National GHG Inventory to Realize Article 6 and 13 – Case of Korea

2024. 11. 14.(Thu)

Jongchul Bang, Ph.D. (GIR)

Greenhouse Gas Inventory
and Research Center of Korea

- **By 2030, Korea needs to secure 37.5MtonCO_2e of GHG reduction through international projects**

Sector	2030 Targets (Reduction from 2018)	Policy Direction
Energy Transformation	145.9 (45.9%)	• Switch energy sources for decarbonization • Build infrastructure for renewable energy • Increase demand efficiency
Industries	230.7 (11.4%)	• Secure reduction technology • Improve ETS scheme
Buildings	35.0 (32.8%)	• Zero-energy building, green remodeling
Transport	61.0 (37.8%)	• Zero-emission vehicles (electric and hydrogen)
Agriculture, Livestock, and Fisheries	18.0 (27.1%)	• Smart-farm, low-methane feed • Low-carbon fishing vessels
Waste	9.1 (46.8%)	• Reduce disposable products • Circular use
Overseas Reduction	-37.5	• Develop guidelines and projects

Source: Ministry of Environment, Republic of Korea. 2023. "The Yoon's administration's blueprint for achieving carbon neutrality and green growth revealed." Press Release, March 3.

- **Legislations regarding international mitigation projects**

[Agreement for Cooperation on Climate Change]

➢ With 7 countries (Vietnam, Mongolia, Gabon, Uzbekistan, UAE, Peru and Morocco)

[Framework Act on Carbon Neutrality and Green Growth]

Article 35 (Implementation of International Mitigation Projects)

➢ Submission of the project plan containing the details of the project, estimated GHG reductions, etc.
➢ Conduct of monitoring to prove the amount of GHG emission reductions attained from the project, and Preparation of the monitoring report in a measurable, reportable, and verifiable manner
➢ Registration of the reported international mitigation outcomes in the international mitigation register
➢ Utilization of the international mitigation outcomes to achieve the national reduction targets

- **Legislations regarding international mitigation projects (cont'd)**

[Enforcement Decree of the Framework Act on Carbon Neutrality and Green Growth]

Article 33 (International Mitigation Council)

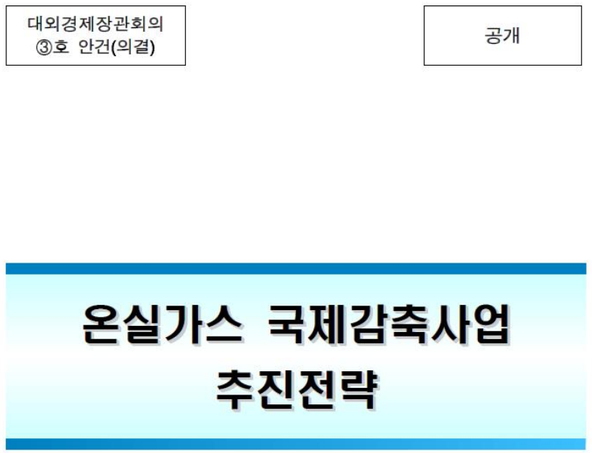
- Establishment of the International Mitigation Council to deliberate on and coordinate matters regarding international mitigation projects

Article 35 (International Mitigation Register)

- Preparation and management of an international mitigation register to register and manage the international mitigation projects and the international mitigation outcomes
- The international mitigation register may be linked to a reporting platform built in accordance with Article 6 of the Paris Agreement and Decisions adopted by the CMA

GIR is in charge of developing International Mitigation Register System (2022~2027)

- **Strategy for international GHG mitigation projects (2022)**


대외경제장관회의
③호 안건(의결)

공개

온실가스 국제감축사업
추진전략

2022. 8. 19.

