Issue Briefing

The Adoption of the Paris Agreement and South Korea's Response to the New Global Climate Regime

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Picking Apart the Paris Agreement

Background

The Paris Agreement was adopted as a result of the 21st Conference of the Parties (COP) of the United Nations Convention on Climate Change (UNFCCC) held in Paris from November 30 – December 11, 2015. The international society has been striving for the establishment of a new global climate change regime correcting limitations of the Kyoto Protocol, which includes decisions on the greenhouse gas (GHG) emissions reduction by industrialized countries and the provision of assistance to developing countries, that emerged since it was signed (1997) and began to take effect (2005). The most prominent feature of the Kyoto Protocol was that only developed countries were required to cut down on GHG emissions based on the principle of 'common but differentiated responsibilities (CBDR).' Disgruntled by this scheme, however, not only did the United States refuse to ratify the protocol, but also 'the Umbrella Group,' the group of major industrialized countries including Canada, Japan, and Russia, showed opposition.

This inevitably led to a call for a redesign of the regime. Countries categorized as developing states and thus given no reduction obligations under the Kyoto Protocol, such as China (the world's largest CO_2 emitter), India (3rd), South Korea (7th), Indonesia (9th), Saudi Arabia (10th), Brazil (11th), Mexico (13th), Iran (14th), emerged as major GHG emitters comparable to developed countries. Also, the estimated cumulative emissions from 1850 through 2010 indicate that developed countries account for 52% of the total amount, while developing countries represent 48% (PBL 2013). This suggests that developing countries can no longer pass the entire burden to developed countries under the pretext of 'historical responsibilities.'

Calls for further improvement along these lines naturally followed in the post-Kyoto regime, and the outcome materialized at COP17 in 2011 in the form of the 'Durban Platform for Enhanced Action.' It was characterized by universal engagement by developed and developing countries alike through such provisions stating, among other things, that "Parties have agreed to develop a protocol, another legal instrument or an agreed outcome with legal force under the

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Convention applicable to all Parties." The subsequent Doha COP18 in 2012 saw an extension of the Kyoto Protocol through 2020 and a decision to complete a blueprint for a new global climate regime by 2015.

At COP19 held in Warsaw in 2013, an agreement was reached on the submission by member states of the Intended Nationally Determined Contributions (INDC). This required all states involved in UNFCCC to submit INDC where plans on GHG cuts and adaptations to climate change on the national level are included. It also outlined the most salient feature of the new global climate regime which is the planning and implementation of INDC in a voluntary and non-binding manner in order to cope with climate change. Once the INDC is inscribed in the agreement, it becomes a final, nationally determined contribution (NDC). 160 INDCs with endorsements by 187 member states were eventually submitted before UNFCCC by the time COP21 began, and this led the adoption of the Paris Agreement despite opposition from some developing countries, clearing the way for the new global climate regime starting in 2020. The first part of the document, "Adoption of the Paris Agreement" (UNFCCC 2015c), which is 31 pages in total, contains decisions and the actual text of the Paris Agreement, made up of preamble and 29 articles and is provided in the following 12-page Annex.

Purpose

The Paris Agreement articulates the 'purpose temperature', which was previously not clarified. Chapter II-17 of the Decision states that "to hold the increase in the global average temperature to below 2°C above pre-industrial levels by reducing emissions to 40 gigatonnes or to 1.5°C above pre-industrial levels by reducing," the goal of 1.5~2°C has been set. With the average global temperature already exceeding the pre-industrial levels by 0.85°C in 2012, the Kyoto regime has set the potential limit at a 2°C rise, which is an estimated average world temperature in 2100 when the accumulated emissions are expected to reach 55 gigatonnes. The new global climate regime, however, laid down a stricter criterion including not only the existing provision on the temperature rise control below 2°C but also a statement to raise the bar to a 1.5°C increase.

The first draft of the Paris Agreement (UNFCCC 2015b) contains all the three options to the goal, suggesting fierce debate among groups engaged in negotiations. Option 1 ("below 2°C above pre-industrial levels") was backed by major developed countries except the EU, advanced developing countries such as BASIC (Brazil, South Africa, India, and China) and OPEC (Organization of the Petroleum Exporting Countries) member states, where as Option 3 ("below 1.5°C above pre-industrial levels") embodied arguments by countries most vulnerable to climate change, most notably LDCs (the least developed countries), SIDS (small island developing States), African states, and most of the developing countries. Option 2 ("well below 2°C above pre-industrial levels [and to [rapidly] scale up global efforts to limit temperature increase to below 1.5°C] [while recognizing that in some regions and vulnerable high risks are projected even for warming above 1.5°C]") could be viewed as a compromise between the other two options and is similar to the text finally adopted in the agreement. Thus, the temperature goal of '1.5~2°C,' which is a very political number, has been set.

