

2018 Workshop on GHG Inventory in Asia (WGIA16)

# Sharing the Experience of the second BUR and ICA in the Republic of Korea

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# Outline

- **Background**
- **National Inventory of 2<sup>nd</sup> BUR**
  - **Institutional Arrangement**
  - **Preparation Process**
  - **Methodologies**
  - **National GHG Trend**
- **ICA Experience**
- **Conclusions**

# National Communications of the Republic of Korea

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## First NC in 1998

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## Second NC in 2003

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## Third NC in 2012

Korea's Third National Communication  
under the United Nations Framework  
Convention on Climate Change

Low Carbon, Green Growth

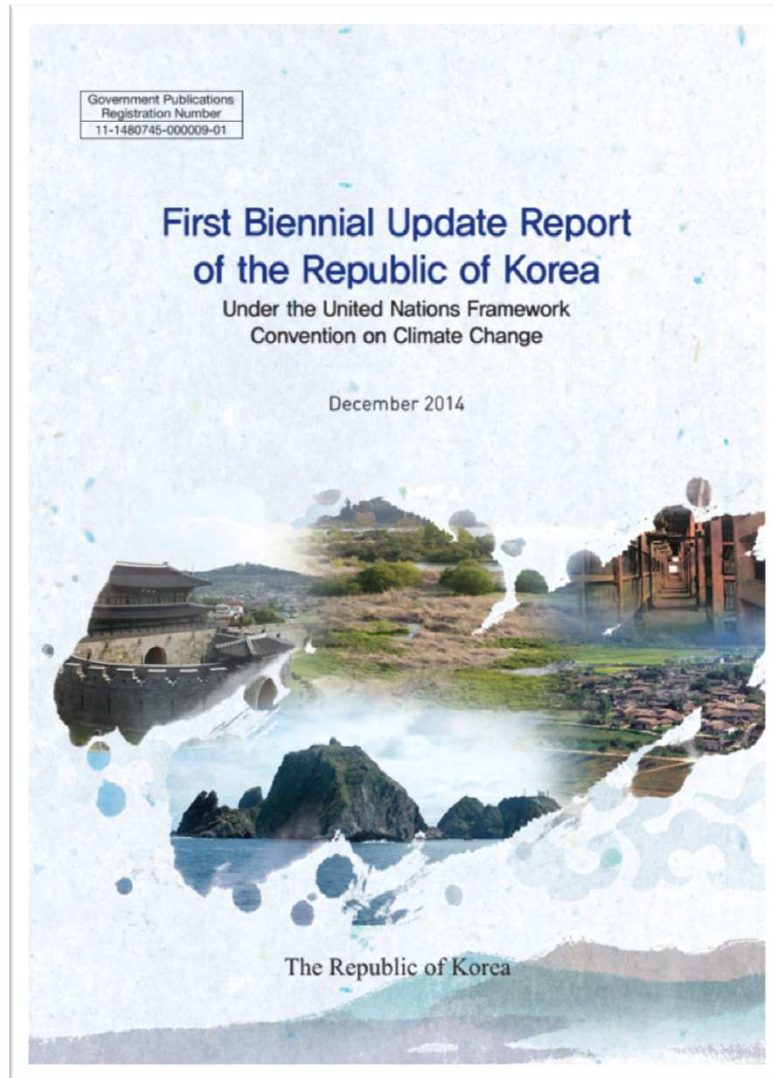
The Republic of Korea

## Contents

1. National Circumstances
2. GHG Inventory
3. Policy and Measures
4. Projection of GHG
5. Vulnerability Assessment
6. Financial Assistance and Technology Transfer
7. Research
8. Education

