The Korean Emission Trading System

September 11, 2013

Kyung Hee University

Talk Plan

I. The Status of the Korean ETS

* what we learned from the ETS in other regions

II. Current Issues on the Form and Design of the Korean ETS

I. The Status of the Korean ETS

☐ ETS as an Implementation Plan for Low-Carbon, Green Growth

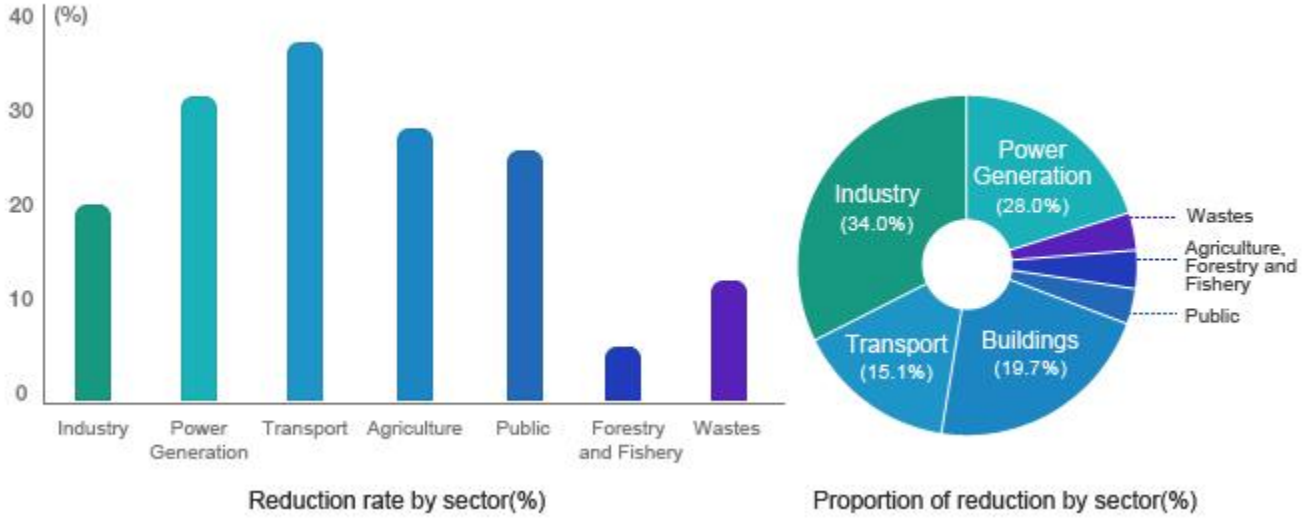
○ Motivation

- The Framework Act on Low-Carbon Green Growth (came into force in April 2010)
- A voluntary target to reduce national emissions by 30% in 2020 below its BAU scenario

< Yearly Reduction Path >

Source: GIR (http://www.gir.go.kr)

< the GHG Reduction Target by Sector >



Source: GIR (http://www.gir.go.kr)

- the GHG and Energy Target Management System (hereafter, TMS; set up in 2011 & came into force in 2013)
- ETS is considered as a cost effective system based on the market principle which can reduce the GHGs (according to「the Framework Act on Low Carbon Green Gtowth」)
- A carbon tax uncer consideration

○ Expected Impacts

- Positive: (in the short-run) reducing the GHGs with a minimum cost & (in the long-run) stimulating green investment & green growth
- Negative: price competitiveness, carbon leakage and economic growth

→ the Korea Chamber of Commerce & Industry (KCCI): asked the government to delay introducing the ETS (June, 2013).

□ Design Principles

i) Should consider post-2012 international policy architecture for global climate change

ii) The impact of the ETS on international competitiveness should be taken into account

iii) Fully utilize the market mechanism in order to ensure cost effectiveness

iv) Trading should be conducted fairly along transparent market rules

v) Should consider international linkages

☐ Core-Elements of the Korean ETS (1)

Elements			Contents
Scope	Participants		• Mandatory : (based on 2011 – 2013) company : 125,000 tCO2e, business unit : 25,000 tCO2e
	Emissions	Gas	6 Gases (same as TMS)
		scope	Total emissions(company/business unit)
Operational Elements	Period		Every 5 years (1st period : 2015-2017, 2nd period : 2018-2020)
	Target base		Absolute emissions, Bench mark
	Criteria of Allocation		• National and sectoral target, historical emissions, level of technology, free allocation ratio, potential growth
	Free Allocation		• 1st period : 100% , 2nd period : 97%, 3rd period : under 90%
	Banking/borrowing		Banking : 100%/ borrowing : 10%
	MRV		• Same as TMS