INDC

Departing from the top-down approach taken by the Kyoto regime, the new regime features a bottom-up approach. By the 'targets and timetables' method, the 39 states listed in Annex B of the Kyoto Protocol were legally required to reduce GHG emissions by 5.2% on average relative to 1990 levels by 2012. The Paris Agreement, in contrast, is characterized by voluntary planning by individual states, the compilation and regular assessment of internationally endorsed reduction plans called INDCs, and the consequent encouragement and demand of implementation. Since the

reduction goals, deadlines, and means of INDC are customized to each individual country, the new global climate regime essentially represents a non-binding and flexible system, where the focal point of solutions has shifted from the design and international institutions and binding force to spontaneous sociality generated by individual states and their domestic politics.

The main content relevant to INDC is found in Sections 8 and 9 of Article 4 and Sections 1 and 2 of Article 14. These provisions employ the term 'shall' instead of the toned-down expression of 'should', thus stressing the responsibility of countries engaged in INDC assessment. Pursuant to regulations stated in Article 4 Section 8 ("In communicating their nationally determined contributions, all Parties shall provide the information necessary for clarity, transparency and understanding") and Section 9 ("Each Party shall communicate a nationally determined contribution every five years"), each country must submit INDC anew every 5 years to UNFCCC. Also, Section 1 of Article 14 articulates that "The Conference of the Parties... shall periodically take stock of the implementation of this Agreement to assess the collective progress towards achieving the purpose of this Agreement and its long term (referred to as the "global stocktake")," which stipulates that a newly submitted sum of INDCs must be an improvement on the previous INDCs, while Section 2 designates 2023 as the year of the first assessment on INDC implementation.

While the Agreement does not provide the details of the assessment mechanism, Section 1 of Article 13 stipulates the establishment of "an enhanced transparency framework for action and support, with built-in flexibility which takes into account Parties' different capacities and builds upon collective experience." Once the transparency framework is materialized in the follow-up negotiations, all countries are expected to disclose information for an objective assessment of INDC. Currently, developed countries like the U.S. are insisting on the establishment of a transparency mechanism with blanket application across all countries, but such a universal mechanism seems elusive since the proposal is met with strong resistance from developing countries.

The biggest impediment is that even if all the submitted INDCs are to be achieved by 2030, it still falls short of the goal of 1.5~2°C limit by 2100. An analysis by the Climate Action Tracker (CAT) of the INDCs submitted thus far predicts that the average global temperature will rise by 3.3~3.9°C in the 'business-as-usual' scenario, and that it will still rise by 2.4~2.7°C even if all INDCs are fully implemented (CAT 2015). Therefore, a flurry of moves are expected to adjust the sum of INDCs to the goals of the Paris Agreement and countries that have turned in lower INDCs than their current capabilities will be under increasing pressure for a large-scale revision after the first assessment.

Finance for Adaptation

Section 1(b) of Article 2 of the Paris Agreement, which states that "Increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience," specifies that the adaptation to the climate change is one of the two major goals of the agreement along with reduction of GHG emissions. The most pressing issues on the adaptation agenda are to stabilize average global temperature by curbing GHG emissions in the long run and to help countries most vulnerable to the current climate change with adaptation efforts. So far, developing countries have been pointing to historical responsibility and have strongly demanded financial aid as well as cuts on GHG emissions by developed countries. For the part of developed countries, however, it was simply too onerous a task to take care of an array of aid needs of developing countries on top of the massive cost incurred by the mandatory reduction on GHG emissions. In particular, they tried to avoid as much as possible a situation where the adaptation talks, clothed in 'climate justice,' led to 'mandatory' financial compensations by developed countries. As it became clear, however, that coun-

tries most responsible for climate change were evading necessary action, adaptation came to the fore as one of the two major issues on a par with mitigation since COP13.

At the heart of the adaptation debate lies the financing of aid to developing countries. At COP15 in 2009, specific amounts of financial support for the adaptation of developing countries funded by developed countries were calculated. The consequent 'Copenhagen Accord' stipulates that a short-term fund of USD $30 billion be created in between 2010 and 2012 and a long-term fund of $100 billion be raised annually by 2020. The provision was also reaffirmed at COP16 the following year. The Paris Agreement, while supposedly a successor to the Copenhagen Accord's spirit, is somewhat indeterminate on this issue. Paragraph 54 in the Finance chapter states that "prior to 2025 the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement shall set a new collective quantified goal from a floor of USD 100 billion per year, taking into account the needs and priorities of developing countries," mandating the setting of a new aid amount exceeding $100 billion every year after 2025.

