Putting a Lid on Pollution

Korea strives to reduce greenhouse gas emissions with a system of emission allowance capping and trading

A
countries the world over strive to become low-carbon economies, Korea is doing its part to reduce greenhouse gas (GHG) emissions. Just last month, the Korean government announced plans to lower GHG emissions by 37 percent of the projected level by the year 2030. This would set a GHG emission target of 546 million tons for that year, which would be 7 million tons less than a previous GHG emission target that aimed to reduce GHG by 30 percent of the business-as-usual (BAU) level by 2020.

As part of its efforts to reduce greenhouse gases, Korea recently implemented a cap-and-trade system that puts a cap, a limit, on the total amount of GHG emissions an entity is allowed. As for the "trade" part - sources that don’t emit their allowed amount can sell the remainder, and those that have exceeded their limit can buy the unused allowances of others.

The cap-and-trade system is expected to better reduce emissions than would another GHG reduction measure called the target management scheme – by an additional 44 to 68 percent, in fact.

The system can minimize costs related to GHG reduction, promote low carbon technologies, help grow the low carbon industry and create jobs. The system can decrease corporations’ marginal costs for GHG reductions by enabling them to adopt various reduction methods. The EU decreased its reduction marginal costs with the system from USD 20 – 655 / ton to USD 14 – 125 / ton. Also in the EU, the number of low carbon-related patent applications doubled following the introduction of the cap-and-trade system. It can boost low carbon industry growth and create jobs as well. The EU was able to secure 33 percent of the low carbon market share through the introduction of the ETS. In the United Kingdom, about 1 million jobs were created along with the growth of the low carbon industry.

Thirty-eight other countries have adopted a cap-and-trade system, according to Korea’s Ministry of Environment. Thirty-four countries, including 28 European Union (EU) member countries, New Zealand and Switzerland, have implemented a nationwide cap-and-trade system. (In the EU, it is known as the Emissions Trading System (ETS).) The United States, China, Japan and Canada have implemented a cap-and-trade system regionally. Also, Chile, Brazil and Mexico are preparing to adopt it.

• Number of low carbon patent applications:
  Before and after the EU-ETS

The history of an emissions trading system goes back to 1997, when members of a climate change-related meeting called the Conference of the Parties agreed to set national GHG reduction targets through adopting the Kyoto Protocol. This led to the development of an emissions trading system.

Korea set national GHG reduction targets in 2009. They were made by eight policy advisory research institutions, including the Korea Environment Institute, and finalized after 40 industrial meetings, polls, public hearings and other forums.

The government established relevant laws from January of 2010 to November of 2012, including the Framework Act on Low Carbon, Green Growth and the Act on the Cap and Trade System. It set annual reduction targets for each industrial sector and industry in July of 2011. These were finalized through 30 meetings with experts, industrial meetings, public hearings, the operation of a joint governmental taskforce team and more.

In January of 2012, the government implemented a GHG target management system and set goals for each monitoring organization. As a result, Korea saw a GHG reduction of 21.3 million tons the same year. This was 2.7 times higher than the target of 8 million tons.

January of 2014 brought more developments, as the government established a roadmap for national GHG reduction targets that was finalized through a taskforce team involving all relevant ministries, the re-estimation of BAU emissions projections, meetings and more. The same month, the Ministry of Strategy and Finance established the Basic Plan for the Cap-and-Trade System, and the Korea Exchange was designated the country’s carbon trading exchange.

By September of 2014, the Ministry of Environment had established an allocation plan for the cap-and-trade system and finalized the total allowance quantity, allocation method, offset standard and operation standard of reserves for the plan’s first compliance period. The ministry allocated allowances in December. And the Korea Exchange opened the carbon trading exchange in January of 2015.

Specifications of the plan’s implementation, and common misconceptions, are as follows.

Source: Ministry of Environment

Cap-and-Trade System Implementation Specifics

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<thead>
<tr>
<th>Description</th>
<th>Date</th>
<th>Details</th>
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<tr>
<td>Designation of target emitters</td>
<td>Oct. 2010</td>
<td>A company that has emitted over 120,000 tons of CO2 or a factory / building that has emitted over 25,000 tons during the past 3 years</td>
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<td>Allocation of emission allowances</td>
<td>Oct. 2014</td>
<td>Emission allowances for each polluting entity within the total number of allowances set for each business sector</td>
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<td>System implementation</td>
<td>Jun. – Dec. 2015</td>
<td>Companies must file registration with the government and start participating in the ETS system</td>
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<td>Performance review</td>
<td>May 2016</td>
<td>Receive emission statements from entities and certify emissions</td>
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<td>Submission and carryover of emission allowances</td>
<td>Jun. 2016</td>
<td>Filing entities submit allowances equivalent to their estimated emissions for the year, and the amount is allocated to the next period</td>
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The standard implementation of allocation guidelines will be in line with the national guidelines. A company’s emissions are less than the allowed amount can carry over their unused allowances to the next implementation year of the same compliance period or to the first implementation year of the next compliance period. A company whose emissions have exceeded its allowance can borrow future allowances from other implementation years during the same compliance period.

The number of allowances a company requests – the number of allowances allocated | Reduction bands |
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<td>Companies will be tasked with high reduction costs, as high as KRW 12.7 trillion (USD 11.3 billion)</td>
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The strict implementation of allocation guidelines will ensure the equal allocation of allowances:

• Each company gets a fixed number of allowances.
• An increase in allowances for Company A means a decrease of allowances for Company B and C in the same sector.
• The government plans to improve relevant laws, including allocation guidelines, in 2015.

A shortage of tradable allowances is noted in the initial phase of implementation:

• The government will limit the exchange of derivatives such as futures and the investment of non-emission-related funds.

A lack of tradable allowances means a failure of the cap-and-trade system:

The government is unanimously forcing strict regulations.

Reformatives from industries, academia, etc. participated in the implementation / preparation process.