



**SFOC**  
Solutions for Our Climate

# **K-ETS & Linkage Discussions Update**

**Harvard Project on Climate Agreements Workshop**

**Joojin Kim**

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# Solutions for Our Climate (SFOC) Introduction

- Korean non-profit established in 2016, focusing on climate and air policy
- Led by climate change related legal, economic and financial experts, with experience in US or international non-profits
- Key Agendas

Agenda	Details
Coal Finance	Restricting Korean public institutions from financing coal
Climate Target Watch	Ensuring a proper price on carbon, and that climate polluters pay for foreign offsets purchased to meet national climate target
Fair Markets for Renewables	Preventing commingling between regulators and regulated parties, and improving unfair energy market practices
Pollution Pricing	Introducing a proper price on air pollution, either through the introduction of cap & trade or stronger emission charges / taxes

- Carbon Pricing Leadership Coalition (CPLC) led by the World Bank Group
- Co-authored IETA's 2016 Korea emissions trading case study

# President Myung-Bak Lee 's Interesting Climate Legacy (February 2008 ~ February 2013)



“Green Growth” was one of Mr. Lee’s key agendas

- Announced 30% GHG reductions from Korea’s business as usual scenario as Korea’s national GHG target
- Hosted the HQs of the Green Climate Fund and the Global Green Growth Institute
- Introduced the Korea Emissions Trading Scheme, covering 67% of nationwide emissions
- Mr. Lee also permitted several new nuclear power plants (not necessarily to reduce greenhouse gas emissions)
- And, at the same time permitted **twenty new coal power plants** representing a 67% increase in Korea’s coal power capacity

# K-ETS Key Capping Features

Issue		Feature
Coverage		Approximately 67% of national emissions (around five hundred twenty entities)
Indirect Emissions (e.g., electricity usage)		<b>Covered</b> ( <u>because of low electricity prices</u> )
Phases / Allocation	Phase I (2015-2017)	100% free allocation
	Phase II (2018-2020)	97% free allocation
	Phase III (2021-2025)	Less than 90% free allocation
Sectoral Caps		Practically, different emission reduction factors per sector, which was <u>main reason of 40+ Phase I allocation lawsuits</u>

**Expected to be solved**

# K-ETS Key Trading Features

Issue	Feature
Parties eligible for trade	<p>Only regulated companies + three government owned banks (Industrial Bank of Korea, Korea Development Bank and Korea Export Import Bank) are allowed to trade – <b>No significant changes expected during Phase II</b></p>
Banking	<p><b>Unlimited banking of credits (no expiry) – restrictions on banking to be introduced</b></p>
Borrowing	<p>Intra-phase borrowing up to 10% (20% for Phase I) of credits for certain compliance year</p>
Offsets / CDM	<p>Korea domestic CDM credits can be converted to K-ETS credits (up to 10%, except for adipic acid and HFC projects)  <b>Offsets from foreign projects directly performed by Korean companies to be allowed in K-ETS, beginning in Phase II (2018~)</b></p>