☐ Core-Elements of the Korean ETS (2)

Elements		Contents
Operatio -nal Elements	Penalty	3 times of average market price (under max 100 thousand K-won)
	New Entrance	Company which submitted verified reports over one times
	Third participants	Not be allowed until 2020
	Offsets	• Available to use for compliance by 10% of allocations
	Early Actions	• Over reduction volume according to TMS • Voluntary reductions by 31st Dec 2011.
	Registry	Holding(trading Accounts) is created automatically
	Trading	• (exchange) Spot, derivative, OTC
	Linkage	Treaty or international agreement for linkage or integrity of market

source: Korean Emission Trading Scheme & New Market Mechanism, S.C. Park.

☐ Controlled GHGs and Entities

○ GHGs

- six GHGs
- Direct and indirect emissions

○ Controlled Entities

- are not finalized yet
- ETS sets the maximum limit of emission to companies which account for greater than 60% of the national GHGs (GIR)

< ETS-Controlled Entities (expected) >

Source: GIR (http://www.gir.go.kr)

- TMS-controlled entities (458 entities in 2012)

  * cover 606 Millions of CO2 tonnes in 2012 (68% of national GHG emission)

	2010~2011		2012~2013		After 2014	
	Company	Workplace	Company	Workplace	Company	Workplace
GHG Emission (CO_2-eq ton)	125,000 or higher	25,000 or higher	87,500 or higher	20,000 or higher	50,000 or higher	15,000 or higher
Energy Consumption (Tera Joule)	500 or higher	100 or higher	350 or higher	90 or higher	200 or higher	80 or higher

ETS entities (expected; selected sectors only)

Source: GIR (http://www.gir.go.kr)

  * 76% of emissions covered by TMS came from 10 entities (POSCO, Hyundai Steel, Ssangyong Cement, Tongyang Cement & Energy, S-Oil, GS Caltex, SK Energy, LG Display, Samsung Display, Samsung Electronics) [source: Tribune Business]

□ Offsets & Baning and Borrowing

○ Offsets

- may be used upto 10% of compliance obligations
- International offsets – excluded during Phases I and II

○ Banking

- Unlimited banking

○ Borrowing

- Borrowing between phases is not allowed.
- Borrowing between complicance years within each phase is allowed (upto 10% of emissions in each year)

☐ Timeline for the Korean Emission Trading System

Phase/Yr		Timeline	Preparation
Pre-ETS	2010~'12	- the Prime Minister's Office: ETS Proposal (2010) - ETS legislation (2011-2012)	- ETS implementation mechanism - Decree on ETS, ETS task force (MoE) - Registry (GIS), Data collection
	2013	- MoSF:1st ETS Master Plan(Dec.,2013) - MoE: Preparing ETS as the principal government department - Announcing designated ETS Exchange (Dec., 2013)	- Setting BAU & Cap - Setting rules to deal with allowances on financial statements - Consultations & Public Hearings (MoE/MoSF/MoTIE and other departments)
	2014	- MoE: Allocation plan ~ allocation method, controlled sectors, sectoral allowances (Jun., 2014) - MoE: Announcing controlled workplaces (Jul., 2014) - MoE: Allocation (Sep., 2013)	- Consultations: controlled entities & voluntary participants - ETS trading simulation - Policy coordination & budget plan - Institutional coordination
P1	2015	[Gov: Implement ETS	
	2016	- MoE: Evaluating performance of the ETS in 2015 - MoE: reporting GHG emission record for year 2015 (Mar., 2014) → verification (May, 2014) → Compliance check: a deadline for allowances of year 2015 (Jun., 2014), applying offsets and borrowing, or paying a penalty surcharge	
	2017	- MoE: Evaluating ETS 2016 + [Gov: Preparing P2], MoSF: 2nd Master Plan	
P2	2018~'20		
P3	2021~'24		