# First Biennial Update Report of Korea in 2014

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## Contents

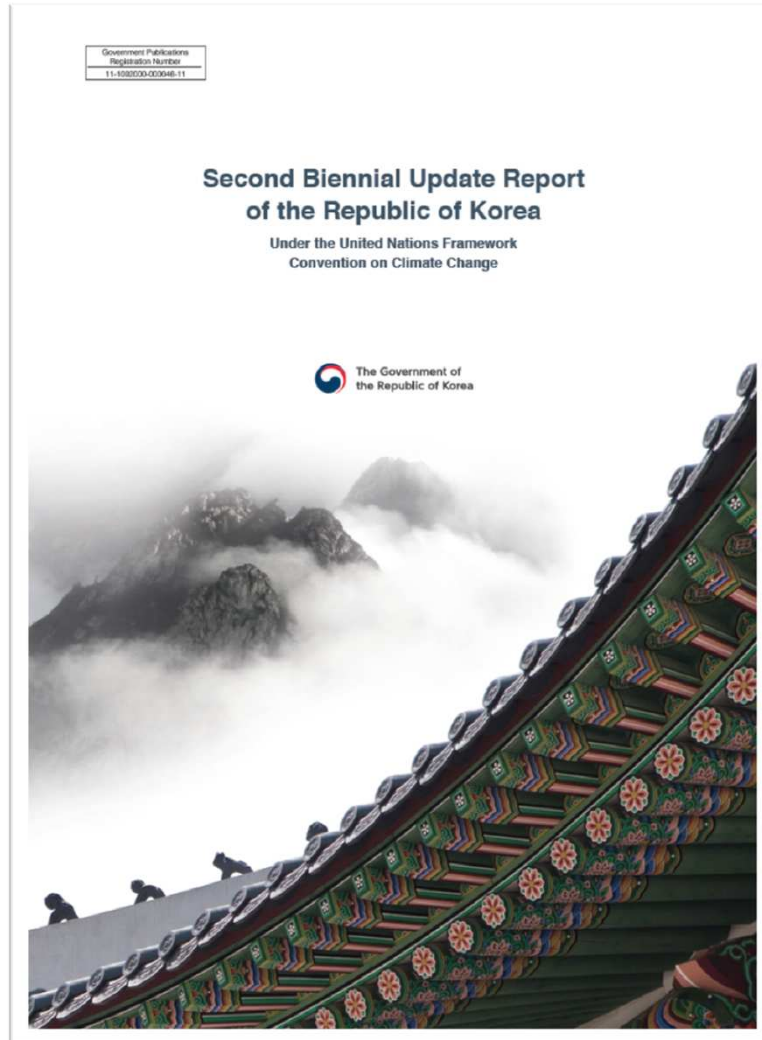
- 1. National Circumstances**
- 2. GHG Inventory**
- 3. Mitigation Actions and Effects**
- 4. Finance, Technology and Capacity Building**

## Preparation of BUR

- 1. Draft Report by Relevant Ministries and GIR (Inventory)**
- 2. Review by GIR**
- 3. Deliberate by Committee on Green Growth**
- 4. Submitted by Ministry of Foreign Affairs to UNFCCC**