*Specific definitions TBD*

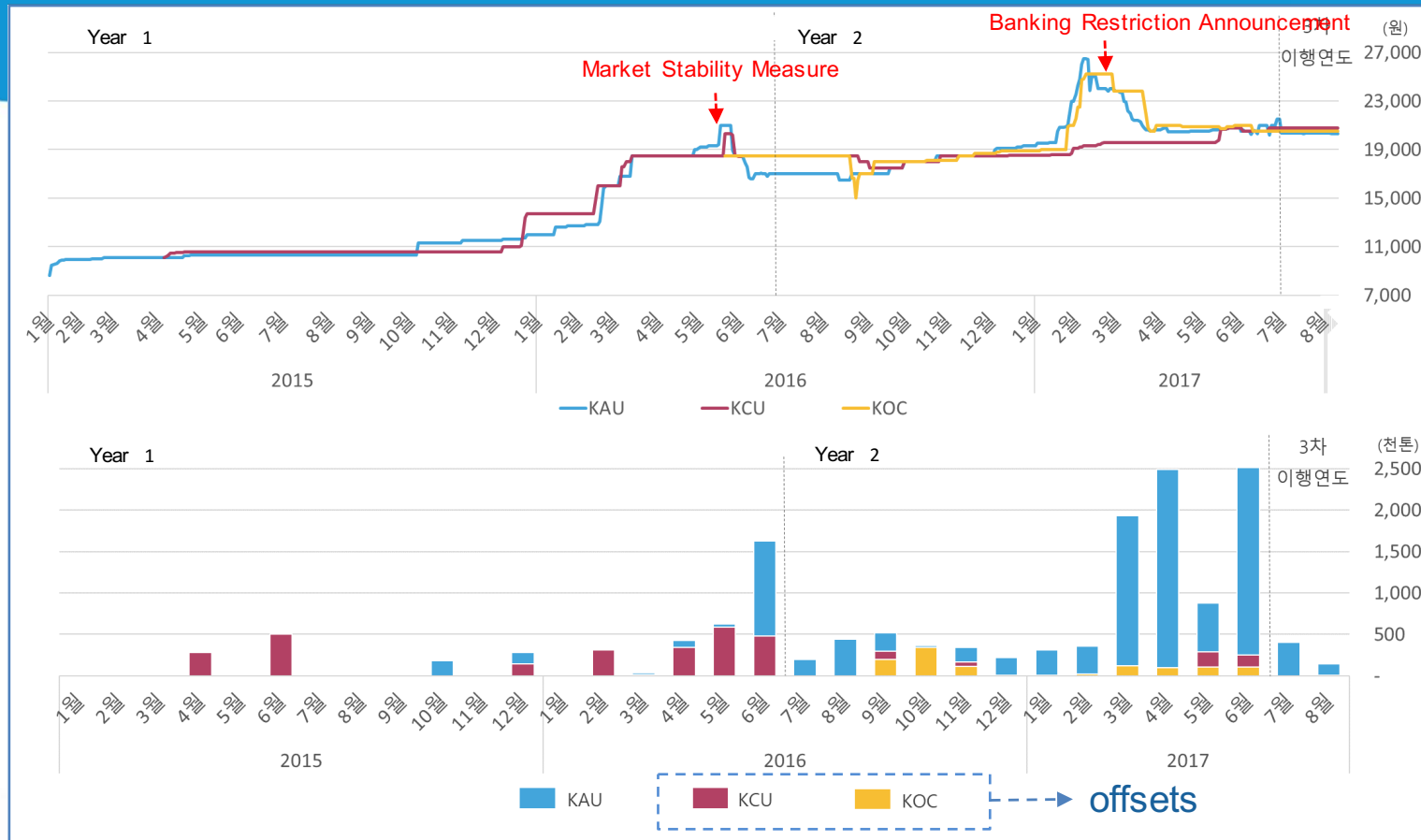
# K-ETS Year One & Two Emissions / Projections

(Unit: tCO<sub>2</sub>e)

Industry		2015	2016	2017	Sum
Allocations	Power Generation	245,244,767	247,754,734	250,327,752	743,327,253
	Steel	102,667,040	106,469,155	109,480,032	318,616,227
	Cement	43,584,999	44,764,099	44,361,473	132,710,571
	Petrochemical	48,233,127	52,909,173	51,416,765	152,559,065
	Oil Refinery	19,313,287	22,813,764	19,158,641	61,285,692
	Other	80,738,688	85,289,399	89,213,100	255,241,187
<b>Sum</b>		539,781,908	560,000,324	563,957,763	1,663,739,995
Actual or Projected Emissions	Power Generation	249,147,589	255,020,908	261,651,452	765,819,949
	Steel	101,850,319	100,402,637	101,908,677	304,161,633
	Cement	44,547,034	46,666,824	47,226,826	138,440,683
	Petrochemical	49,369,130	51,256,022	51,871,094	152,496,246
	Oil Refinery	18,718,663	18,990,960	19,218,852	56,928,475
	Other	79,018,173	82,459,577	84,768,446	246,246,196
<b>Sum</b>		542,650,908	554,796,928	566,645,345	1,664,093,182
(Allocations) – (Projected Emissions)	Power Generation	<b>-3,902,822</b>	<b>-7,266,174</b>	<b>-11,323,700</b>	<b>-22,492,696</b>
	Steel	816,721	6,066,518	7,571,355	14,454,594
	Cement	<b>-962,035</b>	<b>-1,902,725</b>	<b>-2,865,353</b>	<b>-5,730,112</b>
	Petrochemical	-1,136,003	1,653,151	-454,329	62,819
	Oil Refinery	594,624	3,822,804	-60,211	4,357,217
	Other	1,720,515	2,829,822	4,444,654	8,994,991
<b>Sum</b>		<b>-2,869,000</b>	<b>5,203,396</b>	<b>-2,687,582</b>	<b>-353,187</b>