관계부처 합동

Strategy	Action Plan
Building domestic framework	1. Establishing rules and framework 2. Preparing support strategy 3. Designing support models
Creating G2G business condition	1. Expanding bilateral cooperations 2. Utilizing trust funds and int'l agencies 3. Strengthening global network
Stimulating business development	1. Supporting new businesses 2. Supporting funding and business structuring 3. Reducing the burden of business procedures

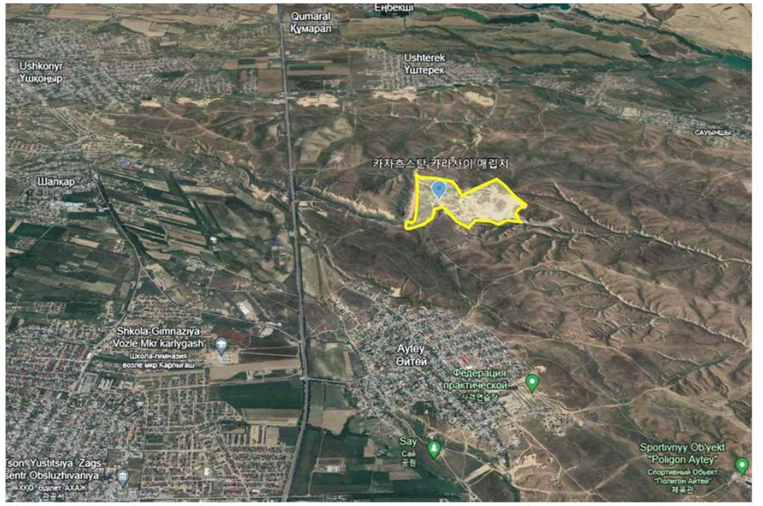
- **Examples of international mitigation projects**

[Mongolia]

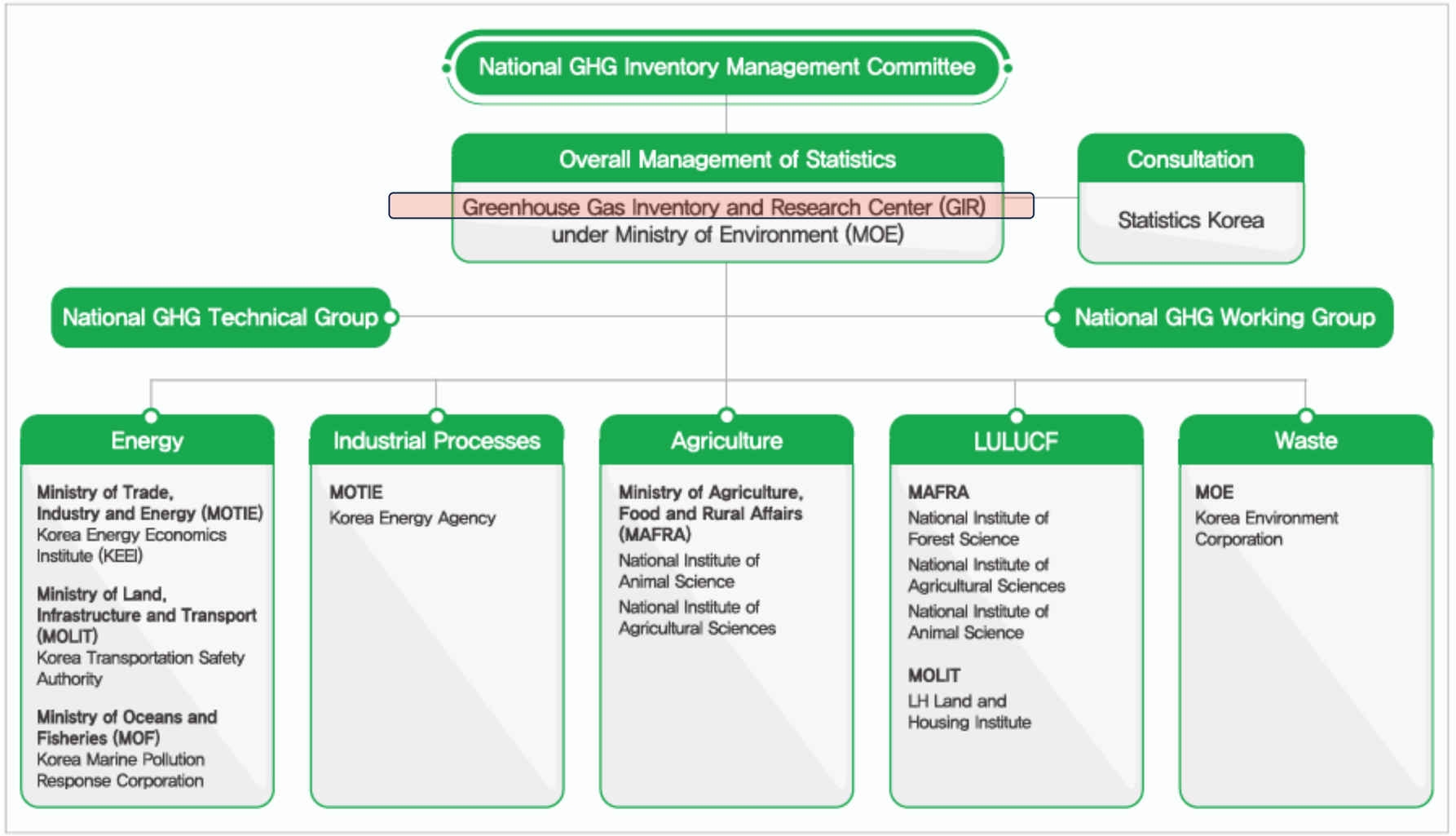
- Capturing and Burning Landfill gas from Narangiin Enger Disposal Site (NEDS)
- Expected mitigation : 550ktonCO_2e for 10 years
- Budget : 5.4 billion KRW(approx. 4 million USD)