The problem, however, is that this provision does not form a part of the Paris Agreement itself that deals with action but is included in the decision part. Article 9 Section 3 of the Paris Accord simply notes that "developed country Parties should continue to take the lead in mobilizing climate finance from a wide variety of sources, instruments and channels, noting the significant role of public funds, through a variety of action, including supporting country-driven strategies, and taking into account the needs and priorities of developing country Parties," without reference to a specific amount of aid.

What is notable relative to the adaptation issue is that the term 'loss and damage' is officially specified in Article 8 Section 1 ("Parties recognize the importance of averting, minimizing and addressing loss and damage associated with the adverse effects of climate change."). This could serve as a facilitating element of international cooperation and support for preparation against extreme weather events in the form of an early warning system, etc. Still, the agreement has failed to deal with the 'liability' issue, the biggest bone of contention, leaving open the questions regarding the scale and types of loss and damage as well as the proportionate amount of financial compensation.

The Road Ahead: Effect of the Agreement on South Korea and Policy Recommendations

INDC and the Industrial·Energy Sector Structure of South Korea

Since the INDC method, unlike the Kyoto's top-down binding way, does not have legal binding force, the key to the success of the new global climate regime lies in effective monitoring and assessment of INDC observance by individual states. And this supervision/implementation promotion mechanism is expected to be shaped by pressure from every direction by various institutions and actors beyond the UNFCCC.

The first key variable to the success of international environmental agreements is the will and pressure of superpowers. Previously, the United States, the only advanced country which refused ratification of the Kyoto Protocol, and China, the largest GHG emitter, shunned the reduction obligations. However, the G2 did an about-face and led the adoption of the Paris Agreement this time, creating completely different dynamics from the existing regime led by the EU alone. Assuming quite a new aspect in their respective INDCs, the United States promises "to reduce economy wide emissions by 26% to 28% below 2005 domestically," while China pledges "to reduce carbon intensity by 60% to 65% by 2030 below 2005 levels, increase the share of non-fossil primary energy to 20%, increase the forest stock and peak by 2030 or earlier."

With respect to the research and development (R&D) of renewable energy sources, the two superpowers are also poised to undergo a shift to a low-carbon society. While the biggest impediment to the Kyoto regime was the non-compliance by G2, the potential success of the new global climate regime could be attributed in large part to the compliance of the United States and China.

Apart from superpowers, a variety of institutions and players in international relations are expected to play a role as complex pressure groups. For instance, summit meetings such as the G20 or MEF (Major Economies Forum on Energy and Climate), whose 17 member states account for almost 80% of the global GHG emissions, OECD (Organization for Economic Co-operation and Development), a grouping of developed nations, and APEC (Asia-Pacific Economic Co-operation) can serve as a venue where responses to climate change can be put be on the agenda and an INDC implementation mechanism can be facilitated. In addition, call for a greater share by renewable energy sources in the global energy profile by IRENA (International Renewable Energy Agency) or pressure for sustainable development by institutions such as the World Bank and UNDP may grow further. Meanwhile, trade regulations of the WTO will be compelled to revise themselves to accommodate the new global climate regime, while the international financial market will also move away from investment in fossil fuels and toward renewable energy sources, with an increasing presence of the global emission trading system.

At the same time, other actors of global governance within and beyond nation-states, ranging from local metropolitan governments to international epistemic communities like IPCC (Intergovernmental Panel on Climate Change), civic groups, multinational corporations to individuals are going to assume a considerably significant role in monitoring and urging INDC implementation by countries. In sum, although the new global climate regime is based on a non-binding and voluntary mechanism called the INDC, it has enhanced adaptability by modifying the previous binding mechanism that proved ineffective toward nation states and creating new types of pressure for INDC implementation through formation and reinforcement of voluntary compliance mechanisms and monitoring agents across the board.

The current South Korean industrial and energy sectors will be put under heavy pressure from international society for rule compliance in the new global climate regime. As the world 9th-largest energy consumer with 84.3% of primary energy sources coming from petroleum, coal, and natural gas, the heavy dependence on fossil fuels has led to massive GHG emissions, making South Korea the 7th – largest emitter of GHGs. As of 2012, total GHG emissions of South Korea registered approximately 688.3mtCO_2, with the energy sector taking the lion's share (87.2%), followed remotely by industrial processing (7.5%), agriculture (3.2%), and waste (2.2%) (GIR 2014, 2-3).