(Source: Sangsun Ha, 2017, K-ETS Developments and Perspectives (Korea Carbon Forum 2017 Presentation Material))

# K-ETS Trading Trends

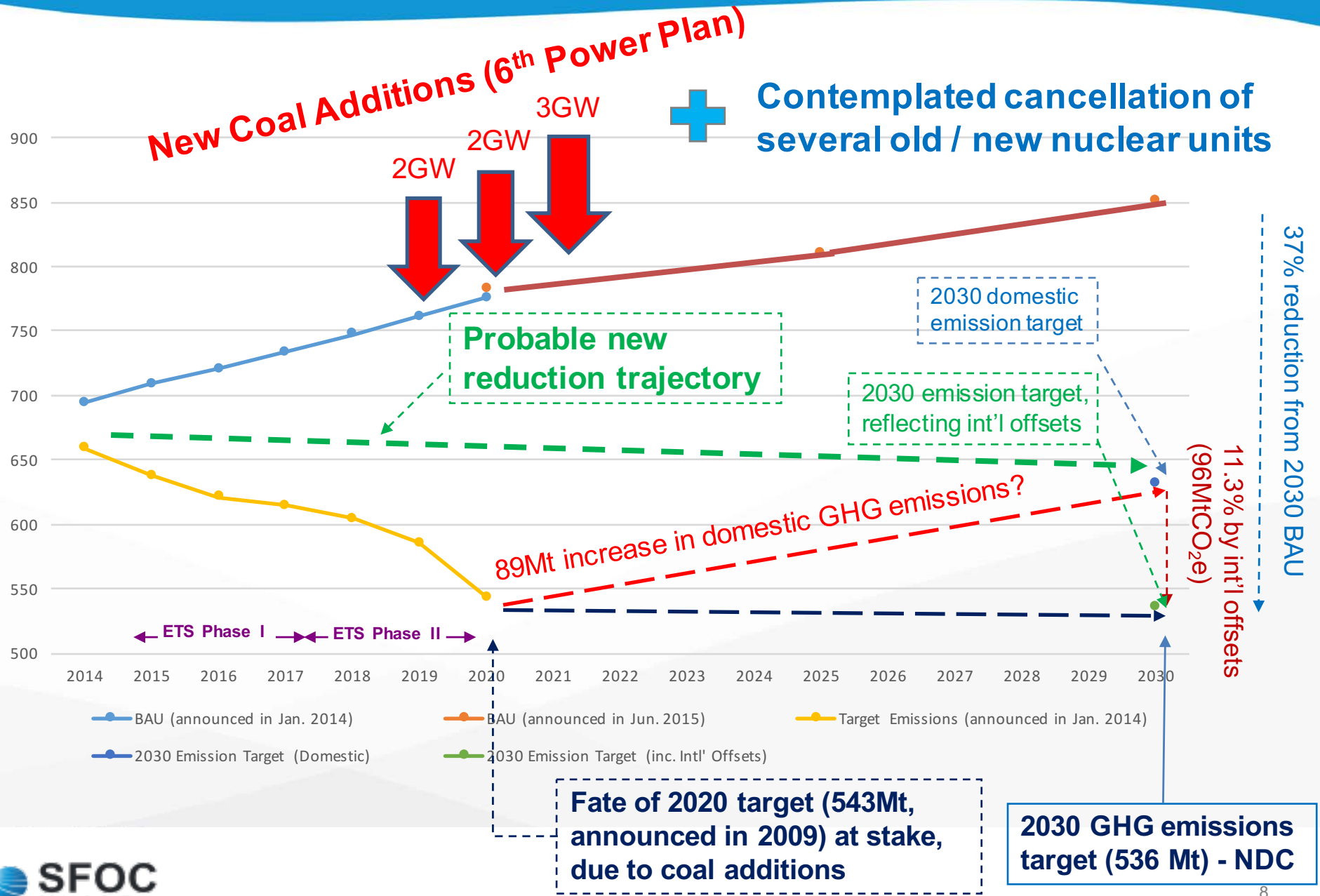


(Source: Sangsun Ha, 2017, K-ETS Developments and Perspectives (Korea Carbon Forum 2017 Presentation Material))

