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# **NATIONAL COMMUNICATION OF THE REPUBLIC OF KOREA**

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# Table of Contents

- Second National Communication of Korea
  - ▣ Mitigation
  - ▣ Inventory
  - ▣ Vulnerability and Adaptation
  - ▣ Cross Cutting Issues
- Key Challenges and Lessons Learnt
- Innovation and Best Practice
- Next Step (3<sup>rd</sup> National Communication)

# Outcomes – Mitigation

- Inter-Ministerial Committee was established in 1998 to formulate, implement and promote the Comprehensive Action Plans for UNFCCC
- The First Comprehensive Action Plan (1999~2001) in 1998
  - ▣ Accomplish 27 tasks (i.e. voluntary agreements, renewable energy development ) and 111 detailed measures (i.e. support for energy service companies and expansion of forestation projects)
- The Second Comprehensive Action Plan (2002~2004) in 2001
  - ▣ Promotion of GHG reducing technology and development of environment-friendly energy
  - ▣ Strengthening policies and measures for greenhouse gas reduction
  - ▣ Promotion of public participation and cooperation

# Outcomes – Mitigation

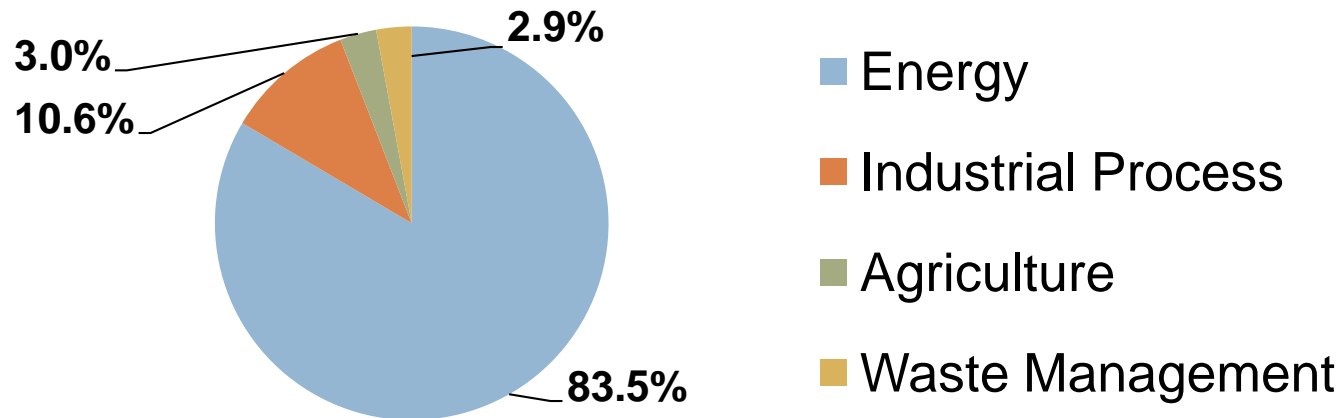
(Summary of Policies and Measures by Sector)

Sector		Promotional Strategy	Policies and Measures
Energy	Demand	Integrally Managed Energy Conservation Policy	3-Year Plan for Energy Audit Expansion of Voluntary Agreement (VA) Energy Service Companies (ESCO)
		Improvements in Energy Efficiency	Energy Efficiency Standards & Labeling Program
	Supply	Expansion of Renewable & Clean Energy Use	Formation of Market Demand for Renewable Energy and Improvement in Its Economics
			Promotion of Landfill Gas (LFG) Projects
	Building	Improvement of Energy Efficiency in Buildings	Mandatory Standards for Building Insulation & Energy-Efficient Designs
	Transportation Fuel	Promotion of Clean Fuel & Compact Cars	Promotion of CNG Buses and Compact Cars
Transportation		Efficient Management of National Transportation System & Traffic Demand	Expansion of Public Transportation Service
Agriculture and Livestock		Improvements in Patterns of Farming and Animal Husbandry	Reduction of Methane from Irrigated Rice Paddies and Nitrous Oxide from Uplands
Land-Use Change and Forestry		Forest Maintenance	Control of Deforestation and Replantation of Harvested Areas
Waste		Minimization & Recycling of Waste	Waste Minimization

# Outcomes – GHG Inventory

- Total GHG Emissions in 2001
  - 148 (MTC)

