

# **Korea's National System and GHG Inventory in 2010**

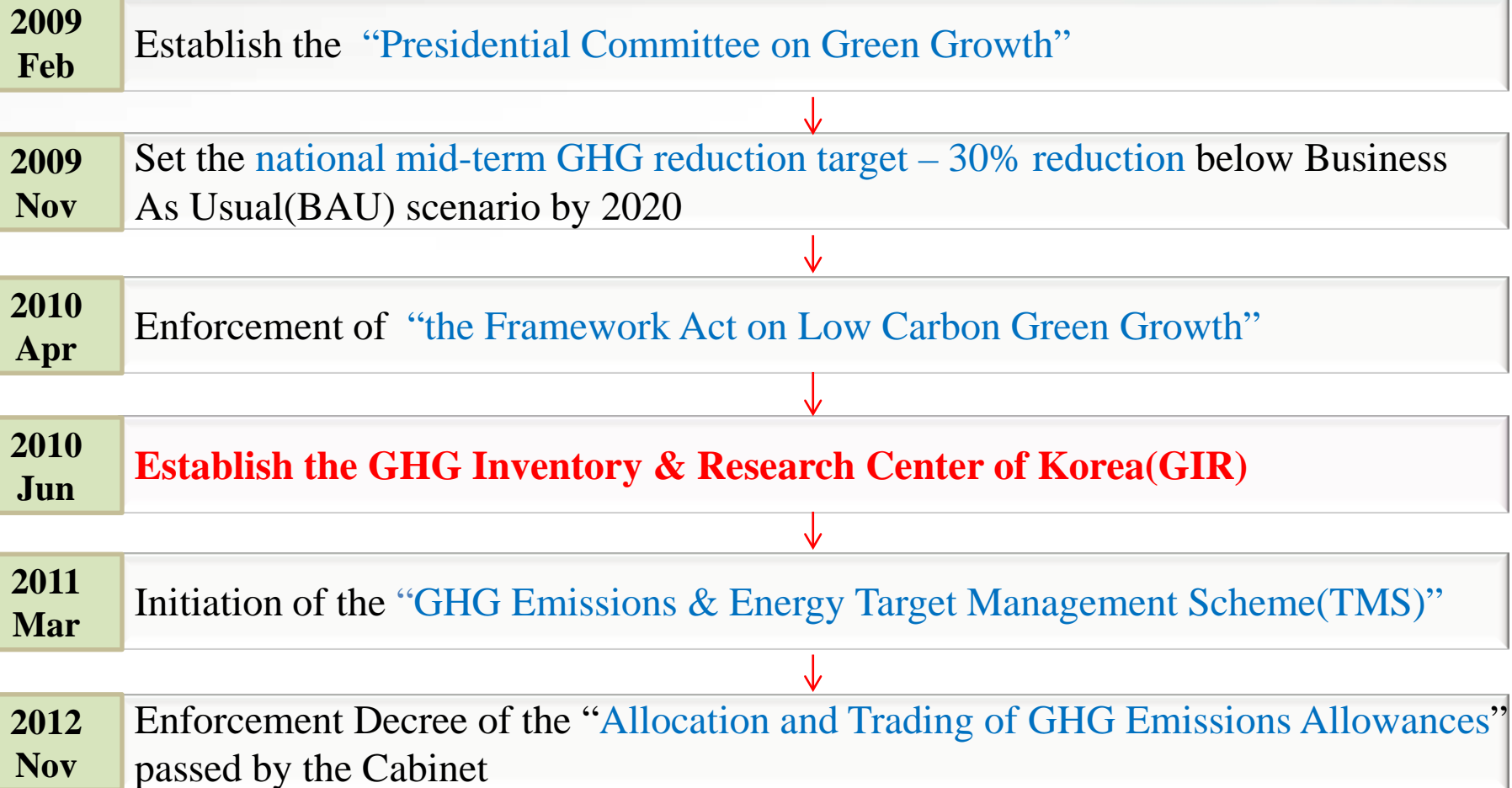
Dr. Lee, Sang Won  
Korea Environmental Corporation (KECO)  
Republic of Korea