# Second Biennial Update Report of Korea in 2017

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## Contents

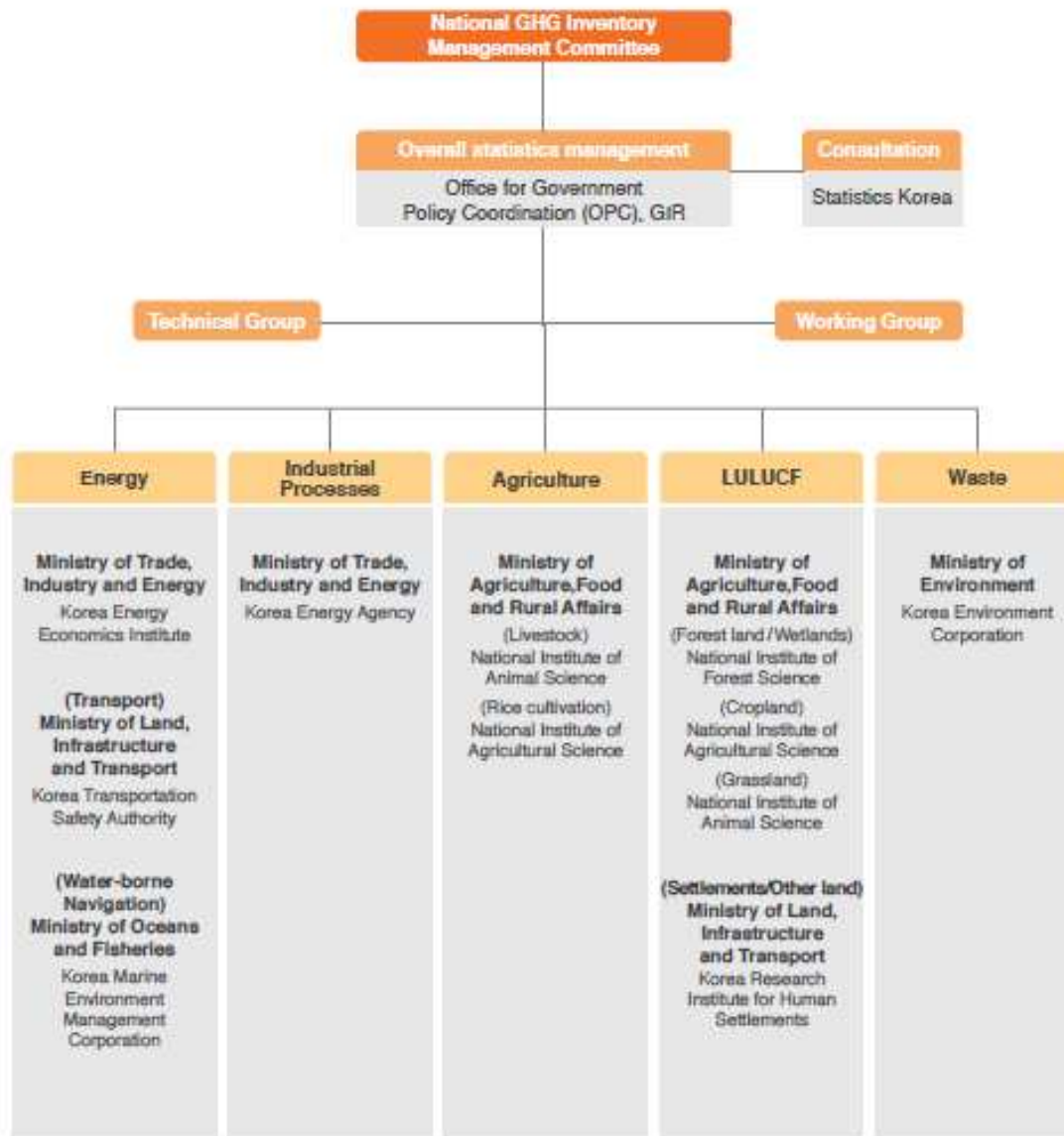
- 1. National Circumstances**
- 2. National GHG Inventory**
- 3. Mitigation Actions**
- 4. International Support and Cooperation**

## Preparation of BUR

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# Institutional Arrangement



- National Committee
  - Decision-making body to approve inventory
  - Chaired by the 2<sup>nd</sup> vice minister of the OPC
  - Composed of 15 members from relevant ministries and research experts
  
- Working Group
  - Discussion body to prepare final draft for inventory
  - Chaired by the president of GIR
  - Composed of director level officials from responsible ministries

# Preparation Process

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- **Measurement**
  - GIR prepares MRV GLs for determine methodologies
  - Relevant ministries and agencies collect activity data and estimate GHG inventory based on MRV GLs
- **Reporting**
  - Relevant ministries and agencies submit sectoral Inventory by NIR System to GIR
- **Verification**
  - GIR reviews methodologies, activity data, emission factors
  - GIR requests RM to revise draft inventory to correct errors
  - The revised draft is confirmed by working group and committee
- **Public Release**
  - GIR publishes the approved inventory through websites