- Lack of liquidity contributed to high credit prices, despite long market
- Trade volume was only 2.3% of total allocations during Year I, due to lack of liquidity (in EU ETS Year 1, trade volume was 34.4% of total allocations)
- After government announcement in early 2017 on credit banking restrictions, KAU (allowance) trade volume increased, whereas in Year 1 offsets played an important role

# Issue I – Recent and pending nuclear / coal power related decisions put 2020 Target / Phase II Cap up in the air

Despite Phase II just three months left, allocations have not taken place





## Issue II – Compensation scheme undermining role of carbon price in power sector

- Pursuant to the Korea Power Exchange (KPX)'s Power Market Operation Rules, "Emission Trading Costs" for most power plants are compensated at a "Standard Price," which roughly means the annual average credit price
- The 2015 KAU Standard Price was KRW 16,309/tCO<sub>2</sub>e, while the 2015 Offset Standard Price was KRW 14,466/tCO<sub>2</sub>e
- KPX directly compensates utilities of carbon credit purchase prices paid, and such costs are not directly or immediately reflected in wholesale bid prices
  - Switch between gas combined bid prices and coal power prices impossible, although, due to the large spread between power market bid prices of the two sources, fuel switch would anyways be impossible
- In any case, compensation scheme is undermining role of carbon price, as power generation companies lack strong motivation to reduce emissions
- Discussions ongoing to reform compensation scheme

## Issue III – Liquidity Shortage / Market Makers Prohibited

- Surge in credit prices, mainly attributable to lack of liquidity, lead to implementation of market stability measure in June 2016
- Main reasons of liquidity shortage : (i) not allowing third party market makers; (ii) unrestricted banking
- Restrictions on banking will be introduced soon
- However, during Phase I or Phase II, no clear plans to allow third party market makers, other than three government owned banks

# Korea Climate Policy Key Features

## Linkage Discussion Perspectives

- Despite the issues described, the K-ETS is one of the most well working Korean climate / environmental policies, given that it has set a price on carbon.
  - Fast and efficient gov't response to most issues, except for allowing third party trading
  - The main problem of Korean environmental / climate policy is the absence of a price on air pollution, not a carbon price.
- Change of ministry (three times already since 2015!) in charge of ETS does not seem to be affecting the K-ETS market that much
  - Market players are more interested in the future of the power mix (i.e., coal and nuclear), as this will directly affect allocations
- Market based mechanism in a (previously) government driven economy
  - Lack of experience with energy and environmental commodities (e.g., government controlled wholesale / retail power market, monopoly over LNG imports)
  - Largest banks and emitters (e.g., KEPCO, POSCO) are controlled by government
  - Public sector which lacks private sector experience (no revolving door)
  - MBM in a not so market oriented government

# Korea Climate Policy Key Features

## Linkage Discussion Perspectives

- Then why did Korea introduce the ETS back in 2012?
  - Probably, the government thought it was a fancy tool, and saw some chances in the carbon market itself
  - Not much discussions on cap & trade vs. carbon tax
  - Locating lower marginal abatement cost opportunities, and thus enhancing environmental ambitions through cap & trade was also barely discussed
  - That may be why Korea was able to introduce the scheme so fast
  - That may also be why there has not been much discussion on linkage
- Nevertheless, the topography is changing fast
  - Strong demand in industry for more reasonable credits / offsetting opportunities
  - The Korean Government has not been able to provide answers on how it will achieve its 37% target / 11.3% (96MtCO<sub>2</sub>e) international credit commitment
  - Actual, specific, professional discussions on the pros and cons of linkage are slowly beginning