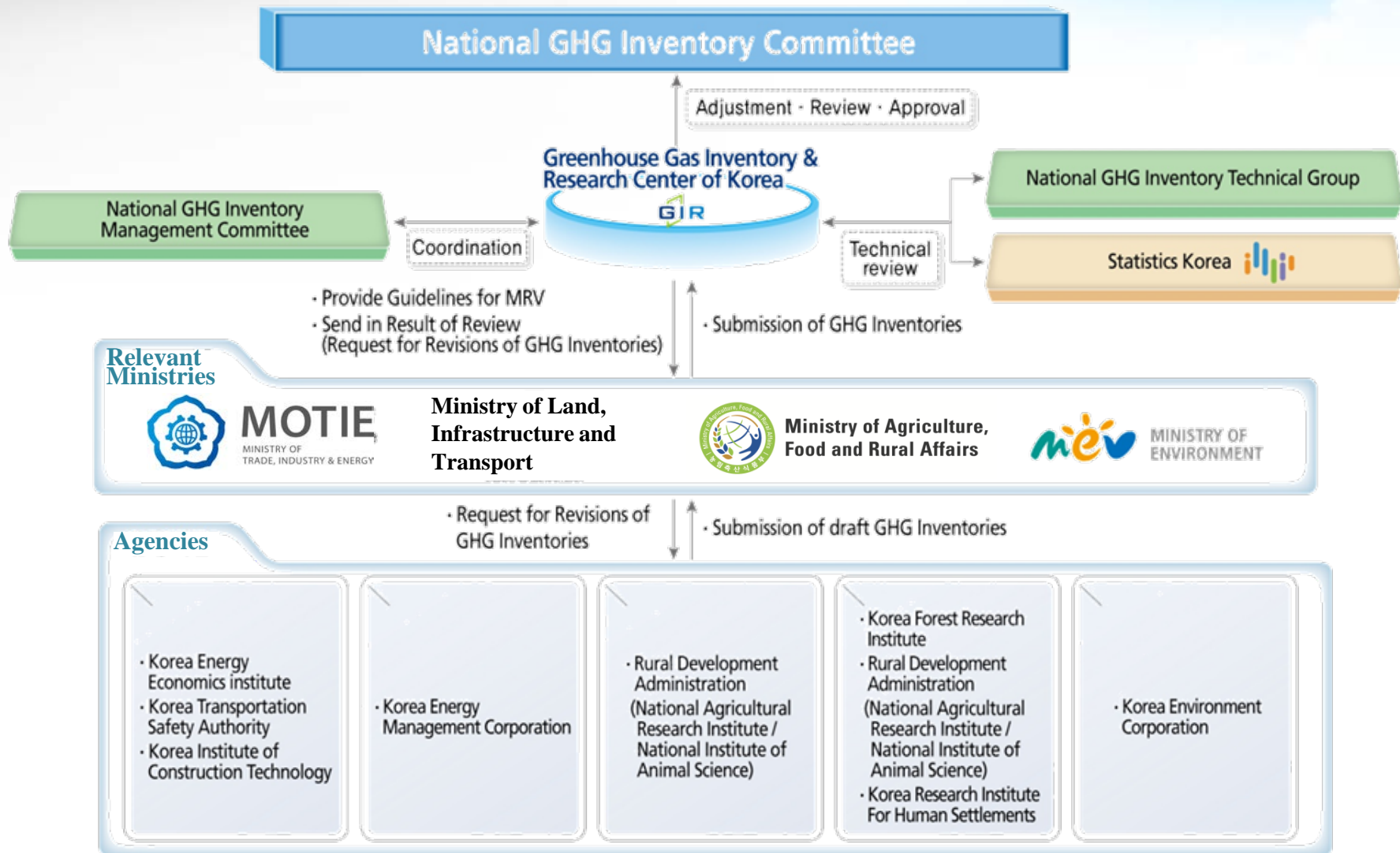
# Overview

- **ROK's national system for GHG inventory**
  - Based on “The Framework Act on Low Carbon, Green Growth” enacted in 2010
  - Designated the MOE as the representative body in charge of the national GHG inventory
  - Establishment of the GHG Inventory and Research Center of Korea (GIR) for an efficient national GHG inventory system.

