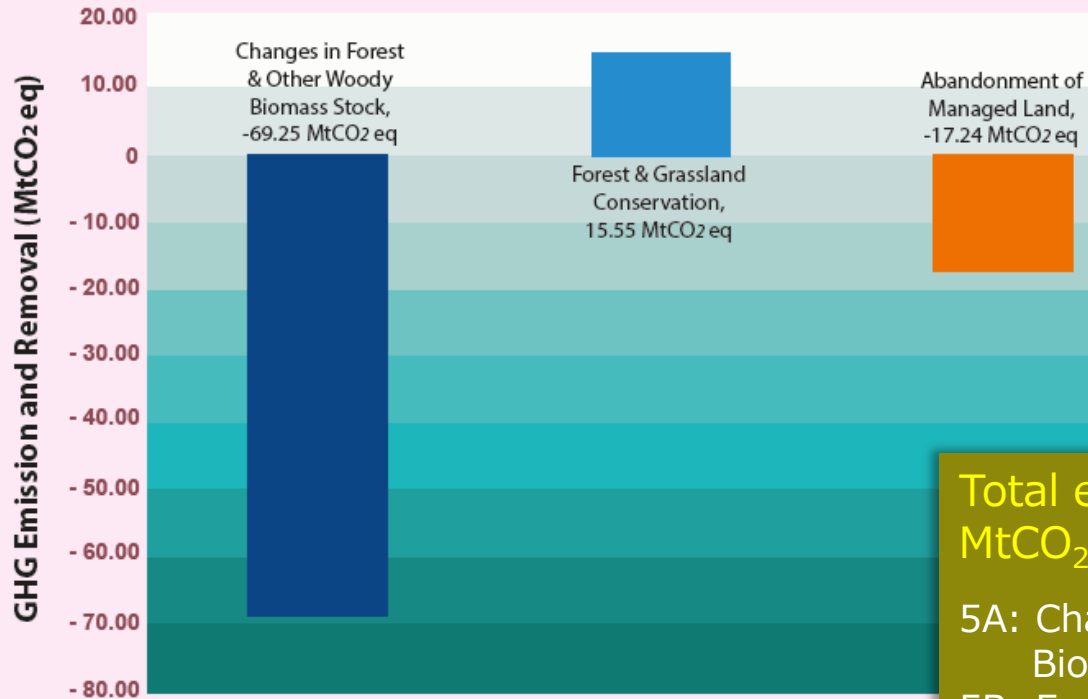
# GHG Emission from Agriculture, 2011



Total Emission = 52.92 MtCO<sub>2</sub>eq

- 4A: Enteric Fermentation
- 4B: Manure Management
- 4C: Rice Cultivation
- 4D: Agricultural Soils
- 4F: Field Burning of Crop Residues

# GHG Emission from LULUCF, 2011



Total emission = -70.94  
MtCO<sub>2</sub>eq

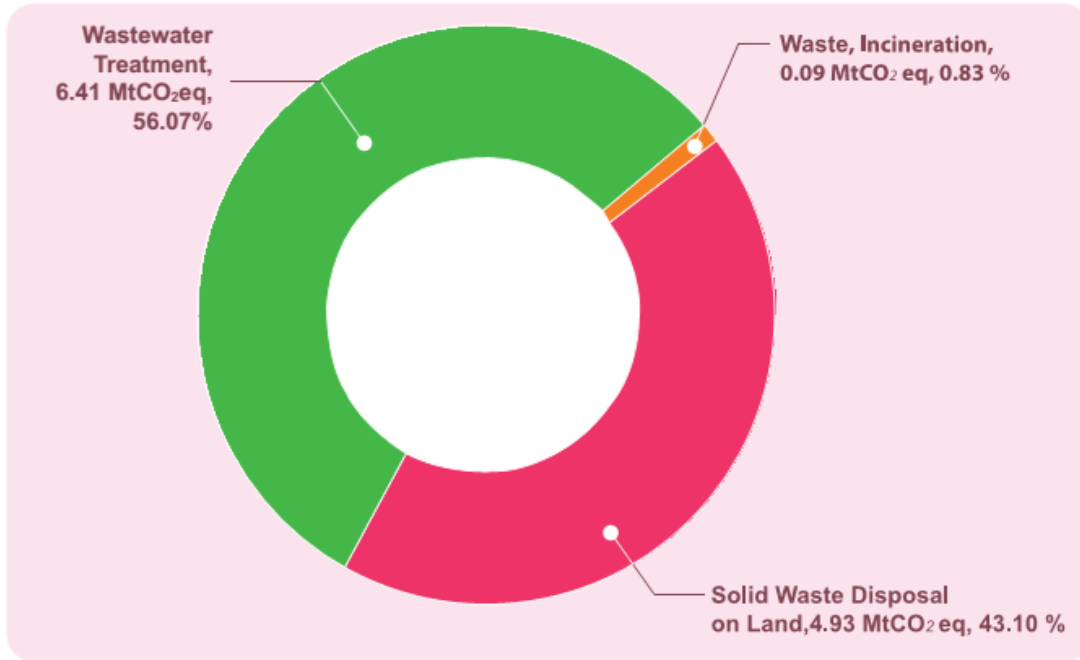
5A: Change in Forest & Other Woody  
Biomass Stocks

5B: Forest and Grassland  
Conservation

5C: Abandonment of Managed Land



# GHG Emission from Waste, 2011



Total Emission = 11.43  
MtCO<sub>2</sub>eq

6A: Solid Waste Disposal  
6B: Wastewater Treatment  
6C: Waste Incineration

# 5 Mitigation Measures

## Key National Policy, Plan and Strategy

- 11<sup>th</sup> National Economic and Social Development Plan (2012 – 2016)
  - Alternative Energy Development Plan (AEDP) (2015 – 2036)
  - Energy Efficiency Plan (EEP) (2015–2036)
  - Power Development Plan (PDP) (2015 – 2036)
  - Environmentally Sustainable Transport Master Plan (2011 – 2020)
- 
- National Climate Change Master Plan (2015 – 2050)
  - National Appropriate Mitigation Actions (NAMA)
  - Intended Nationally Determined Contributions (INDCs)

## 11<sup>th</sup> National Economic and Social Development Plan (2012 – 2016)

- To develop an efficient and sustainable economy by upgrading production and services based on technology, innovation and creativity, by improving food and energy security, and upgrading eco-friendly production and consumption toward a low-carbon society.
- Environmental quality will be improved to meet international standards, reduction of GHG emissions will be more efficient, and forest areas will be expanded to restore balance to the ecology.

## National Climate Change Master Plan (2015 – 2050)

Thailand will achieve sustainable low carbon growth and climate change resilience by 2050.

## Intended Nationally Determined Contributions (INDCs)

INDCs were submitted to UNFCCC in October 2015:

**“GHG emission would be reduced by 20% from BAU level by 2030, and up to 25% if supported by international organization.”**

## National Appropriate Mitigation Actions (NAMA) toward 2020

- 7–20% reduction of GHG emissions below BAU in energy & transportation in 2020
- Development of renewable & alternative energy sources
- Energy efficiency in industries & buildings
- Transportation & power generation
- Bio-fuels in transport
- Environmentally sustainable transport system

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**THANK YOU**

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