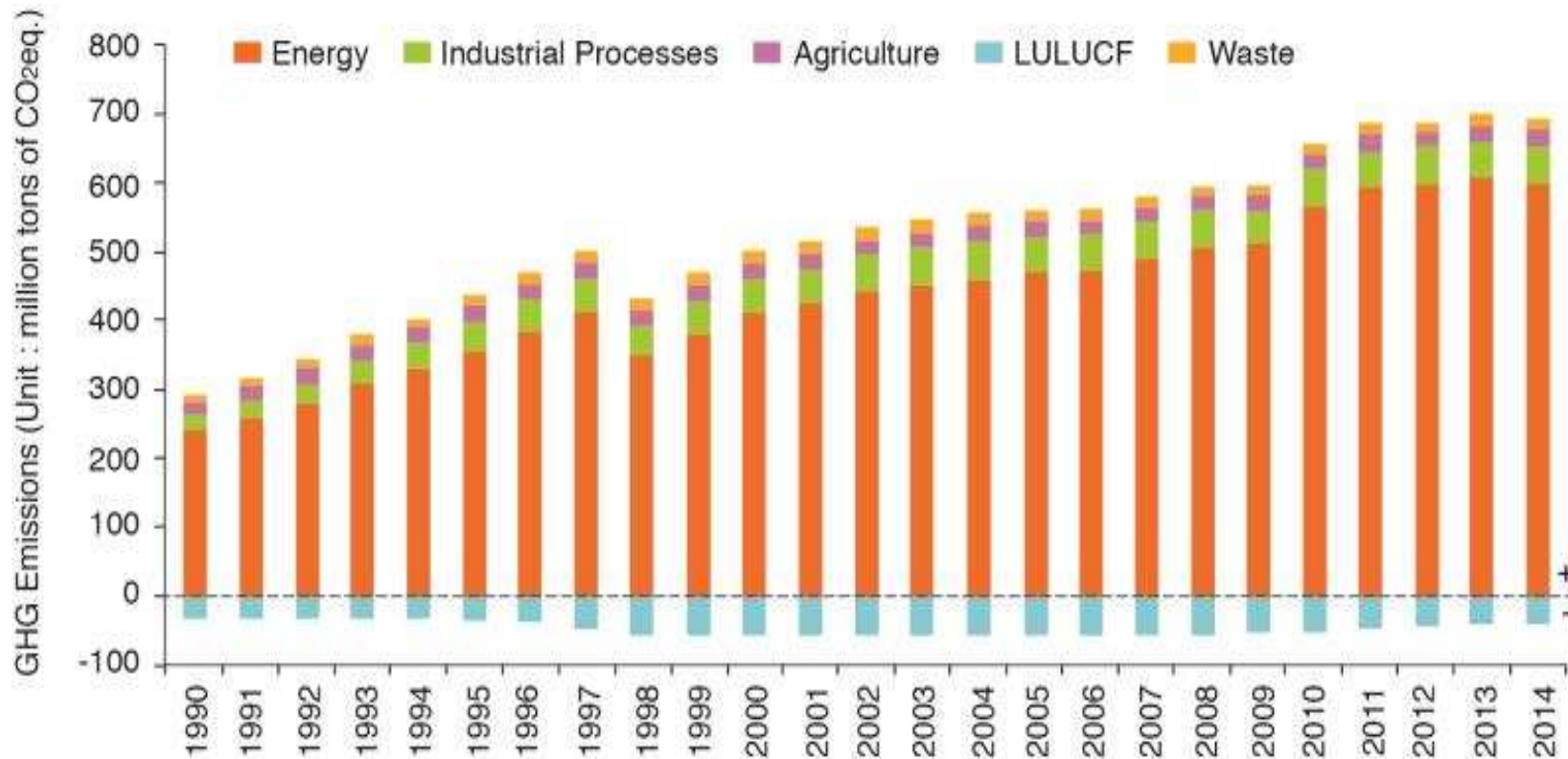
## Methodologies

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- **IPCC GLs**
  - 1996 IPCC GL was used as default methodologies
  - GPG 2000 was applied for (1) civil aviation; and (2) waste sector
  - GPG LULUCF was applied for LULUCF sector
  - 2006 IPCC GL was applied for (1) semiconductor and electrical equipment; (2) rice cultivation and soil management; and (3) waste other sectors
- **GWP**
  - IPCC Second Assessment Report GWP was used for CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, and SF<sub>6</sub>
- **Emission Factors**
  - Country-specific EFs for (1) Energy: Fuel Combustion of Refinery Gas and LPG Fuel and Fugitive Emissions from Oil and Natural Gas; (2) Industrial Processes: Semiconductor Manufacture and Electrical Equipment; (3) Agriculture: Agricultural Soil Management and Field Burning of Agricultural Residues; and (4) Waste: Wastewater Treatment and Biological Treatment of Solid Waste
  - IPCC default EFs for other categories