# History of development of national system



# Institutional Arrangement



# Key Organizations

## ➤ National GHG inventory committee

- Adjustment, review, and approval of the national GHG inventory
- Adjustment, review, and approval of country-specific GHG emission factors and removal factors
- Adjustment, review, and approval of NIR and CRF
- Adjustment, review, and approval of international report regarding the national GHG inventory and related information
- Adjustment, review, and approval of general information on the national GHG inventory

# Key Organizations

## ➤ Greenhouse Gas Inventory & Research Center of Korea(GIR)

- Planning and implementation for the overall management of the national GHG inventory
- Management of QA/QC for the national GHG inventory
- Preparation of the Guidelines for Measurement, Reporting, and Verification (MRV) for the National GHG Inventory
- Domestic verification for the national GHG inventory
- Preparation for National Inventory Report (NIR) and Common Report Format (CRF)
- Verification and decision on country-specific emission factors and removal factors
- Management and operation of National GHG Management System (NGMS)

# Key Organizations

## ➤ National GHG inventory management committee

- Coordination of MRV for the national GHG inventory
- Coordination of development and verification of the national GHG country-specific emission factors and removal factors
- Coordination of establishment and revision of the Guidelines for MRV for the National GHG
- Inventory and the Guidelines for National GHG Country-Specific Emission Factors and Removal Factors

※ The head of the committee is GIR and members are public officers (above director level) from the Presidential Committee on Green Growth, Ministry of Trade, Industry & Energy, Ministry of Land, Infrastructure and Transport, Ministry of Agriculture, Food and Rural Affairs, Ministry of Environment, Statistics Korea, etc.

# Key Organizations

## ➤ National GHG technical group

- Technical review of NIR and verification report
- Technical review of country-specific GHG emission factors and removal factors
- Technical review of the Guidelines for MRV for the National GHG Inventory and the Guidelines for National GHG Country-Specific Emission Factors and Removal Factors

※ Technical Group will be consisted of **experts from the GIR, Statistics Korea, and recommended by the relevant ministries(MOTIE, ME, MAFRA, MLIT) and by the President of the GIR**



# Key Organizations

## ➤ Relevant Ministries

- In accordance with Article 36, Paragraph 4 of the Framework Act on Low Carbon, Green Growth, relevant ministries required to submit GHG inventories are the **Ministry of Agriculture, Food and Rural Affairs (agriculture, forestry); Ministry of Trade, Industry & Energy (energy, industrial processes); Ministry of Environment (waste); and Ministry of Land, Infrastructure and Transport (construction and transport).**