[Kazakhstan]

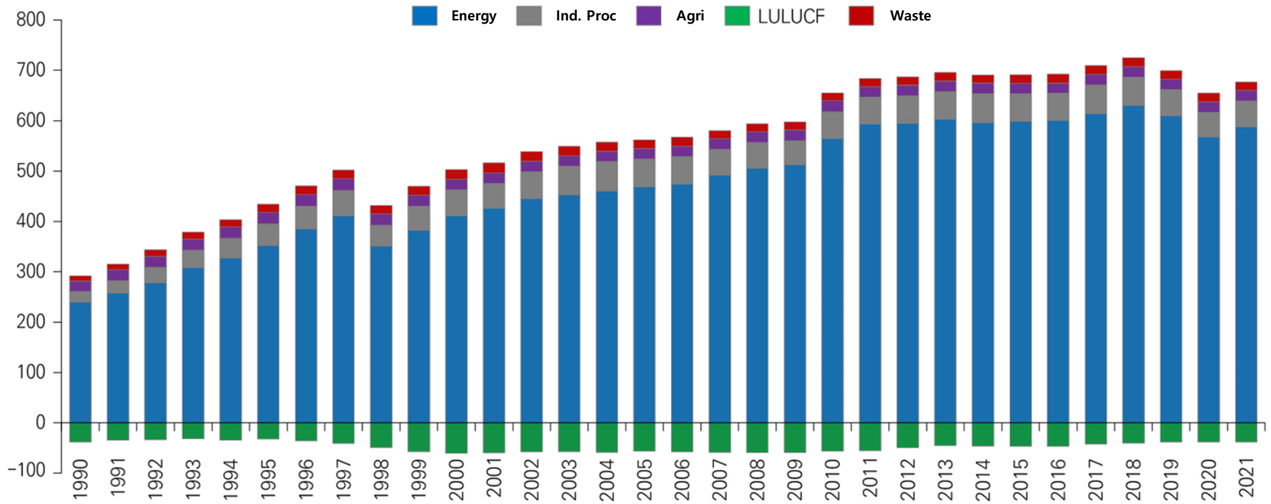
- Capturing landfill gas from Karasai and Converting it to electricity
- Expected mitigation : 6.17MtonCO_2e for 15 years
- Feasibility study in progress