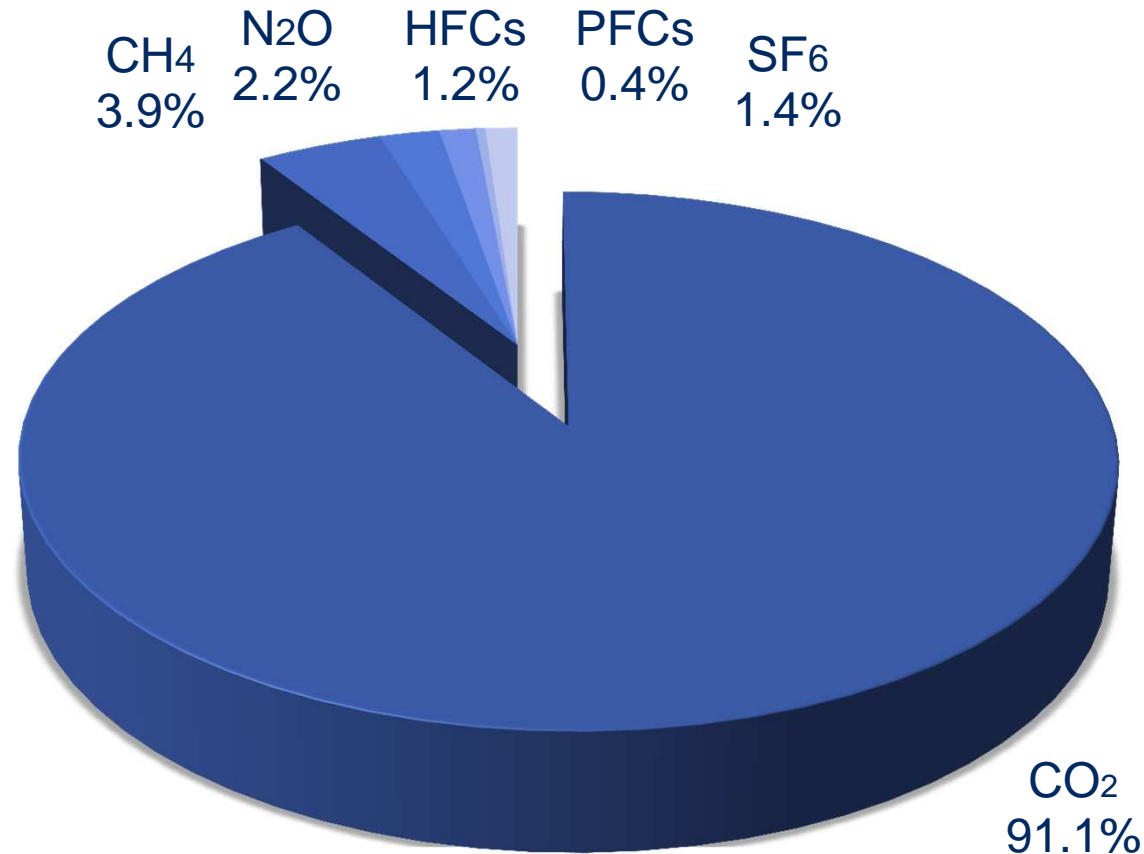


# National GHG Trend



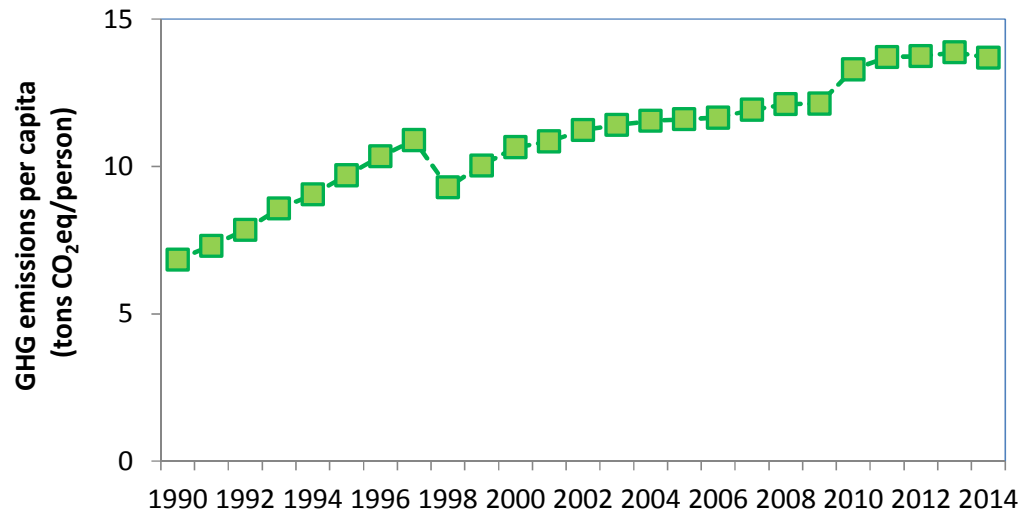
- The total emissions in 2013 is peak between 1990 and 2014
- The detailed time-series emissions by sector and gas is provided in Appendix 1 of BUR2 (UNFCCC CTF format)

