

# **Domestic Emissions Trading Scheme In Ministry of Environment of Korea**

**Kyoung-Sik Choi**

**Chief Manager**

**Dept. of Global Environment  
Environmental Management Corporation**



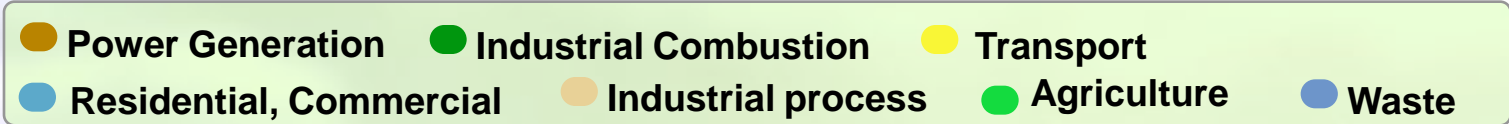
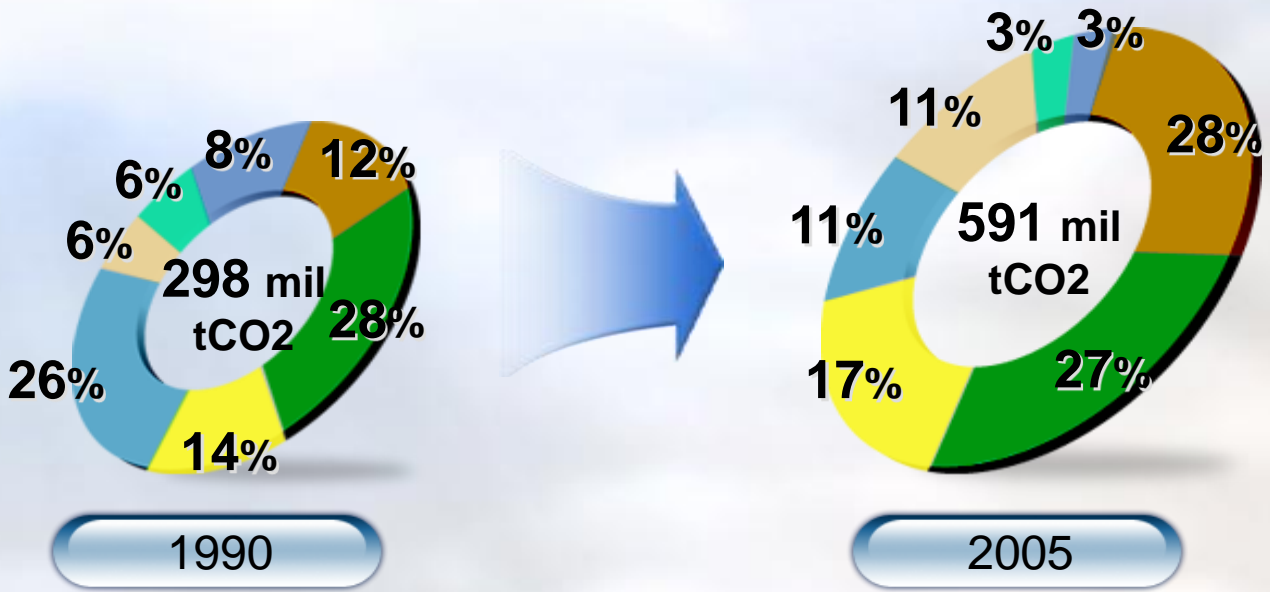
# I . Current status of GHG emissions in ROK





# ROK - GHG emissions

- Total (2005) : 591 million ton CO<sub>2</sub>
- increases **98.7%** after 1990 due to high economic growth





## GHG Emissions – based on final energy consumption

- GHG emissions of Non-industrial Sector : **254 mil tCO<sub>2</sub>** (43% of total)

Buildings, Household, Transportation : high economic mitigation potential

[mil tCO <sub>2</sub> -eq]				
Categories	1990	2005	Ratio(%)	Inc. Rate(%)
GHG Total	297.5	591.1	100.	+98.7%
Energy Total	247.8	498.6	84.4	+101.2%
Industries	110.5	238.5	40.4	+111.8%
Transport	42.8	99.3	16.8	+132.4%
Resident, Commercial	79.6	138.4	23.4	+70.5%
Public	9.3	16.3	2.8	+69.5%
Fugitive	5.4	5.9	1.0	
Non-Energy Total	49.7	92.5	15.6	+86.2%
Industrial Process	19.9	64.8	11.0	+225.6%
Agriculture	13.2	14.7	2.5	+11.4%
Waste	16.6	13.0	2.2	-21.7%