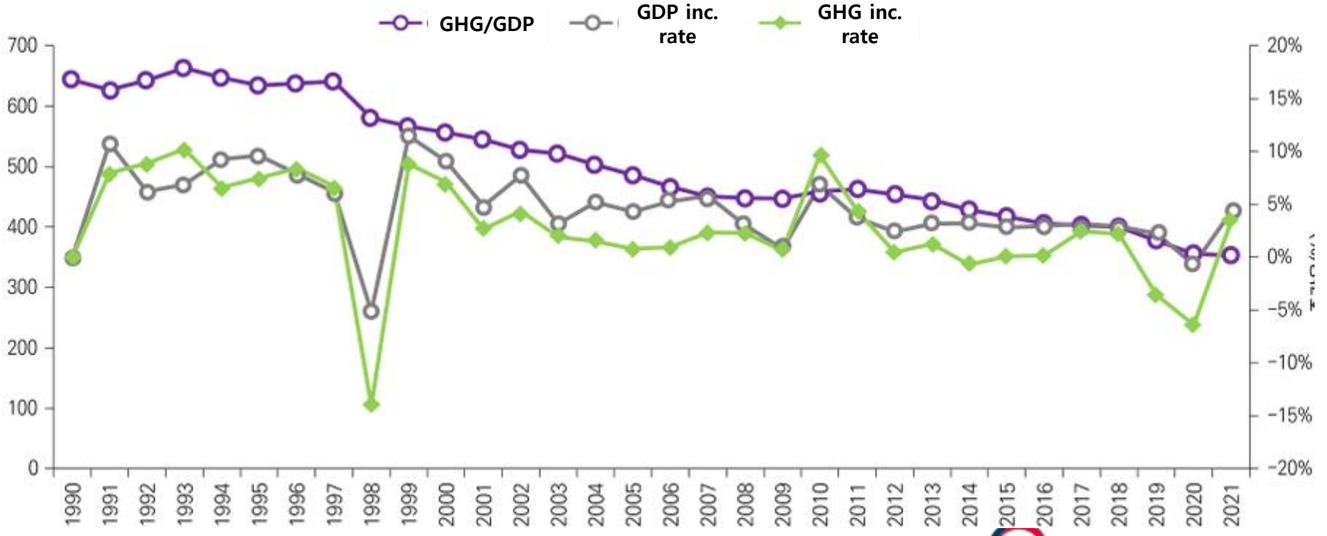


- **Comprehensive Management System of GHG data since 2010**

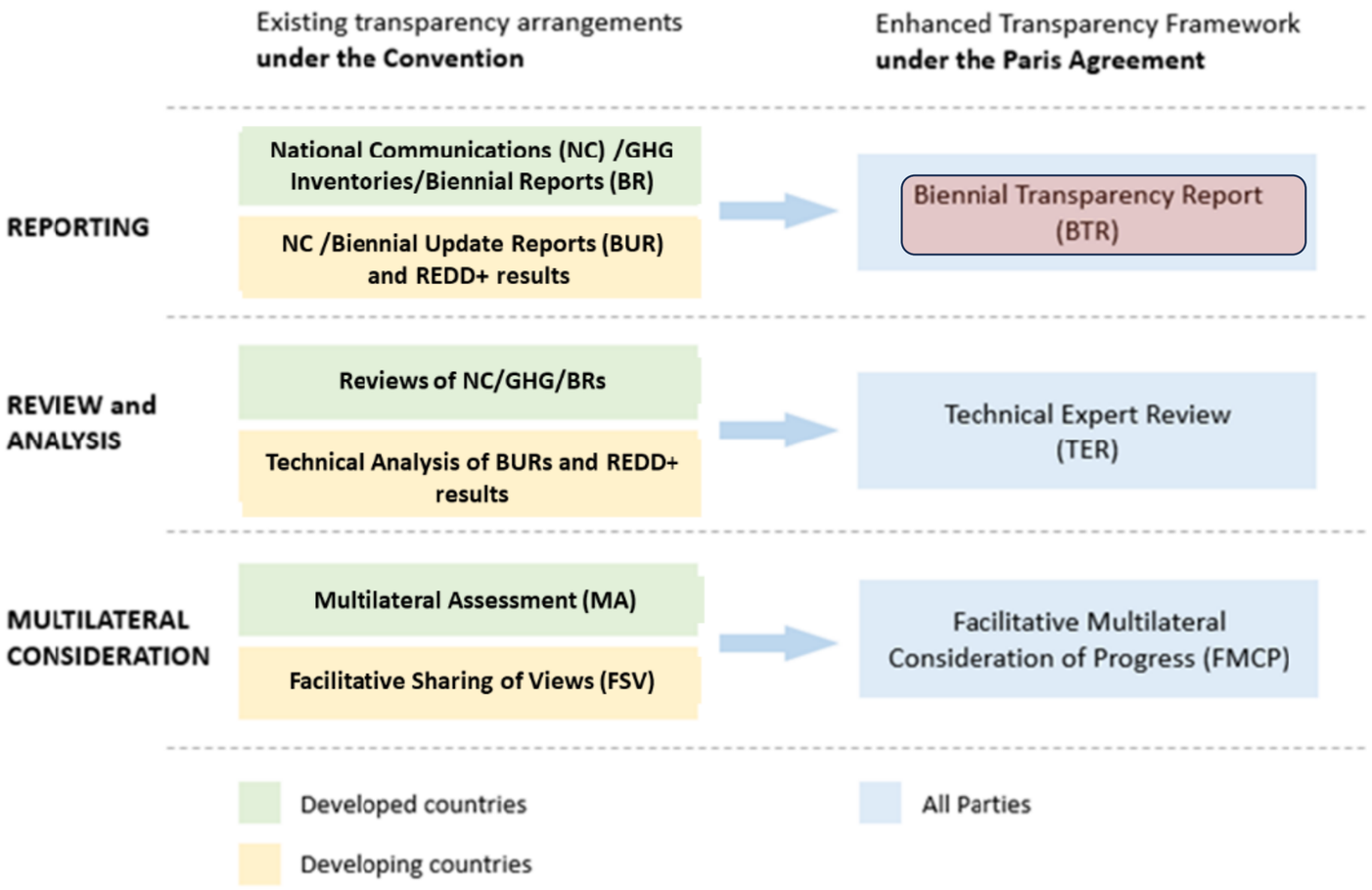