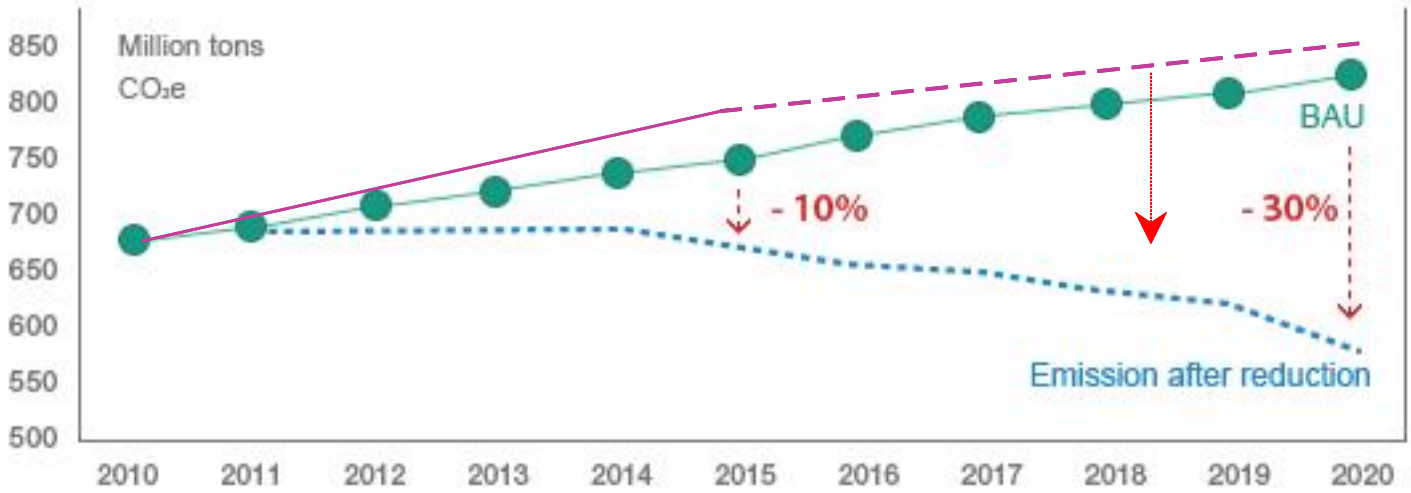
II. Current Issues on the Form and Design of the Korean ETS

☐ Setting BAU and Related Issues

○ Complexity associated with the BAU-base method

○ A significant impact of the 2020 emission forecast for BAU on Cap and abatement costs faced by controlled entities.

- Is the 2007 forecast too ambitious? needs to be revised?



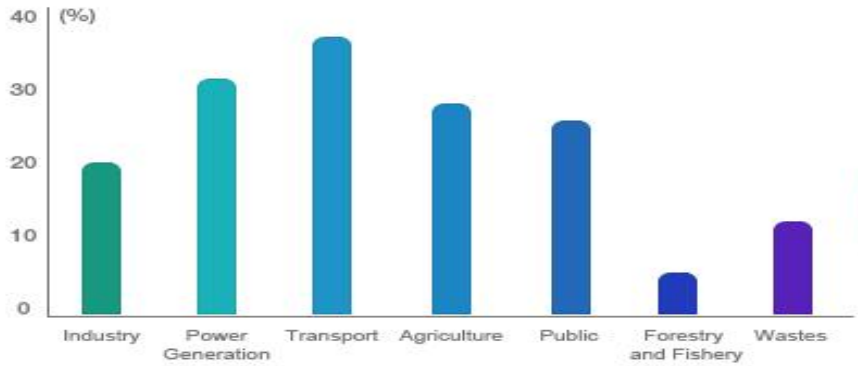
○ Limited borrowing

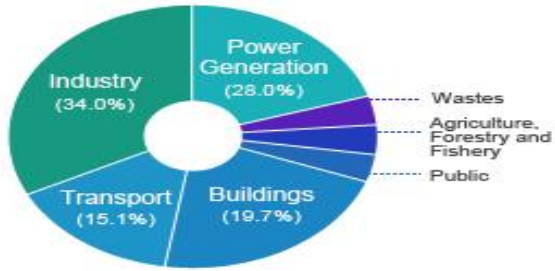
○ Limited offsets: the range of domestic offsets

○ How to use reserve allowances

☐ Sectoral Reduction Targets

< the GHG Reduction Target by Sector >





< Sectoral GHG Reduction Targets (2020, BAU base) >

	Industry+ Power	Transport	Buildings	Agr/Fores/ /Fishery	Wastes	Public	Nation-wide
GHG Emission (% to total)	56.0	13.2	22.0	3.6	1.7	2.3	100 (813 MCO2t)
TMS Reduction rate	18.2	34.3	26.9	5.2	12.3	25	30.0

Source: MoE

○ Industrial sectors: The Korean manufacturing sector has the OECD level of Energy Efficiency → limited reduction capacity.