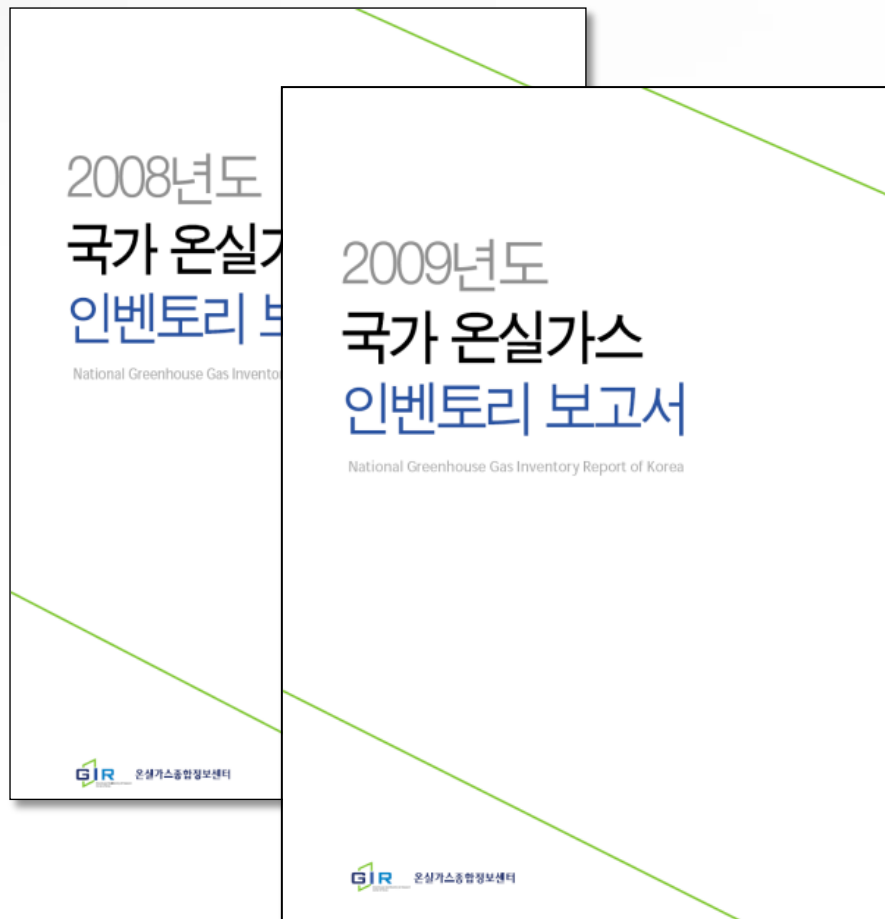
# Key Organizations

## ➤ Agencies

- Agencies, which are designated by the relevant ministries, conduct the task of preparing GHG inventory for each sector, respectively.

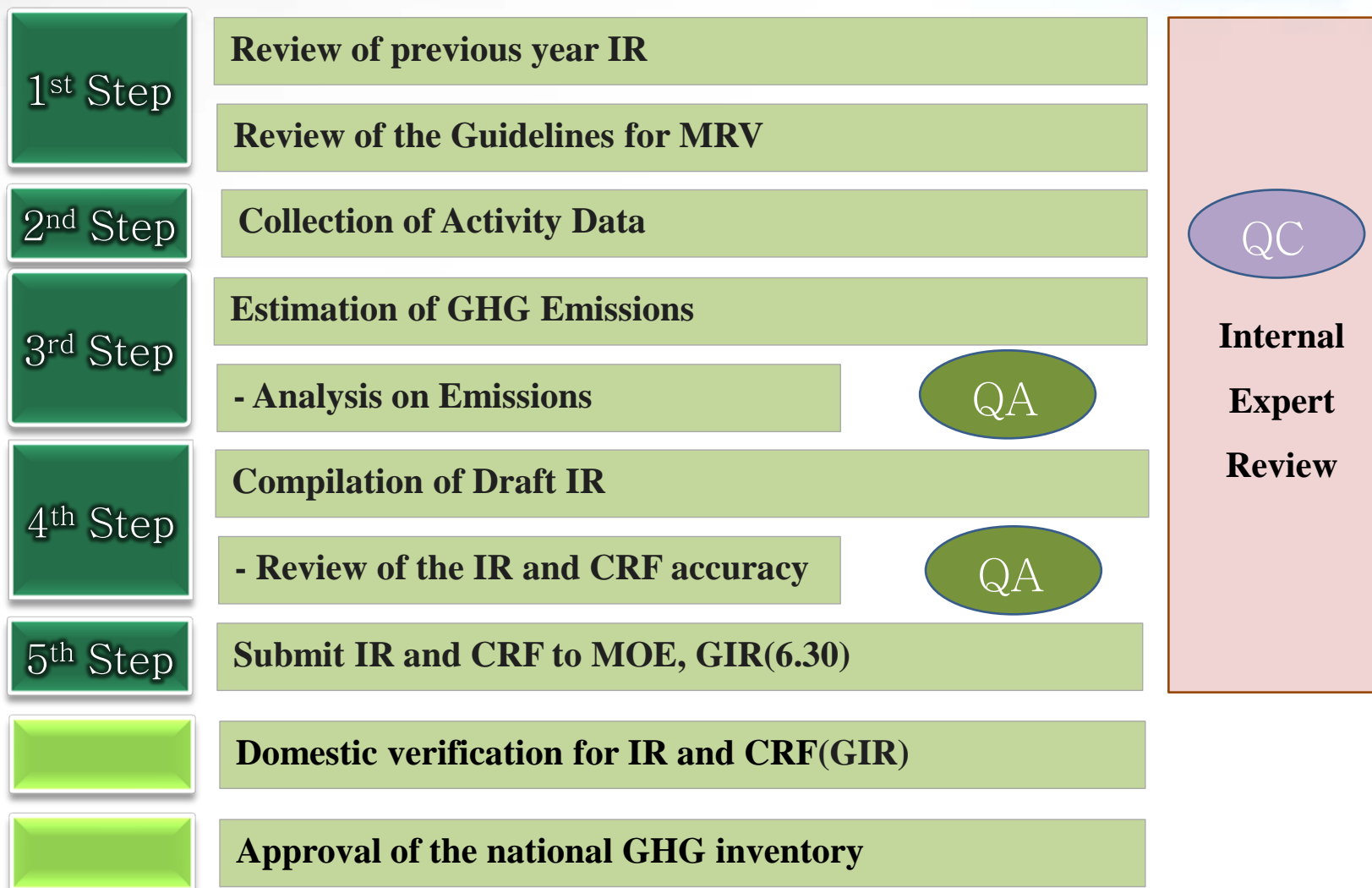
※ Agencies include Korea Energy Economics institute, Korea Institute of Construction Technology, Korea Transportation Safety Authority, Korea Energy Management Corporation, National Agricultural Research Institute, National Institute of Animal Science, Korea Forest Research Institute, and **Korea Environment Corporation.**