- GHG Emissions by Source in 2001

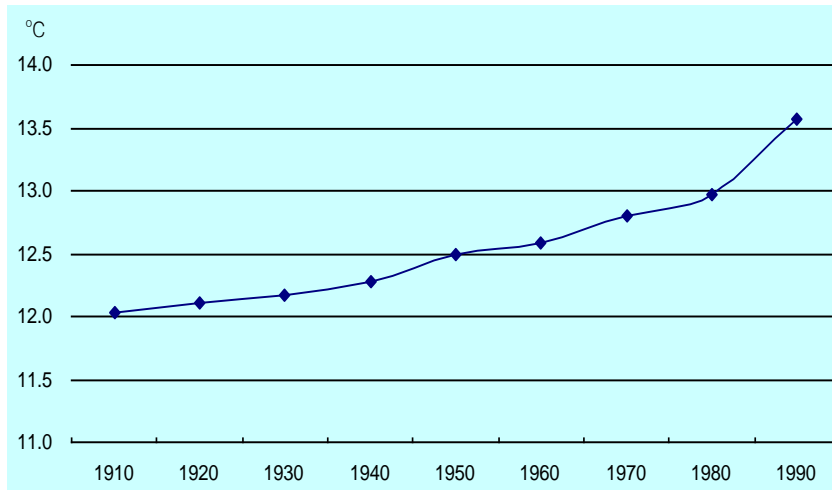


- GHG Emissions trend
  - Average annual increase of 5.2% (1990 ~2001)
  - The increase mainly results from Industrial Process and Energy

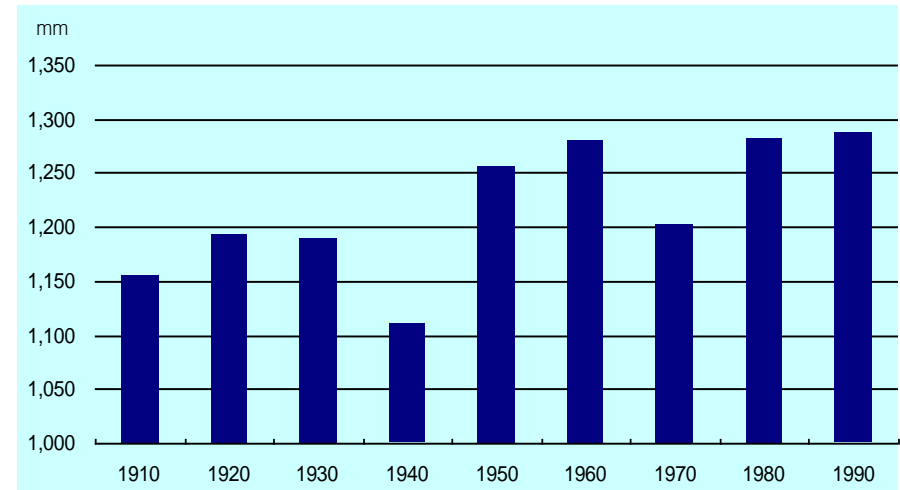
# Outcomes – Vulnerability and Adaptation

## (Characteristics of Climate)

Trend of Average Temperature during 1911 to 2000



Trend of Average Rainfall during 1911 to 2000



## Outlook on Climate Change

According to long-term (1860~2100) A1 and B2 scenario<sup>1</sup> simulations using a coupled Climate Model<sup>2</sup> performed by the Meteorological Research Institute, Global temperature will rise by approximately 4.6°C and 3.0°C with CO<sub>2</sub> concentration of 820 ppmv and 610 ppmv at the end of the 21st century, respectively.

<sup>1</sup> A1 and B2 Scenarios of IPCC Special Report on Emissions Scenarios (1999)

<sup>2</sup> ECHAM4/HOPE model of Marx Planck Research Center in Germany

# Outcomes – Vulnerability and Adaptation

- Vulnerability and Impacts
  - **Agriculture:** Hindrance to productivity and stability of agriculture ecosystem
  - **Forestry:** Migration of forest vegetation zone
  - **Fisheries:** Change in marine ecosystem and fisheries resources from rise in temperature
  - **Water Resources:** Increased damage from quantitative and qualitative decline of water resources
  - **Terrestrial Ecosystem:** Increase in stress and diseases from heat
  - **Health:** Increase in migration of epidemic from change in spreading patterns of infectious viruses

# Outcomes – Vulnerability and Adaptation

## □ Adaptation Measures

### Various Research on Climate Change Adaptation

Research Area	Contents
Climate System Monitoring	<ul style="list-style-type: none"><li>• Global ocean observation and forecasting program</li><li>• Assessment of climate changes based on the observation and paleoclimate proxy data</li></ul>
Climate Change Impact Assessment	<ul style="list-style-type: none"><li>• Socio-economic-environmental impact assessment of climate change</li><li>• Development of integrated climate change impact model</li><li>• Sectoral and regional adaptation strategy</li></ul>



