

# National GHG Inventory in 2011 and Local GHG Inventory

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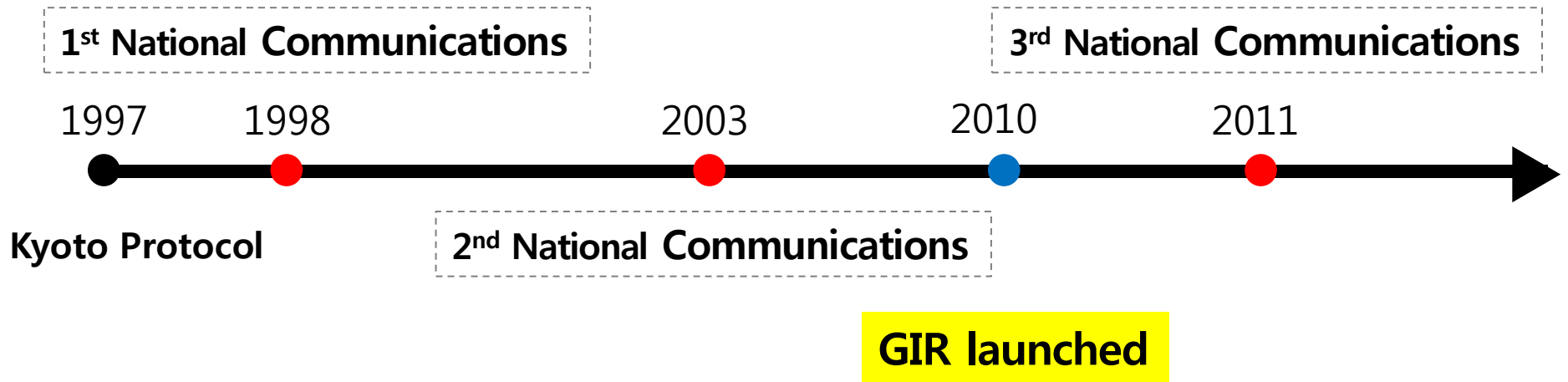
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# 1. Current Status of GHG Inventory in Korea



- **GIR**(Greenhouse gas Inventory & Research center of Korea), launched in June, 2010, systematically manages National GHG Inventory and Emission.

**“Framework act on Low carbon and Green Growth” Article 45**  
**(Establishment of Integrated Information Management System for GHG)**