☐ Price Volatility

○ Market Stabilization Measures

- Additional allowance reserve (upto 25%)
- Maximum/minimum limit for allowance holdings can be imposed
- Adjust borrowing limit between compliance years
- Adjust offset usage limit
- Threshold prices for intervention

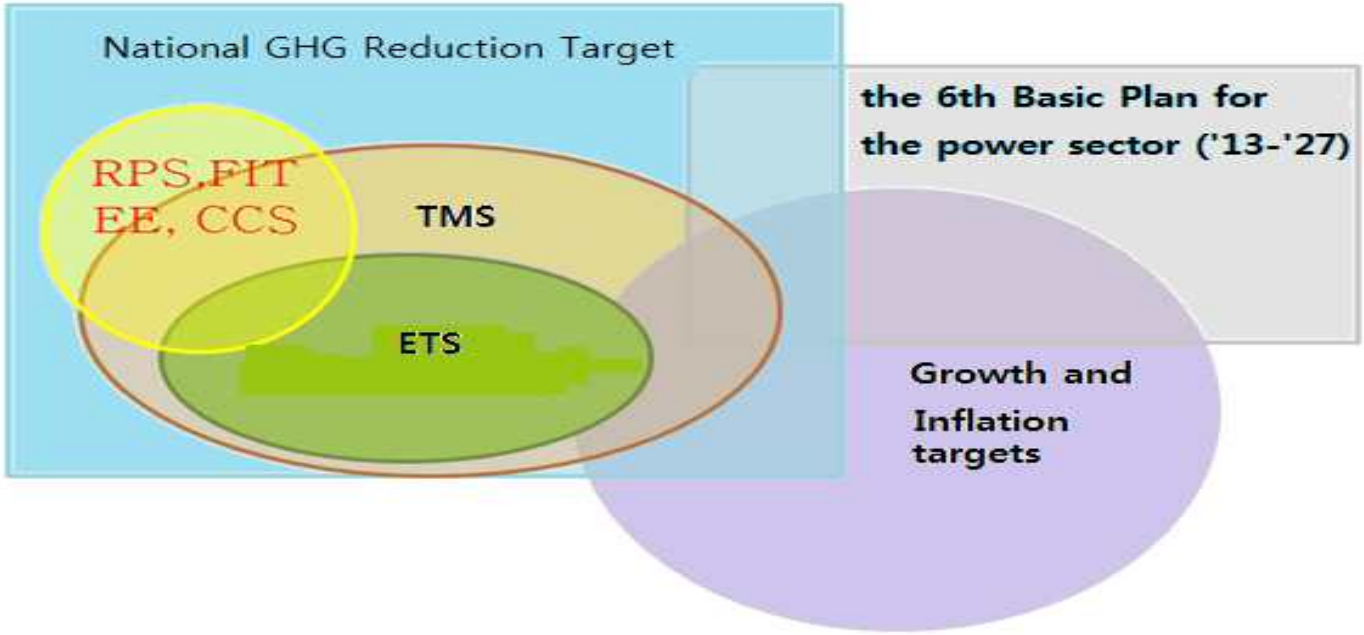
○ Penalties

- 3 times the average allowance price during the compliance year upto a maximum of KRW 100,000/tCO2e (approximately $90/tCO2e)

a price cap

□ Policy Coordination Issues

< Policy Insruments Related to the ETS >



○ How to coordinate ETS with the 6th Basic Plan for the Power Sector

- the Generation mix ~ the 6th plan: in favor of increased coal, nuclear and renewables
- ETS vs RPS/FIT/EE/CCS

○ How to coordinate ETS with TMS: TMS penalty: a maximum of 10 million Korean won ($9,000) in 2014, a relatively small amount. This makes emitters prefer TMS to ETS.

○ How to coordinate ETS with a Carbon tax

□ Power Sector

- ○ Indirect emission: double penalty
- ○ Regulated pricing and hybrid-marginal cost pricing: The deficit of GENCOs may rise & The actual size of reduction may not be large.
- ○ Concerns on nuclear power
- ○ Coal-fired generation, expected to increase

□ Other Issues

○ Financial support for negatively affected sectors

- Limited auction during Phases I and II → How to fund those financial support measures

○ 3rd- Party Participation

- During Phases I and II, controlled entities and some public financial institutions (KDB, IBK, KEXIM, KFC) can participate into the ETS market.