- **Comprehensive Management System of GHG data since 2010 (cont'd)**





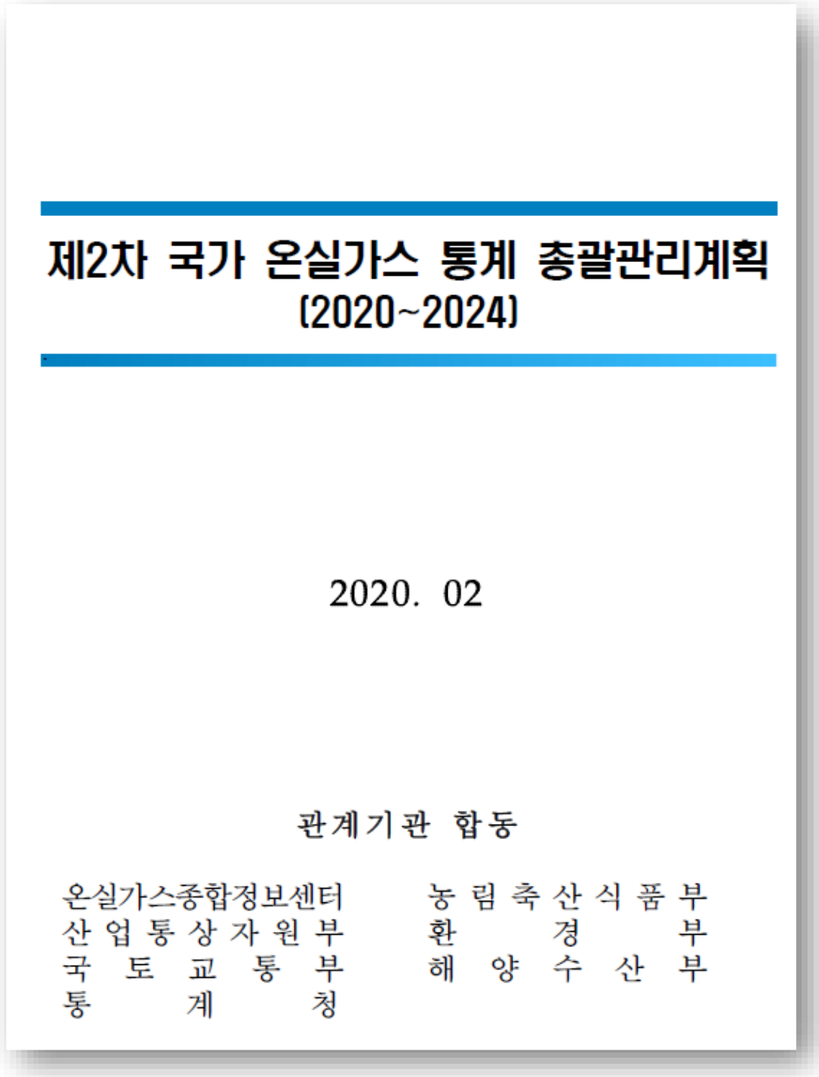
• Reporting under the Enhanced Transparency Framework