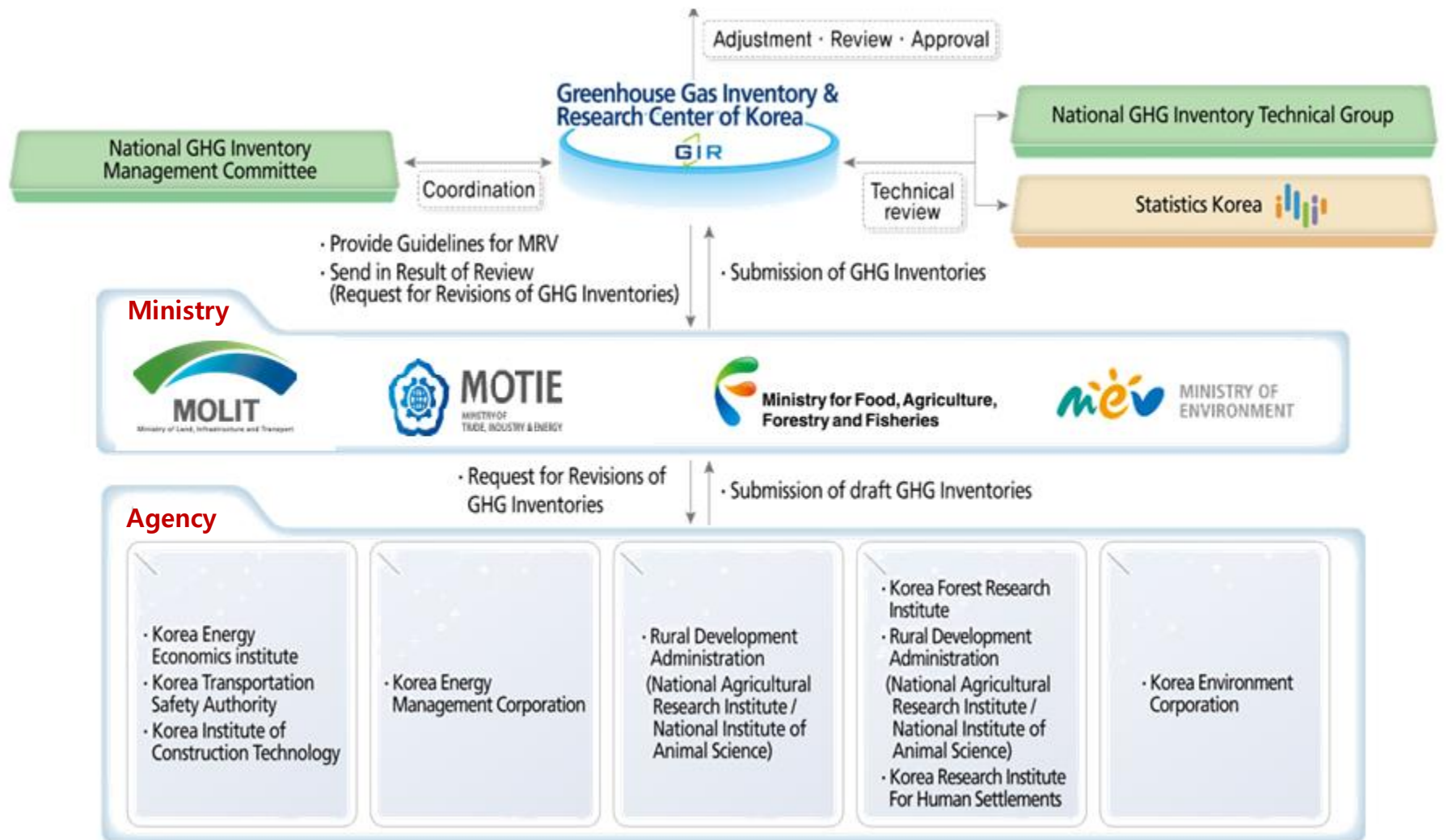
**The Government** will establish an **integrated information management system for greenhouse gases** through which it will develop, verify, and manage the State’s quantity of greenhouse gases emitted and absorbed, the emission and absorption factors, and various information and statistics related to greenhouse gases.