# Status of ROK (industry structure, intensity)

- **Energy intensive** industrial structure (2001)

	ROK	Japan	US	UK
Energy intensive industry (%)	29.7	19.8	14.1	16.8
Service industries (%)	55.1	68.3	77.3	72.6

- **High Energy intensity** (2005)

	ROK	Japan	US	UK
TOE / population	4.43	4.18	7.91	3.91
TOE/1,000 \$	0.22	0.15	0.21	0.13

\* 2000 US\$ using PPP (Purchasing Power Parity)





## II. Emission Trading Scheme in ROK





## Position of ROK

- **Currently Non-Annex I party**
- **Preparing the nation-wide emission trading scheme**
  - **Improving administrative, legal structure to introduce national ETS**

### CDM

- 18 registered CDM projects ('08.7)
  - total 50 projects under review
- '05~'08 : 16 mt CO<sub>2</sub> reduction
- '04. 6 : establish DNA
- unilateral CDM : 63% (projects)
- unilateral CERs : 17%
- market value : 130 m\$

### ETS

- Initially implemented on a voluntary basis, but to be updated to nation-wide ETS according to results of Post-2012 negotiation
- promote voluntary ETS pilot project in local governments ('08~)
- will be introduced nationwide ETS by The Climate Change Act('09~) and Climate Change Master Plan ('08~'12)

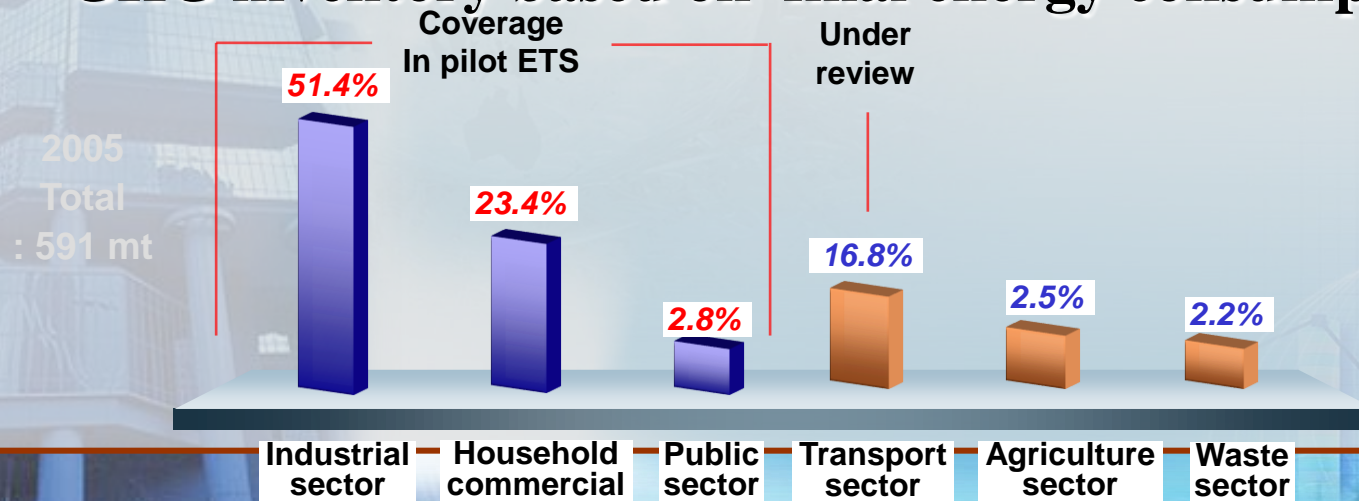


# Introduction of Pilot ETS ('09~)

## Basic Direction of pilot ETS ('09~)

- Preparation for smooth transition to internationally-agreed type of ETS
  - Sophisticated designed **verification method** & transaction scheme will be established
- Various economic incentives
  - **household sector** : motivation of GHG reductions by **Carbon Point (VER)**
  - **commercial sector** : **carbon labelling**, increasing/decreasing **Environmental Charges**
  - **industrial sector** : tech. assistance and **recognition of Early Action**
  - **financing sector** : involvement and development of various financing projects

