

ISSUE BRIEF

# *Paris Climate Conference:* **SOUTH KOREA**

South Korea has formally proposed that it will cut its emissions 37 percent below the business-as-usual (BAU) level of 851 Metric tons of carbon dioxide equivalent (MtCO<sub>2</sub>eq)—by 2030. South Korea can build on existing domestic measures and strengthen its reduction efforts.

## **OVERVIEW OF NATIONAL CIRCUMSTANCES**

South Korea's nominal gross domestic product (GDP) grew at an average rate of 3.6 percent over the past three years, accompanied by increasing energy consumption, vehicle registration, and waste generation.<sup>1</sup> South Korea accounted for 1.8 percent of global greenhouse gas (GHG) emissions in 2013 and 1.3 percent in 2012.<sup>2</sup> As a result, it ranked seventh for global carbon dioxide emissions and twelfth for total GHG emissions.

## **SOUTH KOREA'S CLIMATE PLEDGE**

South Korea's pledge to cut emissions 37 percent below BAU levels by 2030 across all economic sectors is a part of its intended nationally determined contribution (INDC) to be finalized in December 2015 at the Paris climate conference.<sup>3</sup> In its INDC, South Korea declared its intention to buy carbon credits from the international market to meet part of its 2030 target. South Korea hasn't clearly explained its land sector accounting methods, saving that for a later stage.

## **ANALYSIS OF SOUTH KOREA'S CLIMATE PLEDGE**

The 37 percent reduction target reflects a stronger target than South Korea's previous four draft proposals—ranging from around 15 to 31 percent cuts below BAU. This target amounts to holding emissions flat through 2030 but reflects a weakening of the trajectory that the country proposed as part of the Copenhagen Accords in 2009—that target implied a downward emissions trajectory after 2020 (see graph). According to one estimate, this target puts the country on the trajectory to a 2 degree Celsius scenario.<sup>4</sup> Other estimates have rated South Korea's target as "inadequate." The Climate Action Tracker considers the target as inadequate based on several criteria for determining a "fair share" of global responsibility and capability for tackling climate change.<sup>5</sup>

South Korea could improve on its commitments. The South Korean INDC suggests that only 26 percent reductions would be domestic and that the remaining 11 percent would be achieved through international market mechanisms. South Korea could raise its ambitions for climate action as expert estimates considered a 37 percent cut as achievable with only domestic measures, without counting international market mechanisms.<sup>6</sup>

The South Korean INDC's land-use, land-use change, and forestry (LULUCF) components are another area of concern. If the LULUCF elements were included in a more realistic scenario, the INDC would be even weaker since emissions in other sectors such as manufacturing and transportation could be higher if carbon sinks from LULUCF could be counted to offset growing emissions in those areas.<sup>7</sup>

## **CLIMATE MITIGATION POLICY**

To date, the government has already taken several emissions reduction steps, detailed below.

## **EMISSIONS TRADING SYSTEM FOR KEY SECTORS**

In 2015, South Korea launched a national Emissions Trading Scheme (ETS) to promote cost-effective measures for reducing emissions.<sup>8</sup> The cap-and-trade market includes 525 of the country's largest polluters, which account for two-thirds of the nation's non-vehicular emissions.<sup>9</sup> The program includes a three-year cap of 1,687 million tons of CO<sub>2</sub> equivalent, with individual companies required to submit reports on their actual 2015 emissions levels by March 2016 and their allowance and offset credits by the end of June 2016.<sup>10</sup>

## **BUILDING SECTOR**

South Korea's green building plan includes both mandatory and incentive-based measures aimed at improving energy efficiency in buildings.<sup>11</sup> The mandatory regulations include

strengthening green home design standards, reinforcing the criteria for energy use, building 1 million green homes, and promoting environmentally-friendly certification and expanding the use of renewable energy in public buildings.