## 2. History of national system development



# 3. Institutional Arrangement

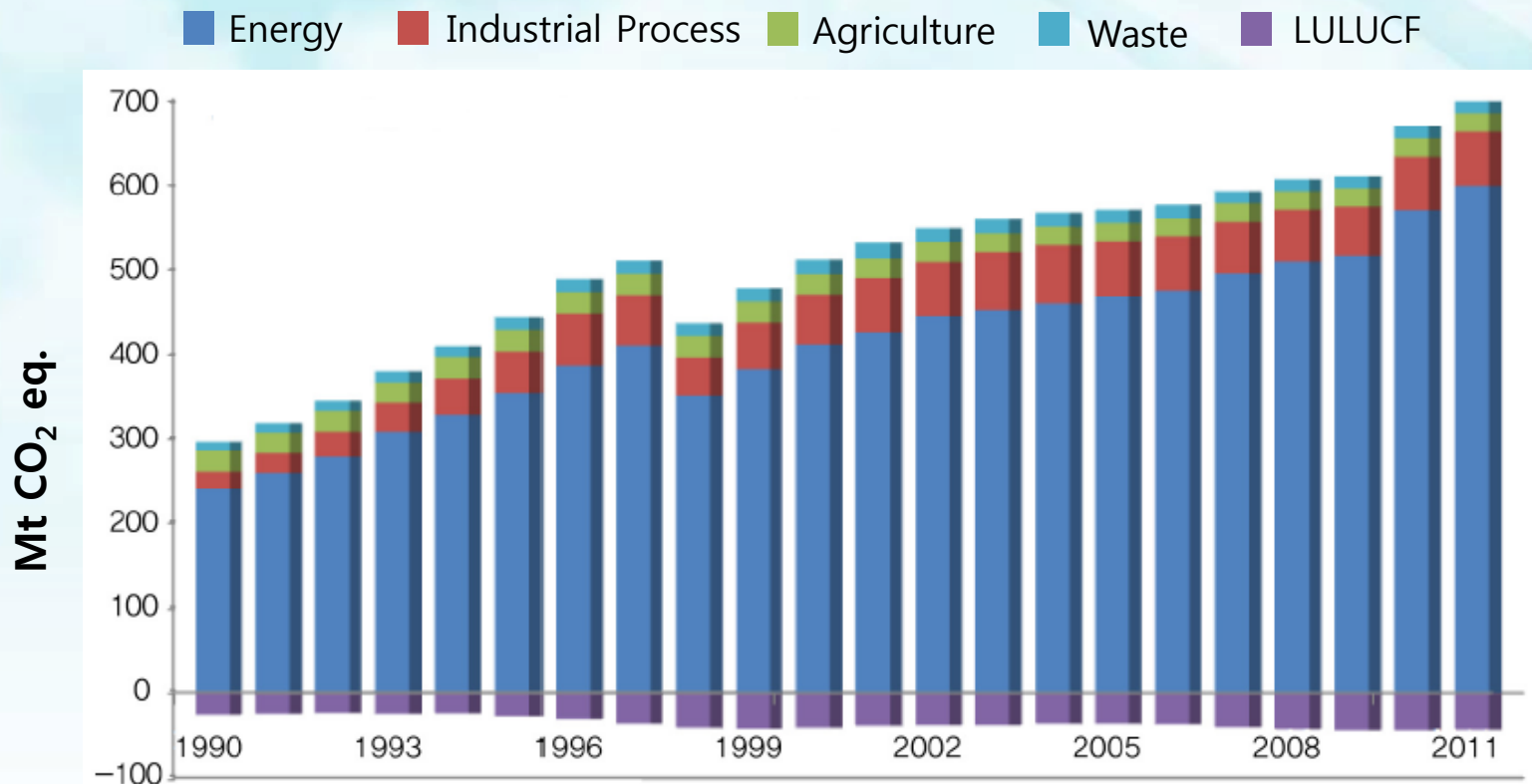
## National GHG Inventory Committee



# 4. National GHG Inventory