## - GHG inventory based on final energy consumption in ROK





# Two-Step Approach to introduction of ROK ETS

## • Voluntary Market

(1<sup>st</sup> Step : 09-)

- **Pilot Projects**, to be implemented by **Local governments** with the voluntary reduction targets
- **Participants** (the public institutes, Industries, Commercial Buildings & households)

## • Nation wide Market

(2nd Step : under review)

- **Transition** to the **Nation-wide** market, (partially allowance) , with the consideration of **National mid-term goal('09)** based on BAU & Post-2012 regime
- Consideration of international linkages with other carbon markets

2009

Under Review





## Two-Track Model of pilot ETS ('08~)

### A

#### Industry

- Participation sectors : similar to EU-ETS (combustion, metal, mineral, iron, refinery, etc)
  - Each company is willing to reduce GHG in the pilot scheme of ETS
- Analysis of reduction potentials, **Voluntary targets**, the monitoring and validation of their reduction by the government under the contract between MOE and Industries

### B

#### Local Government

- Voluntary targets through **the contract of MOU** between **MOE** and **local governments**
- Allocate reduction targets to each local government (**public** and **non-industrial sectors**)
- Re-allocation of reduction targets to each sector with the consideration of local situations





## Early Actions – pilot plan ('08~)

### Participants of pilot plan

- Industrial sector : Voluntary Agreement (Nov. 2006, 169 entities)
- Non-industry sector : **Model Cities** for GHG reduction (2008~, 8 cities)
  - Carbon point system (household, commercials) to be launched in Sept. 2008
  - Set the targets in public bureaus (including affiliated corporations) (Jan.2008, Busan)

### Early Actions

- **Industrial Sector: To allow banking and issuance of the credit for 'early action'**
- **Local government : To support subsidy , etc**





# Participating Local Governments (pilot ETS)



Voluntary  
Target

Baseyear : 2005

-10% by 2012  
(absolute)

-5% by 2015  
(absolute)

+35 by 2015  
(intensity)  
tCO<sub>2</sub>/GRDP

+5% by 2015  
(intensity)  
tCO<sub>2</sub>/GRDP

-7% by 2015  
(based on  
BAU)

+0% by 2012  
(absolute)

-10% by 2015  
(based on  
BAU)

Kwacheon city

- Voluntary reduction program from household's electricity and natural gases in 2007

Busan city

- Setting the reduction targets in public sector (including affiliated corporation) and trading their surplus emissions reductions with other districts within the city

Kwang-ju City

- Voluntary reduction from household's electricity and natural gases in 2008 (50 KRW\$ per ton of CO<sub>2</sub>)