- **Under the Convention**
  - All Parties : NC(every 4 yrs)
  - Annex I : BR (final BR by '22)
  - Non-Annex I : BUR (final BUR by '24)
- **Under the Paris Agreement**
  - All Parties : NC(every 4 yrs), BTR(every 2 yrs)
  - Annex I : NIR(every year)
- **Submitting NCs**
  - Opt 1 : separate NC every 4 yrs
  - Opt 2 : a single NC/BTR

Source: UNFCCC General and cross-cutting aspects for the TER under the ETF under the PA

- **The 2nd National GHG Statistics General Management Plan (2020~2024)**


제2차 국가 온실가스 통계 총괄관리계획
(2020~2024)

2020. 02

관계기관 합동

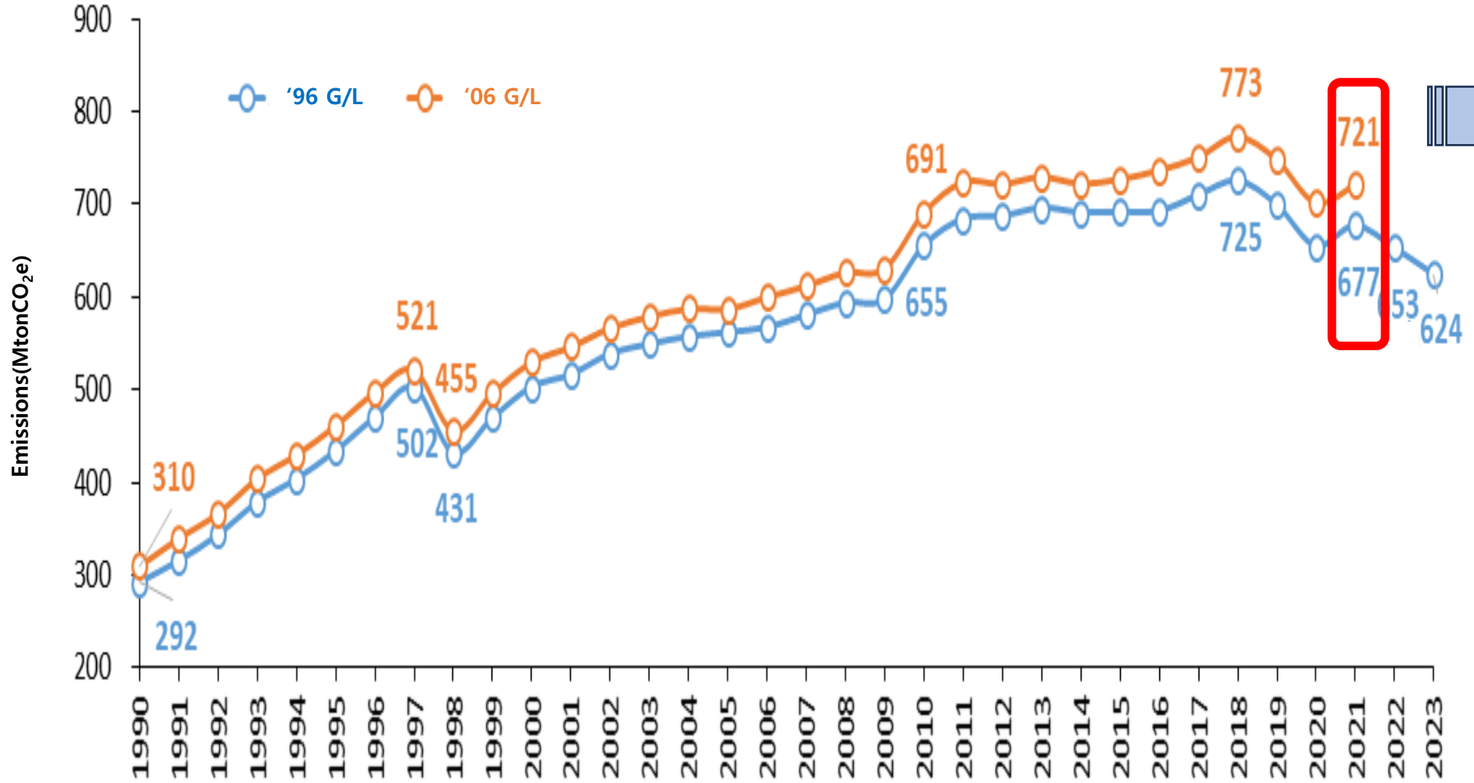
온실가스종합정보센터
산업통상자원부
국토교통부
통계청

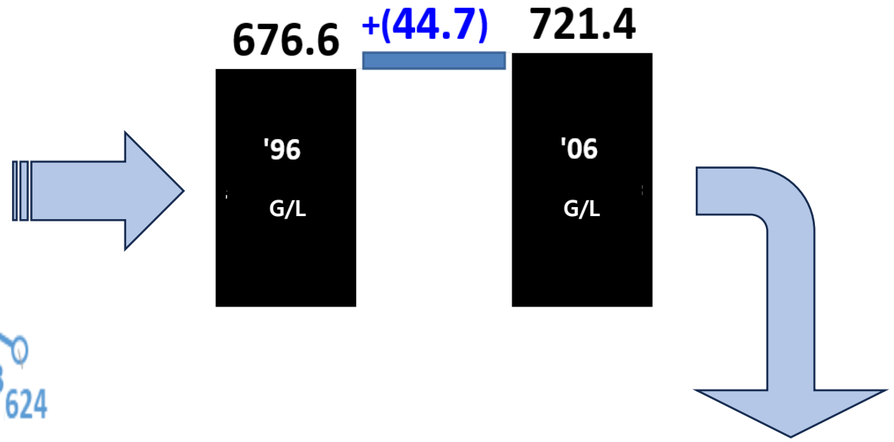
농림축산식품부
환경부
해양수산부

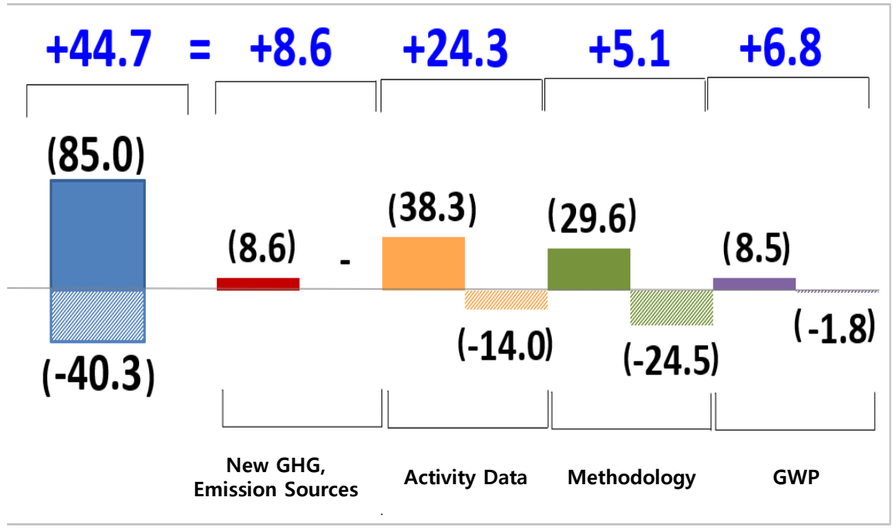
[Key Objective] Preparation of GHG Inventory in line with international standards