in 2011

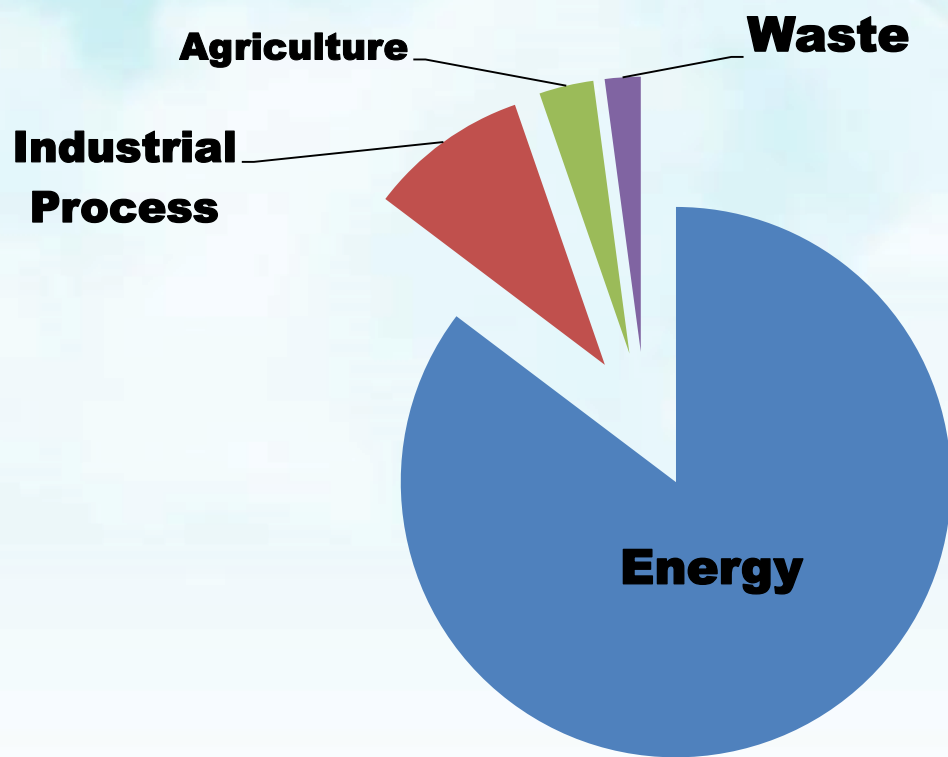
- Trends in GHG emissions and removals

- Total GHG emission were 697.7 Mt CO<sub>2</sub> eq. in 2011
  - 4.5% increase from 2010