# Annual Schedule for National GHG Inventory



- Guideline for MRV in Feb, 2012
- Draft for CRF and NIR submitted from agencies by Jun, 2012
- Verification by GIR between July, 2012 and Nov, 2012
- Review report and final draft of NIR in the end of 2012
- Publication for 2010 Inventory Reports in 2012

# Inventory Compilation Process



# QA/QC Activity

## Ex) Waste Sector

### Emission calculation by various methods

- Compare with the results respectively and check the differences.

### Review EF

- Cross check country specific EF with IPCC default EF

### Review Activity data

- Compare IPCC D.V. with country specific data as the activity level parameter : MSWt, MSWf, DOC
- Review the route for data collection method and compare with value of previous year' Evaluating second data source and QA/QC referencing

### Review with expert

- Review the input parameter with the relative expert : Solid waste stream, characteristic, MCF

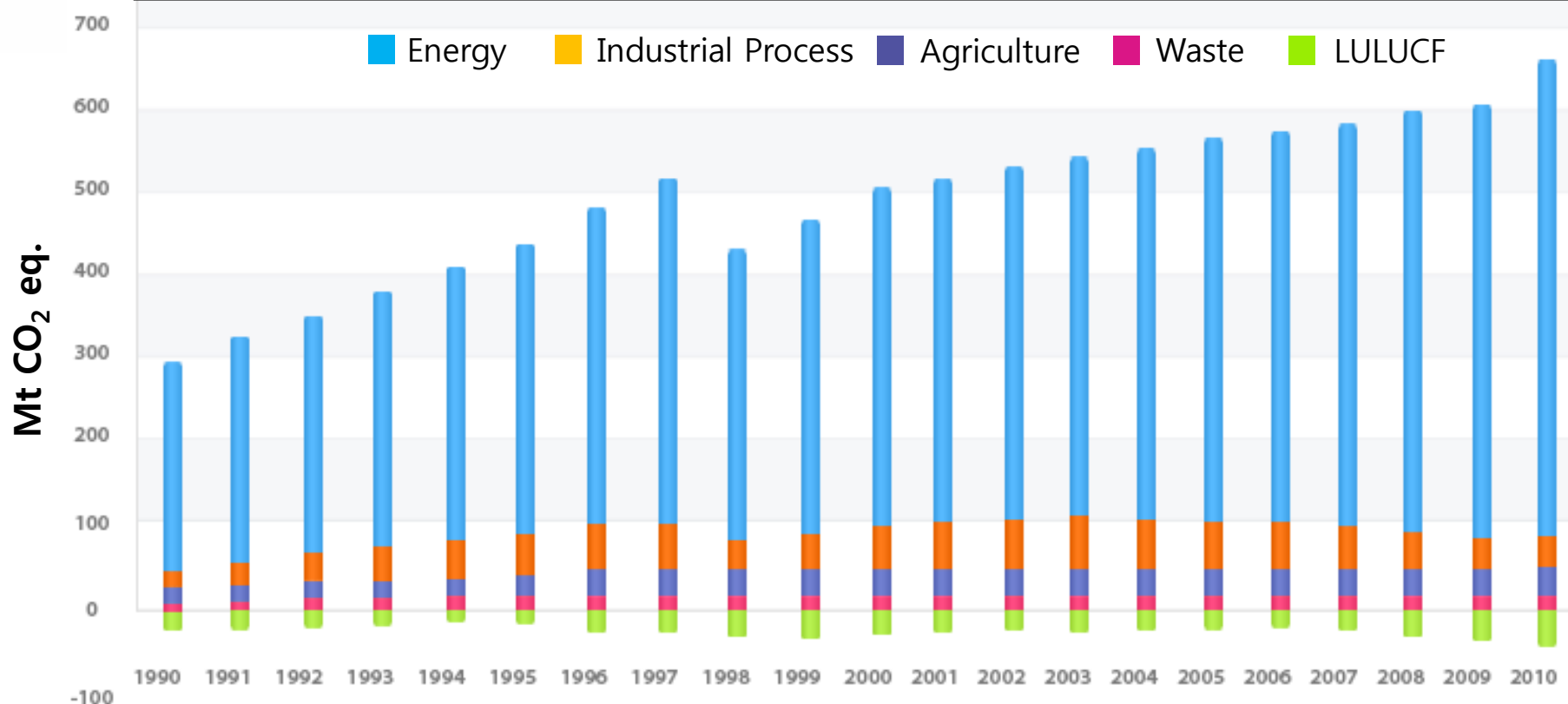
### Verification of the calculated emission

- Compare with the emission of other country similar in size
- Examine the error and any differences during the process

# National GHG Inventory of 2010

- Trends in GHG emissions and removals

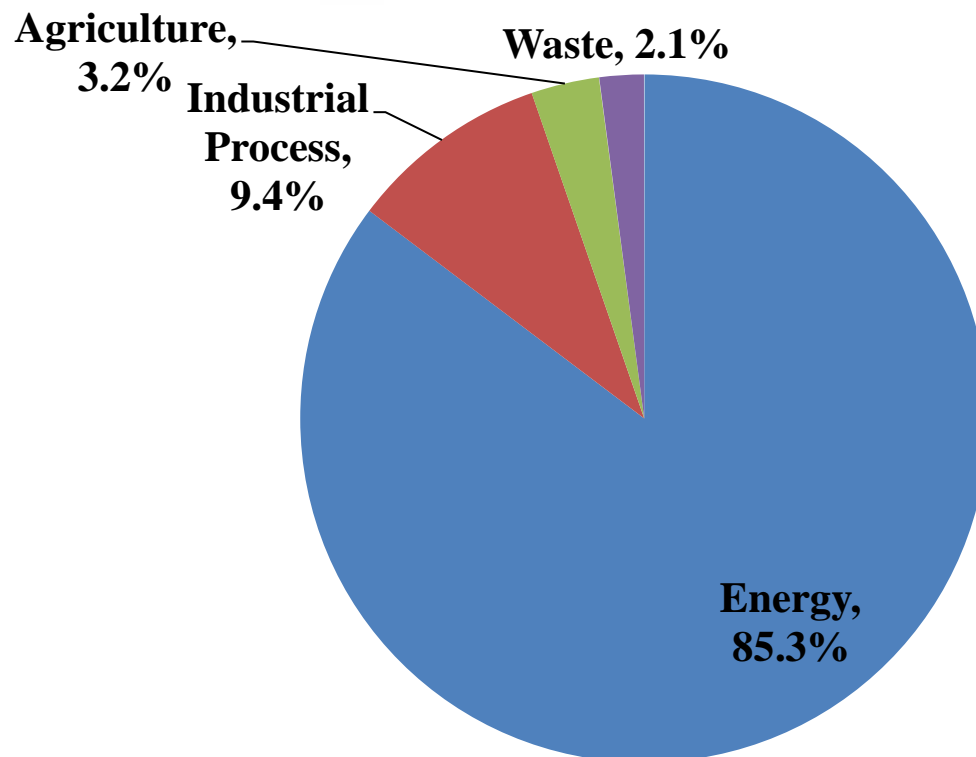
– Total GHG emission were 668.8 Mt CO<sub>2</sub> eq. in 2010  
• 9.8% increase from 2009



