



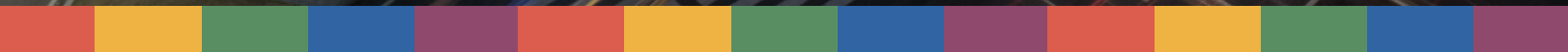
# KOREA'S ECONOMY

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Volume 27







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# EXTERNAL RELATIONS

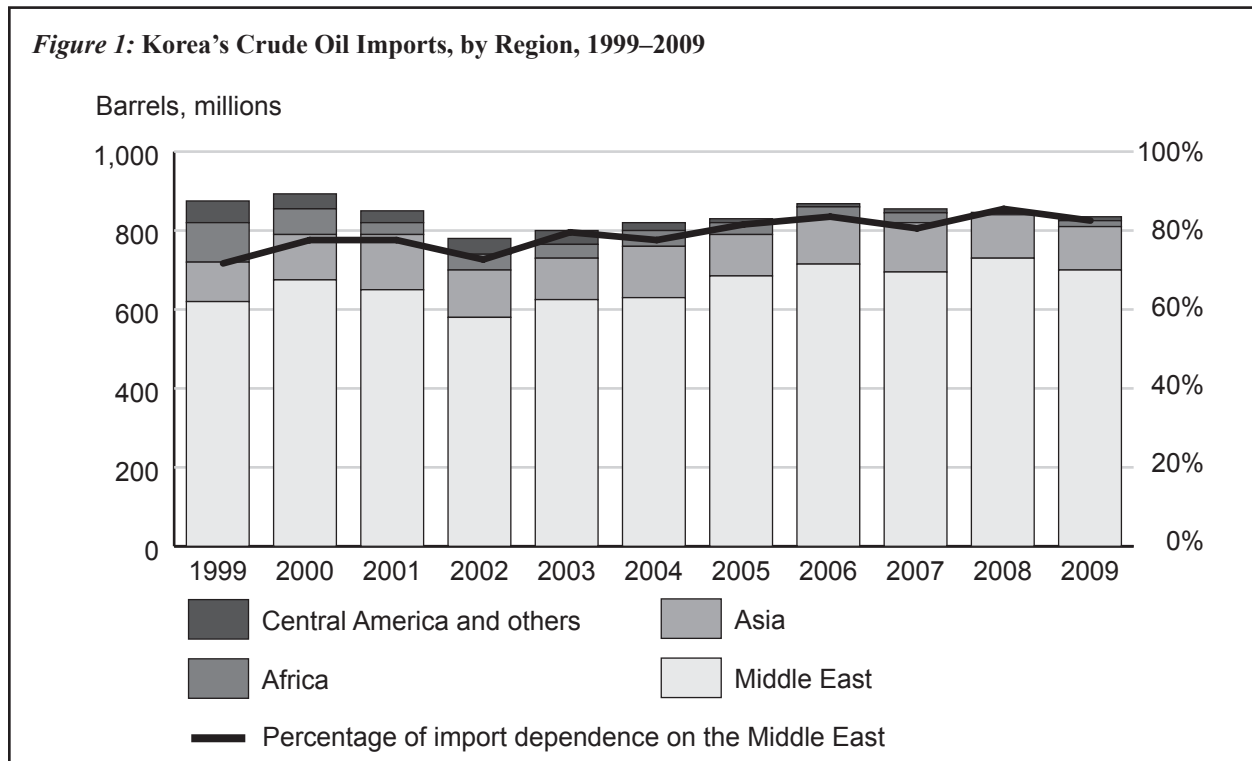
## KOREA'S GREEN ENERGY POLICIES AND PROSPECTS

By Whang Jooho

Korea's consumption of primary energy was 243.3 million tons of oil equivalent as of 2009, ranking Korea as the ninth-largest energy consumer in the world. Only 3.6 percent of the total primary energy consumption is supplied by domestic energy production. The other 96.4 percent is imported from overseas countries. Korea is poor in energy resources.<sup>1</sup>

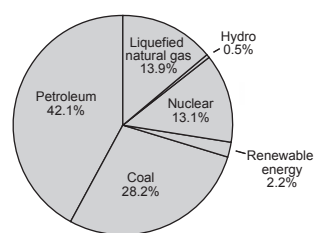
Korea's oil imports from the Middle East, especially, have increased steadily from 72.3 percent in 1999 to 84.5 percent in 2009 (*Figure 1*), resulting in Korea's heavy oil dependency on the Middle East, where political instability directly affects Korea's energy security.

In addition, coal, oil, and natural gas account for 84.2 percent of Korea's primary energy use (*Figure 2*), which shows a strong dependency on fossil fuels, ranking the country as the eighth-biggest emitter of greenhouse gases



1. 2010 Energy Info. Korea (Seoul: Korea Energy Economics Institute, 2010).