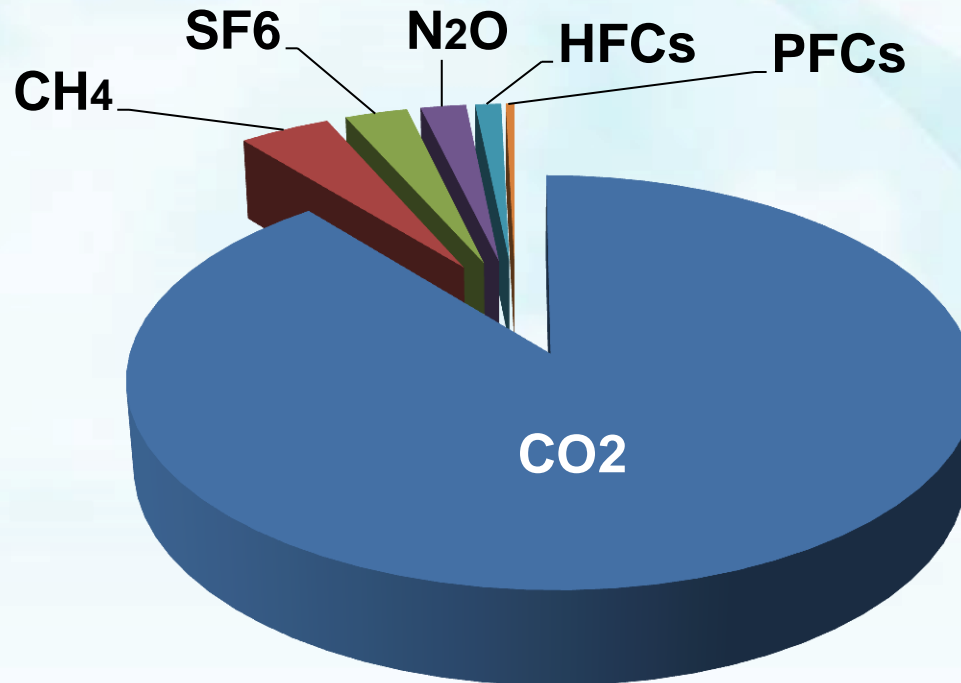
- GHG emissions by sector

**Energy 85.7%**    **Industrial process 9.1%**    **Agriculture 3.2%**    **Waste 2.1%**



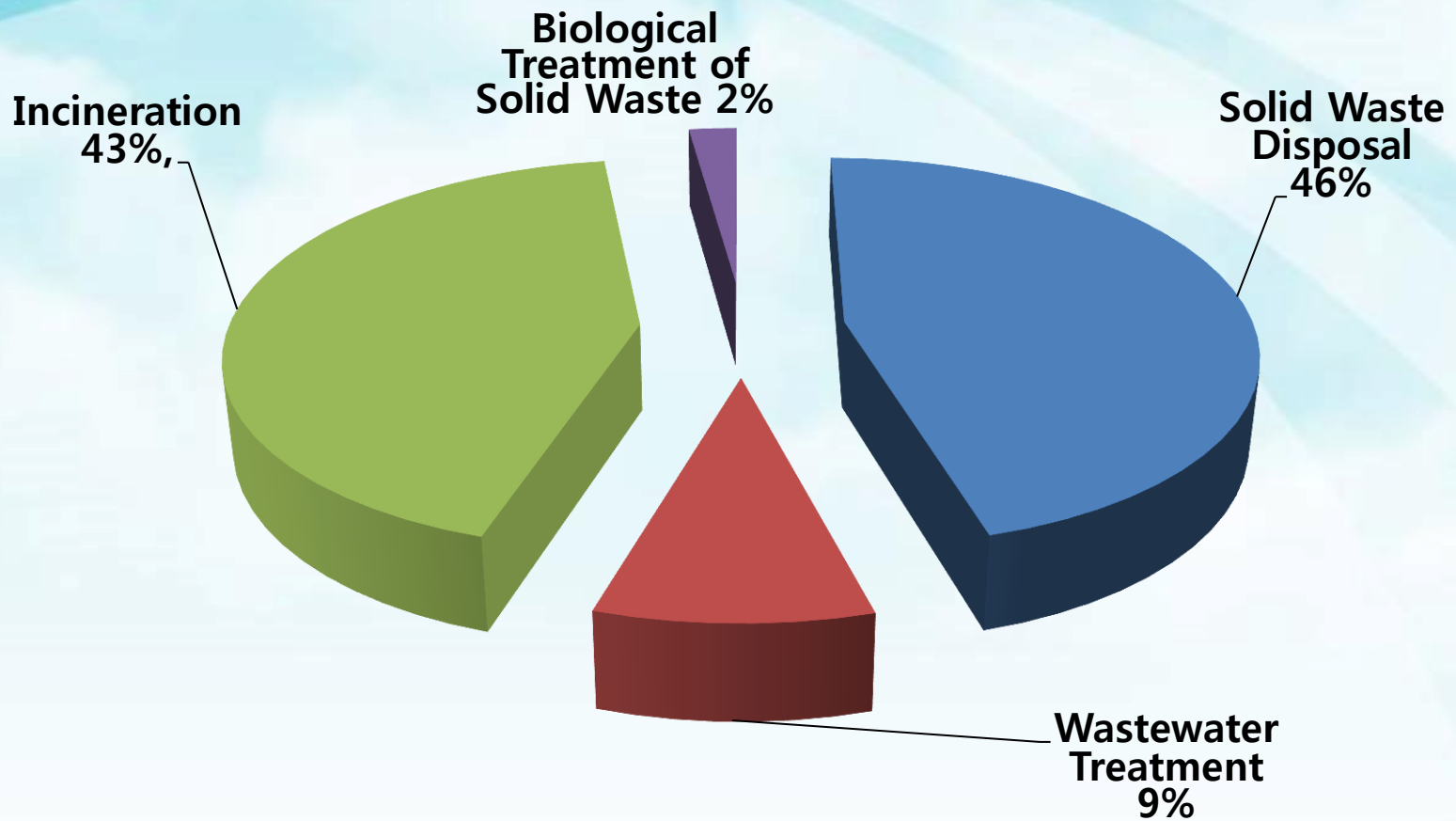
- GHG emissions by gases

**CO<sub>2</sub> : 89.4%   CH<sub>4</sub> : 4.2%   SF<sub>6</sub> : 2.7%   N<sub>2</sub>O : 2.1%   HFCs : 1.2%   PFCs : 0.4%**