# National GHG Inventory of 2010

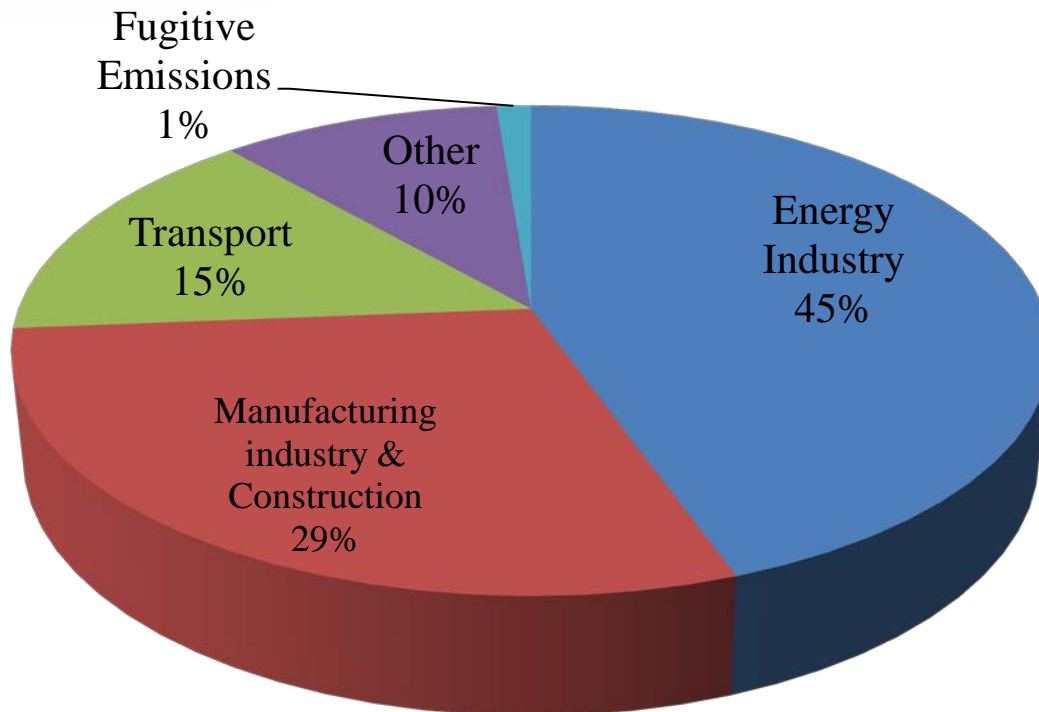
- **GHG emissions by sector**

– Energy sector 85.3%, industrial processes 9.4%, agriculture 3.2%, waste 2.1%



- **GHG emissions in energy sector**

– Energy Industry 45%, Manufacturing industry & Construction 29%, Transport 15%, Other 10%, Fugitive Emissions 1%