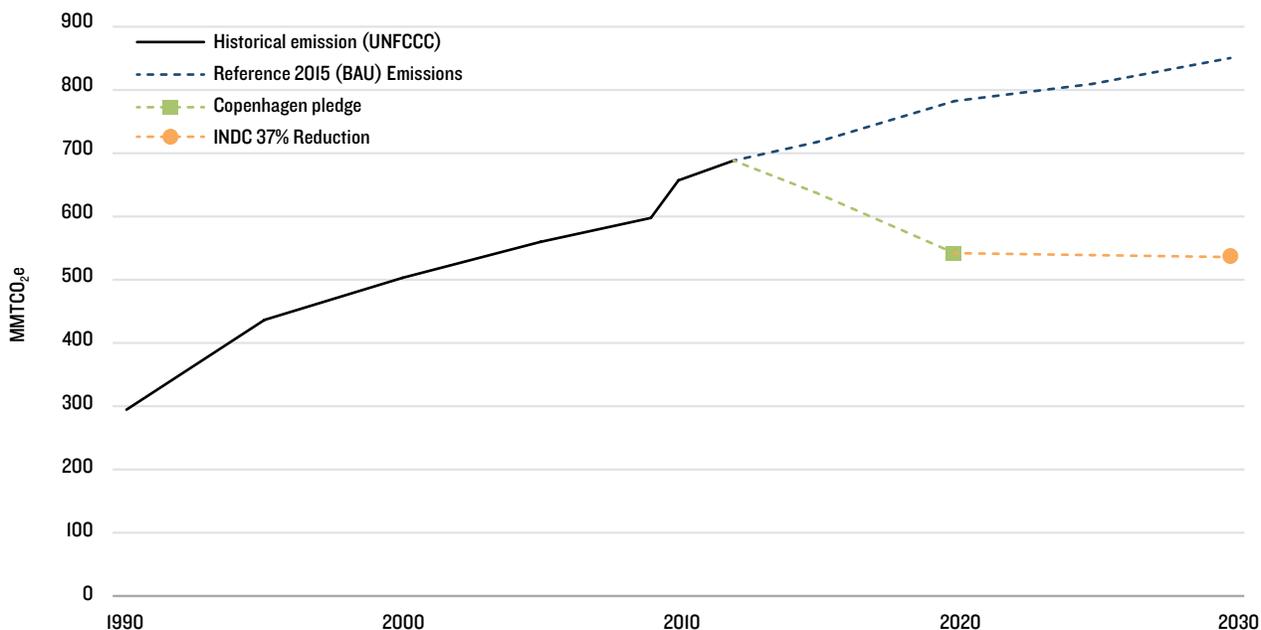
### TRANSPORT SECTOR

South Korea has decided to strengthen the average emission standards for automobiles from 140g/km in 2015 to 97g/km by 2020. The government continues to support electric and hybrid vehicles through incentives such as tax credits and expanded infrastructure for environmentally friendly public transportation.

### OUTLOOK

Before the 2009 Copenhagen climate summit, South Korea showed potential as a climate leader, but that was called into question with its INDC and the level of ambition of its post-2020 target.<sup>12</sup> South Korea should strengthen its targets so that this initial proposal becomes the floor and not the ceiling, demonstrating its committed to the 2020 Copenhagen target, and a more ambitious trajectory for future reductions.

**SOUTH KOREA GHG EMISSIONS EXCLUDING LULUCF**



Source: Natural Resources Defense Council, based on Korea's INDC submission and statistics submitted to the UNFCCC.

## ENDNOTES

- 1 The Republic of Korea, *First Biennial Update Report of the Republic of Korea*, United Nations Framework Convention on Climate Change (UNFCCC), December 2014, <http://unfccc.int/resource/docs/natc/rkorbur1.pdf>.
- 2 Emissions Database for Global Atmospheric Research, “GHG (CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, F-gases) emission time series 1990-2012 per region/country,” European Commission Joint Research Centre, <http://edgar.jrc.ec.europa.eu/overview.php?v=GHGts1990-2012>. (Accessed October 28, 2015.); Emissions Database for Global Atmospheric Research, “CO<sub>2</sub> time series 1990-2013 per capita for world countries,” European Commission Joint Research Centre, [http://edgar.jrc.ec.europa.eu/overview.php?v=CO2ts\\_pc1990-2013](http://edgar.jrc.ec.europa.eu/overview.php?v=CO2ts_pc1990-2013). (Accessed October 28, 2015.)
- 3 The Republic of Korea, “Intended Nationally Determined Contribution,” UNFCCC, June 2015, [www4.unfccc.int/submissions/INDC/Published%20Documents/Republic%20of%20Korea/1/INDC%20Submission%20by%20the%20Republic%20of%20Korea%20on%20June%2030.pdf](http://www4.unfccc.int/submissions/INDC/Published%20Documents/Republic%20of%20Korea/1/INDC%20Submission%20by%20the%20Republic%20of%20Korea%20on%20June%2030.pdf).
- 4 The European Commission’s Joint Research Centre’s (JRC) projections estimate a country’s share of emission reductions necessary to provide a 60 to 80 percent probability of keeping global temperature warming below 2 degrees Celcius above pre-industrial levels. For results from JRC see: Labat, A., et al., *Global Energy and Climate Outlook: Road to Paris*, European Commission Joint Research Centre, 2015, <https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/geco2015-global-energy-and-climate-outlook-road-paris-assessment-low-emission-levels-under>.
- 5 “South Korea,” Climate Action Trackers, <http://climateactiontracker.org/countries/developed/southkorea.html>. (Accessed October 28, 2015.)
- 6 The European Commission’s Joint Research Centre’s (JRC) projections estimate a country’s share of emission reductions necessary to provide a 60 to 80 percent probability of keeping global temperature warming below 2 degrees Celcius above pre-industrial levels. For results from JRC see: Labat, A., et al., *Global Energy and Climate Outlook: Road to Paris*, European Commission Joint Research Centre, 2015, <https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/geco2015-global-energy-and-climate-outlook-road-paris-assessment-low-emission-levels-under>
- 7 Dechert, S., “Korea Makes Climate Pledge, But Is It Enough?” *Clean Technica*, July 4, 2015, <http://cleantechnica.com/2015/07/04/korea-makes-climate-pledge-enough/>.
- 8 Sopher, P., Mansell, A., and Mardiney, A., *South Korea: The World’s Carbon Markets: A Case Study Guide to Emissions Trading*, Environmental Defense Fund and International Emissions Trading Association, (March 2014): <http://www.iet.org/assets/EDFCaseStudyMarch2014/south%20korea%20ets%20case%20study%20march%202014.pdf>.
- 9 Sandy Dechert, “New South Korea Cap-And-Trade Market Becomes World’s Second-Largest”, *Clean Technica* (January 14, 2015): <http://cleantechnica.com/2015/01/14/new-south-korea-cap-and-trade-market/>.
- 10 International Carbon Action Partnership, *Korea Emissions Trading Scheme*, International Carbon Action Partnership, September 10, 2015, [https://icapcarbonaction.com/index.php?option=com\\_etmap&task=export&format=pdf&layout=list&systems%5B%5D=47](https://icapcarbonaction.com/index.php?option=com_etmap&task=export&format=pdf&layout=list&systems%5B%5D=47).
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- 12 “South Korea,” Climate Action Tracker.