- **GHG emissions of Waste sector**





## **II. Local GHG Inventory**

# 1. Background & Objectives

## Background

- ◆ Enforcement of Low carbon, green growth law
- ◆ The lack of skilled experts in Local Government
- ◆ Non-comparable inventories among local governments

## Objectives

- ◆ Estimate GHG inventories with high reliability and comparability
  - publish 'Local Government Inventory Guideline'
- ◆ Foster local climate change & inventory experts
- ◆ Help the local government to develop a strategy for reducing emissions

## 2. Progress

1st  
(2009)

- Publish "Local government Inventory G/L"

2nd  
(2010~2012)

- Estimate GHG inventory **16** Metropolitan city/Provinces
- Estimate GHG inventory 230 cities, etc.
- Provide adjusted guideline for local government

3rd  
(2013~)

- **Verification** for local government inventory
- **Educate inventory experts in local government**
- Provide adjusted guideline for local government

## Role

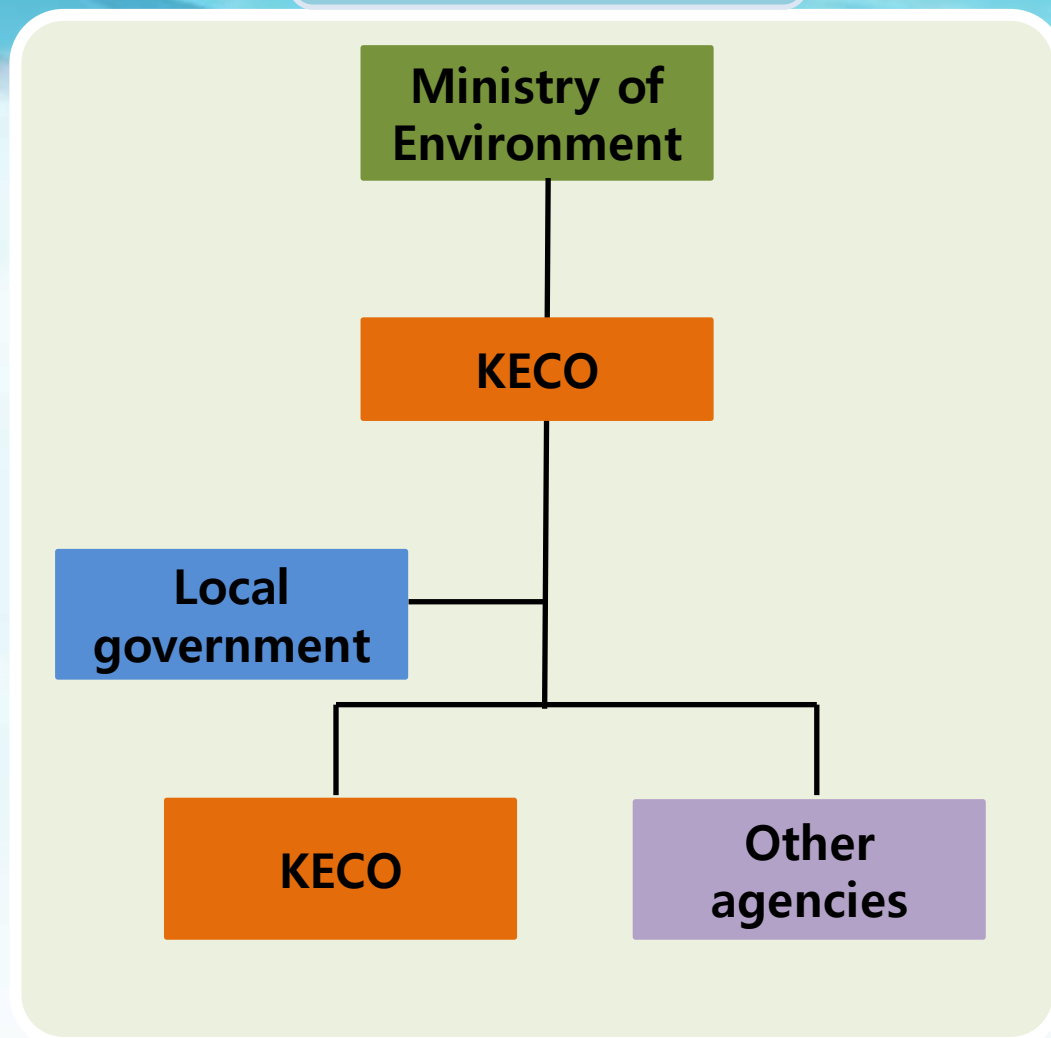
- Business Executive
- Support for local government