The emissions from the energy sector (600.3mtCO_2) are broken down into the energy industry (45.2%), manufacturing and construction (30.4%), transportation (14.6%) and others (household, commerce, public, agriculture, fishery and forestry, etc.) (9.8%) (GIR 2014, 56), indicating that the three major energy sectors (energy, manufacture/construction, transportation) account for a majority of the emissions. That is, CO_2 generated by activities such as power and heat generation, steel, chemistry, cement, oil refineries and land transit are the most responsible for GHG emissions in South Korea. With the current industrial and energy structure in place, South Korea will be unable to cope with the new global climate regime calling for a response to climate change on a global level.

South Korea's INDC put forth goals "to reduce its greenhouse gas emissions by 37% from the business-as-usual (BAU) level by 2030 across all economic sectors" (UNFCCC 2015a). In numerical terms, this equals to the reduction from an estimated BAU of 850.6mtCO_2 in 2030 to 536mtCO_2. During the Lee Myung-bak administration in 2009, South Korea pledged to reduce a 30% reduction relative to BAU in

2020, which meant a reduction from 813mtCO_2 to 543mtCO_2. The goal was set in consideration of the maximum value for developing countries recommended by IPCC, which was '15~30% of BAU' and the decision by South Korea, with no reduction obligation at the time, was lauded and recognized by international society. However, the INDC presented by South Korea in 2015 as a response to the new global climate regime is as good as simply swapping the emissions goal of 543mtCO_2 by 2020 with another goal of 536mtCO_2 by 2030, essentially a mere 7mtCO_2 reduction over a decade from 2020 to 2030. Moreover, South Korea's INDC is based on BAU with an annual GDP growth rate of 3% and a constant share of manufacture industry, rendering BAU of 2030 less realistic. The CAT already gave South Korea's INDC a negative rating of 'inadequate', and this comes as a warning sign that the country is increasingly under pressure for additional GHG emissions reduction commensurate with its responsibility and capability.

The South Korean government is planning to fulfill its reduction obligation of 37% through domestic policies (25.7%) and through the international market mechanism (IMM) (11.3%) (South Korea Government 2015a). Most notable of the policies mapped out by the current administration in order to achieve this goal the "new energy industry plan." By making large-scale investment in new energy industries as part of the "creative economy," the Park Geun-hye administration is working towards jump-starting new growth engines as well as reducing GHG emissions to cope with the climate change. In July 2014, the government confirmed the "Plans for Creating New Energy Industries in Response to Climate Change" at the 11th Presidential Advisory Council on Science and Technology, paving the way to investing a total of $1.94 billion by 2017 with a view to fostering new industries in six energy sectors; namely electric power demand management, integrated energy control services, independent micro-grids, solar cell rental, electric vehicles and charging, and thermal effluent businesses (South Korea MOTIE 2014).

In April 2015, the government subsequently presented a policy roadmap for specific sectors in its announcement of the "Plans for the Implementation of New Energy Industries and Core Technology Development Strategy in Response to Climate Change." The plan determined a total of eight new energy industry sectors by adding zero-energy buildings and eco-friendly energy town construction to the existing six areas. Also, the plan aims at creating a spontaneous industrial ecosystem by stimulating private-sector as well as public-sector investment which in turn is expected to generate a market worth about 4 billion USD and create 14,000 jobs, boosting economic growth (South Korea Government 2015b).

Improving and building upon the existing ETS (Emissions Trading System) and RPS (Renewable Portfolio Standard), the South Korean government seeks to kill the two birds of the environment and economy with one stone of successful promotion of new energy industries. Moreover, the focal point of the South Korean policy appears to be possible synergy between the new energy industries and foreign investment which, in turn, will earn reduction credits and fulfill the commitment in the INDC to 11.3% reduction through the international carbon market. Nevertheless, South Korea's current industrial structure, which is characterized by heavy dependence on fossil fuels and energy-intensive businesses, poses a daunting and nation-wide challenge in order to achieve the INDC, particularly given that all developed countries are predicted to engage competitively in promoting their energy industries and acquiring reduction credits from abroad.