Chang-won city

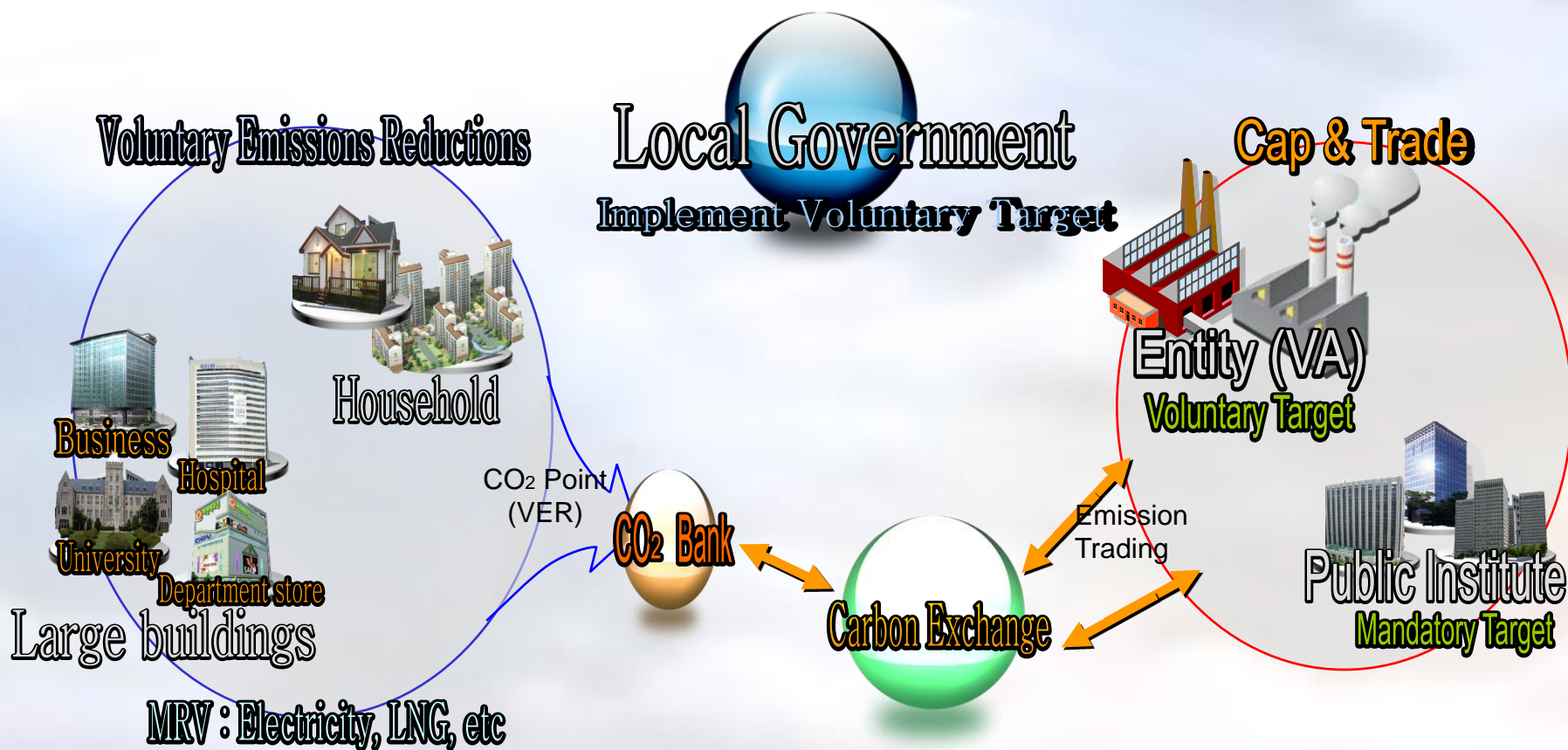
- Voluntary industries participation in Carbon Point scheme





# ET model – local government scale

- Comprehensive emission trading system in local governments
- Improvement of this system (Learning by doing)





# Improving infrastructures of Nation-wide ETS under review

## Designing factors

- Nation-wide ETS Plan (partially allowance) : Coordinated by the office for Government Policy coordination & supported by MOE, etc
- Introduction of '**National Energy and Emissions Reporting Scheme**' of large emitters (under review)
- Establishing platform of Korea Carbon Exchange by KRX (under review)

## MRV issues

- **Accreditation body** : Environmental Management Corp. (under MOE)
- **Verification** : Private corp. including CDM DOE & Accounting Firms, etc
- **Cross checking** system of MRV (Measurable, Reportable, Verifiable)
  - **GHG-CAPSS** (air pollutant and GHG integrated estimation system, **bottom-up**)
  - CEMS – using the '**CleanSys**' online monitoring system





## Other measures in ROK

### ● Improvement of legal, institutional arrangement

- Announcement of the **Voluntary reduction target in the mid-term goal related with BAU basis** ('09)
- Improvement of a national system in order to perform the ETS
  - Climate Change Bill
  - Climate Change Master plan ('08.9) : Office for Government Policy Coordination
  - Eco Tax Reform ('09)
  - Consideration of linkage with the international market





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# Thank you for your attention

**Kyoung-Sik, Choi**

**[promote@emc.or.kr](mailto:promote@emc.or.kr)**

**Environmental Management Corporation**



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ENVIRONMENTAL RESEARCH COMPLEX, KYUNGSEO-DONG, SEO-GU, INCHEON, KOREA 404-708  
TEL 82-32-560-2151~2153 FAX 82-32-560-2289