- Estimated Result Review

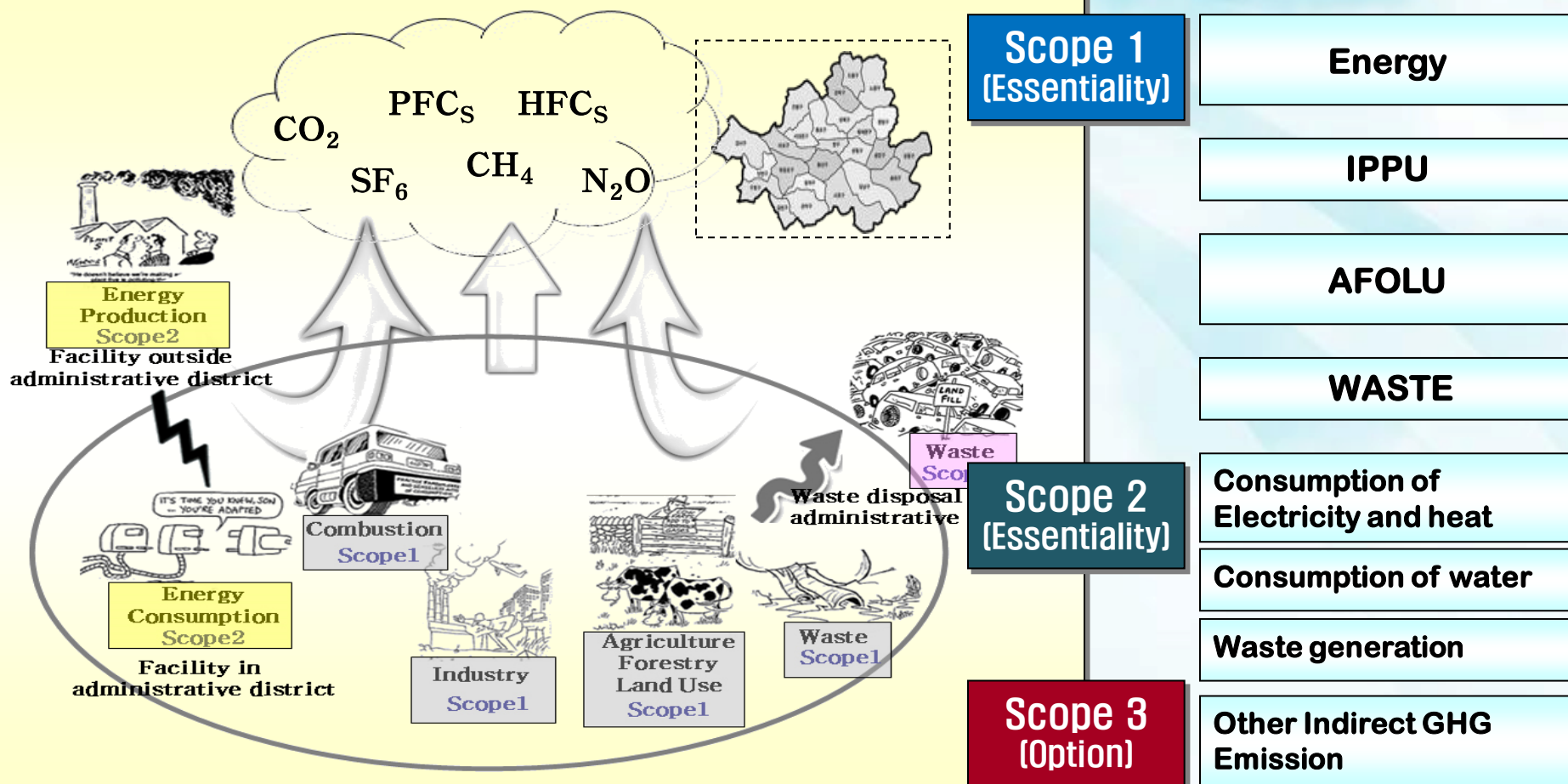
- Collection of Activity data
- Idea suggestion