Policy Recommendations

Several policy recommendations for South Korea should be made in response to an ever-accelerating global move toward a low-carbon society triggered by the adoption of Paris Agreement. First, at the heart of the matter is the need for proactive stances and prac-

tices by the government. The new global climate regime hinges on the political will of individual states, while international society takes on a facilitating and monitoring role to see if the will actually leads to practice. In a word, the success of the new global climate regime lies in 'domestic politics.' As the Kyoto regime sorely demonstrated, no international institution can offer a solution to the problem if nation-states care only about short-term interests and are demoralized in their pursuit toward a low-carbon society. The bottom-up style Paris Agreement is an acknowledgement of that fact, but it also represents a ray of hope that international norms can transform the incentive structure of states and thus bringing about cooperation on a global scale.

South Korea should also stand in line with these ambitions and transform its governing structure accordingly. With a renewed and enhanced impetus, it needs to support the R&D of solar and wind energy technology, batteries, fuel cells, electric cars, LEDs (light emitting diodes), etc. and increase the share of clean energy sources through regulations, incentives, and market mechanisms, while mobilizing resources to build institutions and infrastructure conducive to a low-carbon society. What is imperative is not policy formulation or institution-building, but the determination of national orientation.

Second, a disclosure system on details of the current GHG emissions should be voluntarily established. Currently, the Greenhouse Gas Inventory & Research Center of Korea (GIR) complies and releases statistics related to GHG emissions, but there is a pressing need for an even more advanced information system in order to cope with transparency framework required by the new global climate regime to come. Also, it is necessary to make compulsory the installation of measuring devices in massive GHG-emitting businesses, while constructing a more elaborate information system connected with a national information network. In turn, these policies should create a synergy effect by combining with carbon audits and the fostering of "green" industries and a workforce specialized in the transfer and commercialization of carbon emission reduction technologies. The development of techniques to collect data on greenhouse gas emissions by commercial and residential facilities as well as industries, along with the construction of a service network allowing universal access to the specific data represented on maps and GPS (global positioning system), is essential. Public culture, bolstered by technology and policy, should be encouraged to regard GHGs like sulfur dioxide or nitrogen oxides. When the amount of information and data reaches a critical point, it alone may be sufficient to trigger a social movement.

Third, South Korea must take the initiative by spearheading the establishment of the carbon market and rule-setting both domestically and internationally. Right on the heels of the adoption of the Paris Agreement, 18 countries (Australia, Canada, Chile, Colombia, Germany, Iceland, Indonesia, Italy, Japan, Mexico, Netherlands, New Zealand, Panama, Papua New Guinea, Republic of Korea, Senegal, Ukraine, and the U.S.) already made a resolution aimed at promoting the growth of the international carbon market. The form of a new international carbon market distinct from the one envisioned in the Kyoto Mechanism has yet to be determined. However, no country can attain the goals put forth in the Paris Agreement solely through domestic efforts and achieving INDCs through international carbon market promises to draw a lot of attention. As previously noted, South Korea has made an offer to purchase 11.3% of the 37% INDC goal. Thus, it is desirable to actively engage in the founding and rule-setting of the international carbon market as a means to project its national interests and contribute to the development of the market.

On the domestic scene, South Korea has already put in place a nation-wide ETS as well as REC (Renewable Energy Credits) issued through RPS. By assigning credits to carbon, South Korea has become an exemplary leader among developing countries and is

also planning to introduce additional credits such as energy demand management. Once these credits, including black credits for carbon emissions, green credits from renewable energy use, and white credits earned from energy saving, gain a foothold, it will be necessary to ensure free exchange of these credits like ordinary currencies. When this credit system takes hold through a market mechanism, it will serve as a basis for further carbon pricing policies.

Last but not least, South Korea should engage in middle-power 'green' diplomacy that is fitting for its capability and status. It is about time South Korea looked beyond achieving INDC and employed global leadership in helping states vulnerable to climate change. When South Korea entered the competition for hosting the Green Climate Fund (GCF) secretariat, it posed itself as a 'bridge', an archetype of middle-power diplomacy. It suggested that South Korea was one of a few countries with the experience of a developing country advancing into a developed status, thus enabling it to understand both sides and pass on its own know-how to developing countries. This rationale, earning votes from both camps, is considered as one of the main reasons behind the successful hosting of the GCF secretariat.

An evangelist of the concept of 'green growth', South Korea is asked to build the notion into more than mere rhetoric and constantly show genuine efforts to help out countries afflicted with climate change. This should begin by taking note of the demand of developing countries which are vulnerable to climate change, which will be accompanied by a dogged effort and the provision of relevant technology, resources, knowledge, and manpower with a view to discovering projects and businesses for improving investment conditions and helping with adaptation to climate change. By making building up public will in South Korea and enlisting the active participation of other states, these actions will speak for themselves and eventually constitute a genuine elevation of national stature. ■

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