**Figure 2: Energy Use in Korea, 2009, percentage**



Source: 2010 Energy Info. Korea (Kyonggi-do: Korea Energy Economics Institute, 2010).

(GHGs) in the world.<sup>2</sup> Therefore, it is expected that the obligation to reduce GHGs in the post-Kyoto regime after 2012 will increase the burden on the country.

### Korea's Green Energy Polices

The global energy environment affecting Korea at home and from abroad increases the necessity for green growth that can be achieved by environment-friendly energy technology development.

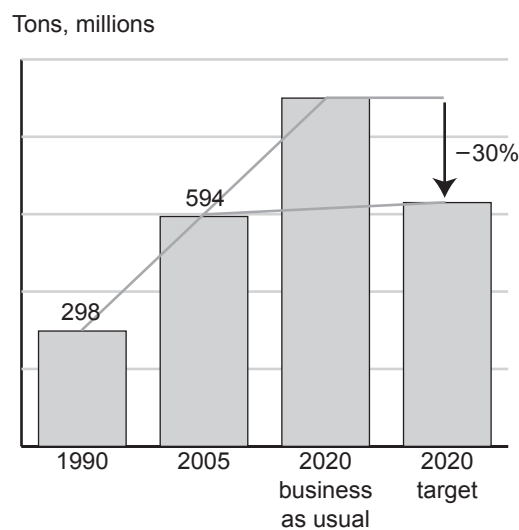
For this reason President Lee Myung-bak in his speech commemorating Independence Day on 15 August 2008 declared "low carbon, green growth" as the country's

national vision of development. The Korean government announced a national GHG emission reduction goal of 30 percent from the business-as-usual level by 2020 (*Figure 3*), thus demanding active and practical GHG emission reduction activities.

Accordingly, the Korean government recognizes the importance of developing green energy technology as the key to the achievement of the national goal of GHG emission reduction and also to the creation of the driving force for future growth. The Korean government set up energy polices and is implementing them.

The Korean government chose 15 strategic green energy technologies in May 2009<sup>3</sup> and set up the strategic road map for the 15 strategic green energy technologies in order to accelerate early commercialization of green energy technologies. The Five-Year Plan for Green Growth and the National Strategy for Green Growth drawn up in July 2009 declared their goal of making Korea one of the seven biggest green countries by 2020 by strengthening energy sufficiency, reducing dependency on oil, carrying out research and development (R&D) for green technology, using R&D results as a driving force for growth, and fostering green industries. A total of 10 policies were presented, including those policies mentioned above.

**Figure 3: Korea's National Goal for Reducing Greenhouse Gases by 2020, in millions of tons**



Source: Presidential Committee on Green Growth, Seoul, 2009.

In addition, the Korean administration released its Development Strategy for New and Renewable Energy Industry in October 2010, in which the government plans to invest \$36.4 billion in new and renewable energy areas between 2011 and 2015 in order to build the country into the fifth-biggest renewable energy producer in the world.

2. "Five-Year Action Plan," Presidential Committee on Green Growth, 2009, [www.greengrowth.go.kr/english/en\\_policy/en\\_direction/en\\_direction\\_01.cms](http://www.greengrowth.go.kr/english/en_policy/en_direction/en_direction_01.cms).

3. Solar power, wind power, fuel cell, integrated gasification combined cycle (IGCC), carbon capture and storage (CCS), clean fuel, energy storage, electric information technology, light-emitting diode (LED), nuclear, small-scale cogeneration, green car, superconductivity, energy conservation building, heat pump.



## **Green Energy Policy Prospects**

At the moment, the Korean government is in preparation for its Second National Energy Master Plan.

The First National Energy Master Plan released in August 2008 created a target of a 47 percent energy intensity improvement by 2030 compared with 2006, sought to reduce 33 percent of Korea's oil dependency, and tried to increase the share of new and renewable energy by 10.7 percent. The Second National Energy Master Plan is expected to strengthen the goals in order to succeed in achieving the goal of GHG emission reduction and also to build green energy technologies as the new driving force for future growth.

It is planned to complement the strategic road map for the 15 strategic green energy technologies according to the Second National Energy Master Plan and to release a new strategic road map for GHG emission reduction technologies.

In addition, the Korean government is making efforts to arrange legislation and implement trial programs for the introduction of cap-and-trade scheduled for 1 January 2015.

The green energy policy of the Korean government is expected to focus on the establishment of a virtuous cycle between environment and the economy, through which low carbon, green growth shall be achieved. Therefore, the Korean administration plans to foster green technology development and green industry, which are expected to create jobs and increase national income, promote a green industrial structure, expand clean fuel use to face the challenge of climate change, and reduce GHG emissions. With these green energy policies, Korea will play a global leading role in the field of green growth.

*Dr. Whang Jooho is the President of Korea Institute of Energy Research.*



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