- Activity data/  
Emission factor research
- Estimate GHG inventory

## Organization



# 3. Concept of Local Government GHG Inventories



# 4. Inventory Guideline by KECO

Classifications			Explanation
Scope1			All direct sources(sinks) in a local government
	Scope1-A		Direct sources managed by a local government
		Scope1-A-a	Direct managed sources
		Scope1-A-b	Indirect managed sources
	Scope1-B		Direct sources not managed by a local government
Scope2			All indirect sources in a local government
	Scope2-A		Indirect sources managed by a local government
		Scope2-A-a	Direct managed sources
		Scope2-A-b	Indirect managed sources
	Scope2-B		Indirect sources non managed by a local government
Scope3			Sources managed by a local government out of the administrative district
	Scope3-A		Direct sources
	Scope3-B		Indirect sources

Provision	Explanation
<b>Object</b>	- <b>Local governments</b> in Republic of Korea
<b>Basic scheme</b>	- Apply <b>top-down</b> method (partly bottom-up)
<b>Categories</b>	- Following to <b>categories in 2006 IPCC G/L</b>
<b>Scopes</b>	- Dividing into <b>direct emissions and indirect emissions</b> - Dividing into <b>the managing sources(direct and indirect)</b> and <b>unmanaging sources</b>
<b>Methodology</b>	- <b>Direct emissions</b> : Applying 2006 IPCC G/L - <b>Indirect emissions</b> : Applying national indirect emission factor by year and by sector
<b>Emission factor</b>	- Based on <b>emission factors in 2006 IPCC G/L</b> (partly country-specific emission factor)
<b>Activity data</b>	- Data collected in the <b>competent authorities</b> (National Statistical Office, PEDESIS, local governments etc)
<b>Estimating categories</b>	- Estimating <b>the entire categories in 2006 IPCC G/L</b> (Energy, Industrial Process and Product Use, AFOLU, Waste)
<b>Result</b>	- <b>Direct and indirect emissions</b> by IPCC categories and by managing sources - <b>Overall emissions</b> considering the direct and indirect net emissions
<b>Availability on reduction policies</b>	- <b>Understanding on the net emissions</b> of included areas by separating direct emissions and indirect emissions - Investigation “ <b>production –consumption</b> ” relationship among local governments - Dividing into <b>managing sources (direct and indirect)</b> and <b>unmanaging sources</b> and establishing <b>differentiated policies</b>



## Reputable GHG Inventory

- ▶ Applying **2006 IPCC G/L**
- ▶ Estimating GHG emissions **on the entire sources**
- ▶ **Support local governments** at national level
- ▶ **Top-down and Bottom-up** method

## Unified Methodology

- ▶ **Fairness** on GHG emissions among local governments
- ▶ **Comparability** among local governments

## Reduction Strategy of local government

- ▶ **Direct and indirect manage sources**
- ▶ **Direct and indirect emissions**
- ▶ **Overall emissions**
- ▶ Applying the methodology considering **the management capacity**

# 5. Achievements of Local inventory



Enable us to compare national and each local Governments in a quantitative and reliable way



Utilize GHG inventory as basic data for defining emission sources and establishing a reduction strategy for local government



Local Government will play an important role in developing 'National green growth strategy' with the help of KECO

# Thank You