Strategy	Action Plan
Expanding the scope of emissions statistics	1. Calculating indirect GHG emissions 2. Calculating local GHG emissions 3. Calculating preliminary GHG emissions
Improving statistical methods and systems	1. **Applying the 2006 IPCC G/Ls** 2. Developing and expanding application of tier 2 emission Factors 3. Improving uncertainty estimation
Improving information service infrastructure and strengthening domestic and international cooperation	1. Improving IT system 2. Enhancing expertise through international and domestic cooperation

- **Korea's updated NIR using 2006 IPCC G/Ls (2024.9.)**

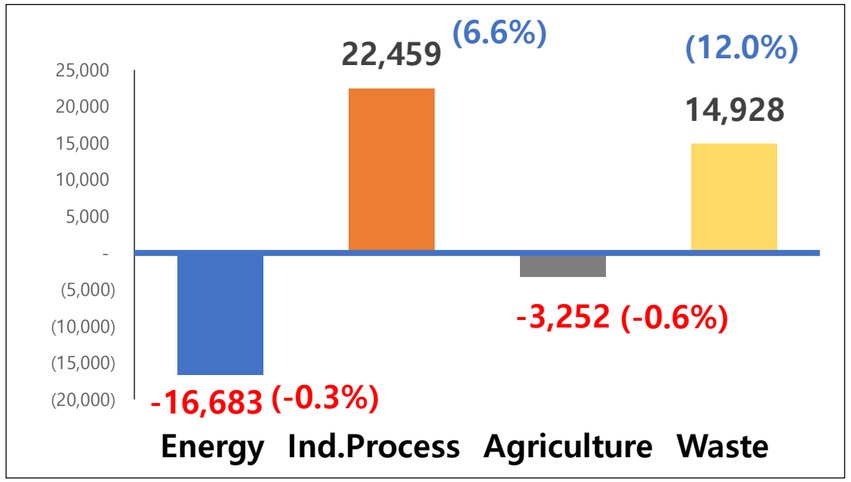






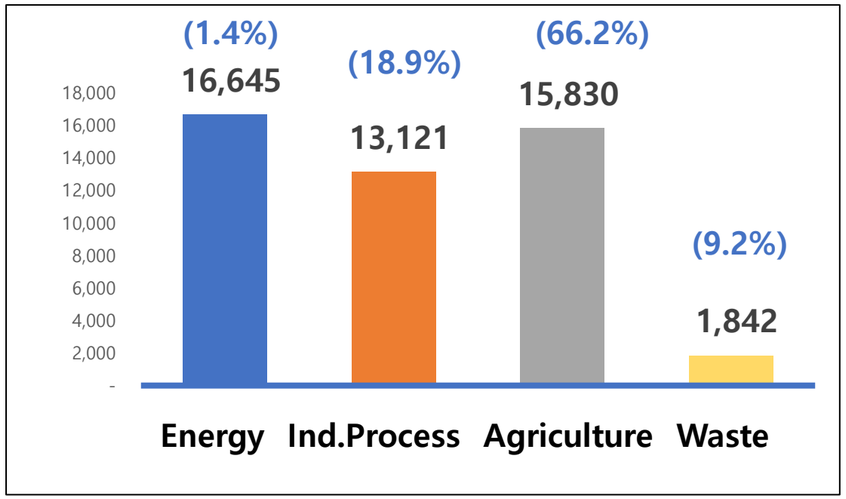
- **Changes in GHG emissions (2012) by applying 2006 IPCC G/Ls**

USA



Emissions in 2012	1996 IPCC G/Ls(2014)	2006 IPCC G/Ls(2015)	'96-'06 Differences
Total	6,487,847	6,545,100	57,253
Energy	5,498,883	5,482,200	- 16,683
Industrial Processes	338,741	361,200	22,459
Agriculture	526,252	523,000	- 3,252
Waste	123,972	138,900	14,928

JPN



Emissions in 2012	1996 IPCC G/Ls(2014)	2006 IPCC G/Ls(2015)	'96-'06 Differences
Total	1,343,137	1,390,485	47,348
Energy	1,229,597	1,246,242	16,645
Industrial Processes	69,516	82,637	13,121
Agriculture	23,905	39,735	15,830
Waste	20,029	21,871	1,842

Thank you

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