# Outcomes – Cross Cutting Issues

## □ Financial Resources

### ■ Cooperation with Multilateral Institutions and Programs

- Assigned contribution: WMO(US\$383,000), UNCCD(US\$154,290), UNFCCC(US\$115,421)
- Project contribution: UNEP(US\$180,000)

### ■ Cooperative Development Programs for Developing Countries

#### ■ Grant Aid Program

- Implemented and administrated by Korea International Cooperation Agency (KOICA)
- Focus on countries in APAC region (50% of budget)
- Supporting 164 countries and 41 international organizations (1991-2001)

#### ■ Loan Aid Programs(Economic Development Cooperation Fund)

- Established in 1987 to assist industrial development and economic stability
- 1.6 billion \$ contribution to 99 projects in 34 countries (1987-2001)
- 121.6 million \$ total contribution (2001) for 8 projects

# Outcomes – Cross Cutting Issues

- Technology Transfer
  - ▣ KOICA Training Program on Energy Conservation & Utilization
    - KOICA has entrusted Korea Energy Management Cooperation since 1995
    - Introduce Korea's energy conservation policies and programs
    - 3 weeks between March and April each year
    - 163 energy management personnel participants from 42 countries (1995-2002)
  - ▣ KOICA Training Programs on Forest Management & Prevention of Desertification
    - Training programs on forest management since 1996 and on desertification prevention since 2001
    - Korea's accumulated experience and know-how sharing

# Outcomes – Cross Cutting Issues

## □ Education & Training

- ▣ Utilization of Discretionary Activity Hours at School
- ▣ Curriculum of Primary and Secondary Schools
- ▣ Energy / Environment Conservation Model Schools
- ▣ Graduate Schools for UNFCCC Specialization

## □ Publicity & Public Awareness

- ▣ Local Agenda 21
- ▣ Green Energy Family
- ▣ Urban Greening Campaign
- ▣ Energy Conservation Events
- ▣ Environment Day Events

# Key Challenges

- Inventory
  - ▣ Lack/deficiency of information
  - ▣ Small number of Country Specific Emission Factor available
  - ▣ Lack of verification system to increase confidence(i.e. uncertainty analysis)
  
- Vulnerability
  - ▣ Lack of accuracy and vulnerability analysis on climate change forecast of the Korean Peninsula
  
- Policy and Measure
  - ▣ Lack of communication among stakeholders (people-corporation-government) and voluntary participation

# Lessons Learnt

- Expert training and knowledge accumulation is the most important
- As various fields are involved in climate change issue, national level leadership is important
- From each sector, effective policy and measures contributing to both energy saving and GHG mitigation needs to be strengthen

# Innovation and Best Practices

- Prepare National Communication based on UNFCCC Annex I reporting guideline
- Show national level leadership in reacting climate change issue (i.e. Inter-Ministerial Community for Action Plan)
- Set and manage sectoral climate change policy
- Cooperate with developing countries through various programs

# Next steps

- Project proposal for 3<sup>rd</sup> National Communication
  - ▣ Plan to submit in 2011
  
- Key contents
  - ▣ Inventory
    - National GHG Inventory System
      - Prepare National Inventory Report and Common Reporting Format to improve quality of inventory
      - Develop Country Specific Emission Factor
      - Build national integrated GHG information management system
      - Train experts to review GHG inventory

# Next steps

- Policy and Measure
  - Green Growth Policy
    - National Mid-term Reduction Target
      - Decision made on mid-term GHG reduction goal by 2020 to cut GHG Emissions by 30% from BAU (November 17, 2009)
    - Green Growth Law
      - Enact the Framework Act on Green Growth(effective as of April 14, 2010)
      - Legal grounds on GHG reduction target setting, GHG-Energy Target Management System, National integrated GHG information management system
  - GHG-Energy Target Management System
    - Relevant ministries by sector set target on GHG emission amount and energy usage of controlled entities<sup>1</sup> and then check and manage the performance

<sup>1</sup>Entities(entity facilities regulated under the Green Growth Law)



# Next steps

- ▣ Adaptation
  - National strategy for Climate Change Adaptation Plan (2011~2015)
    - Republic of Korea set up crisis management measure to prepare average 2°C increase by 2050 from 2000
    - 13 government departments and 70 experts participated in creating national strategy for climate change
    - 7 sectoral Adaptation Measures such as health and disaster
    - 3 Adaptation Based Measure which can support sectoral adaptation measure was ready.



# Thank You

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