## GHG Emissions by Gas in 2014

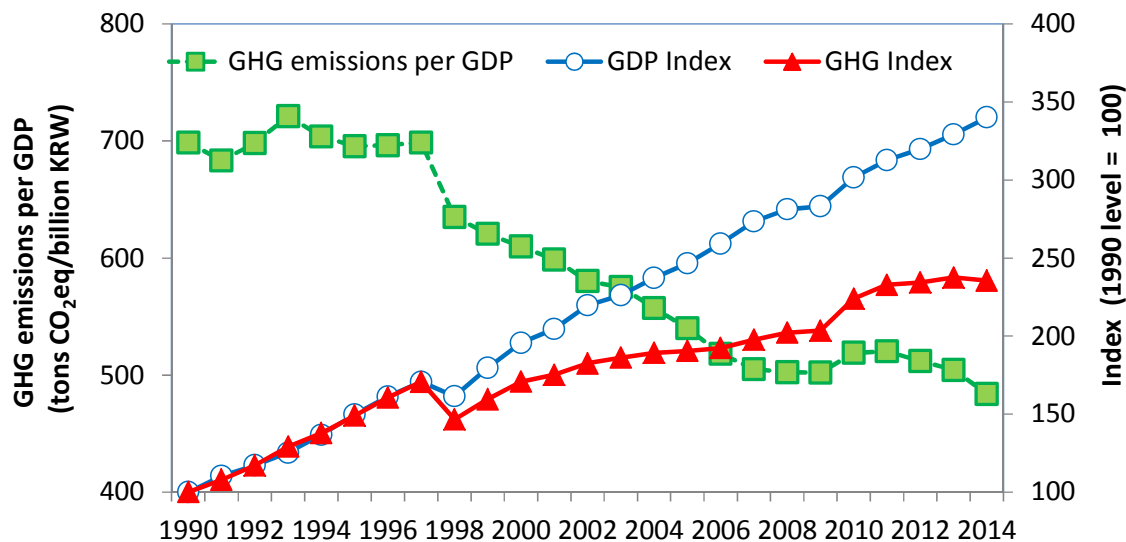


- Dominant gas emitted was CO<sub>2</sub>, mostly from fuel combustion
- PFCs and SF<sub>6</sub> emissions steeply increased since 1990 due to semiconductor and panel display productions increase

# GHG Emissions per Capita and GDP



- The per capita emissions in 2014 were 13.7 tons CO<sub>2</sub>eq (increase 100.3% since 1990)
- After 2011, per capita emissions were stable



- Emissions per GDP in 2014 were 484 tons CO<sub>2</sub>eq/billion KRW (decrease 30.7% since 1990)

# International Consultation and Analysis (ICA)

## The Technical Analysis

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- The technical analysis took place from 5 to 9 March, 2018 in Bonn, Germany
- South Korea received 18 preliminary questions and comments during the technical analysis for inventory chapter
- Key Questions
  - Institutional arrangements and MRV process
  - Confirmation of IPCC GL used for each sectors
  - Reference for activity data
  - Indirect emissions and international bunkers
  - Key category analysis and uncertainty analysis

## Conclusions

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- 2<sup>nd</sup> BUR of South Korea provides more information than 1<sup>st</sup> BUR to improve transparency of inventory
- For next report, South Korea will add more information such as key category analysis and activity data reference that asked from TTE during ICA
- 3<sup>rd</sup> BUR and 4<sup>th</sup> NC will be prepared in 2019
- To improve accuracy and consistency of national inventory, South Korea is planning to use 2006 IPCC GL
- However, there is a need to prepare new database, IT system, capacity for experts and finance, and so on

**Thank you**