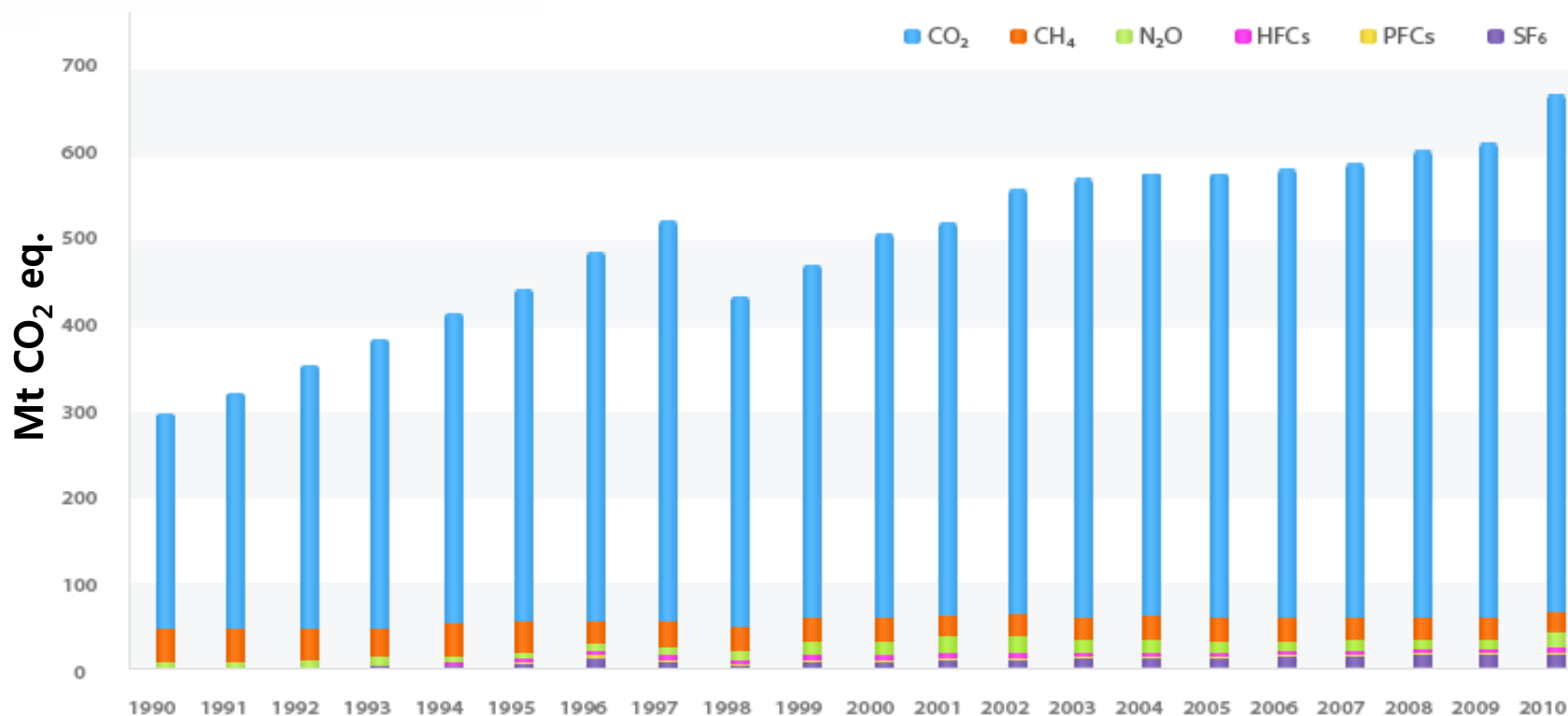




# National GHG Inventory of 2010

- **GHG emissions by sources**

- 89.1% of CO<sub>2</sub>, 4.2% of CH<sub>4</sub>, 2.9% of SF<sub>6</sub>
- 2.1% of N<sub>2</sub>O, 1.2% of HFCs, 0.4% of PFCs



# Thank You

