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**Submitted by the Republic of Korea**

**1. Introduction**

In implementing the commitment of UNFCCC, the government of the Republic of Korea (ROK) has long adopted various mitigation policies and measures, especially for energy sector which is responsible for more than 80 percent of the GHG emissions.

Four-decades-long transformation from the predominant agricultural economy into the export-oriented industrial economy in Korea is an important determinant of Korea's unique energy situation. The total primary energy consumption in the country has rapidly increased by ten folds during the last three decades, reaching 215 million TOE in 2003 while its dependency on overseas energy importation has been sharply on the rise to 96.9 percent in 2003. There was almost complete linear correlation in changes between GDP and energy consumption.

The total gross emissions of greenhouse gases by Korea in 2002 were 154.7 million tonnes of carbon equivalent, while carbon dioxides from fuel combustion were 127.1 million tonnes of carbon.

**2. Mitigation policies and measures for the energy sector**

As a party to the UNFCCC, Korea has been voluntarily developing and vigorously promoting various policies and measures to alleviate climate change at all levels of the economy. Such efforts also contribute to worldwide GHG reduction efforts. Recently, the ROK government adopted 'The Third Comprehensive National Action Plan for the Framework Convention on Climate Change' covering from 2005 to 2007. The financial funds for this plan will be 20 billion dollars including 8 billion dollars from private sector. The main policies and measures embodied in the plan are summarized in the following sub-sections 2.1 and 2.2.

**2.1. Energy conservation measures**

Currently, more than 1,000 factories are participating in the **Voluntary Agreement (VA)**, with 58 percent of industrial energy use in 2003. Participating firms are provided with low-interest loans, tax credits, and technical support. The government encourages energy supply companies to develop **Demand Side Management (DSM)** programs with a rebate system for high-efficient electricity appliances.

A **fuel-efficiency rating and labeling** program has been introduced in order to provide the consumers with better information on the relative fuel efficiency of vehicles. **Promotion of mass transit system** by integrating the subway and bus lines and expanding bus-only lanes proved quite successful. A project targeting provision of CNG buses is also making good headway towards completion by 2010.

**Energy efficiency rating and labeling** programs are adopted for various household appliances such as refrigerators, air conditioners, incandescent bulbs, and fluorescent lamps.

## **2.2 Energy supply measures**

The expansion of **nuclear and natural gas** in the **power sector** are regarded as important options in Korea. In particular, about 40 percent of generation will be met by nuclear power. The government plans to build ten new nuclear and 18 units of LNG power by 2015. Currently, **combined heat and power (CHP)** provides heat and power to more than 500 factories in 21 industrial complexes over the country. In developing a new industrial complex, the government evaluates the feasibility of constructing co-generation plants.

In 2003, the government set an ambitious target of raising the share of new and renewable energy in total primary energy consumption to **5% by 2011** from current 2.3%. Major areas of concentration will involve, inter alia, hydrogen fuel cell, photovoltaic, and wind power. In order to overcome barriers of deployment, the government plans to introduce very strong programs such as renewable portfolio standards (**RPS**) or **mandatory purchase** of electricity generated by renewable energy sources.

## **3. Energy demand and GHG projection to 2020**

Notwithstanding the various policies and measures taken as part of the mitigation effort, GHG emissions in Korea as a result of projected increase in energy demand are expected to maintain upward momentum for the foreseeable future. Main drivers behind Korea's increasing energy demand and resultant GHG emissions in the near future are GDP growth, increasing ownership of vehicle and household appliances, as well as the growing number of household.

**Total primary energy demand** and the resultant **carbon dioxide emissions** are projected to increase at an average annual increase of **2.8 percent** and **2.3 percent** respectively between 2002 and 2020. It should, however, be noted that the demand for primary energy is expected to grow more **slowly than GDP** through 2020, which is a contrast to the current situation. Notable factors, including the downward drift of energy-intensive manufacturing, are contributing to this trend.

#### **4. The way forward**

Korea is projected to witness growing energy demand in the coming decades as mentioned in Section 3. Likewise, global demand for energy is also expected to rise, requiring almost 60% more energy than today by 2030.

In light of an overall projected increase in worldwide energy demand over the next few decades, the world now faces toughest challenge of meeting the future energy demand and reducing GHG emissions while not impeding economic development.

It is against this backdrop that development and diffusion of more efficient technology stands out as a long-term viable option for meeting the world's challenge. In this context, international cooperation to expedite technology innovation, development and diffusion need to be further promoted. Korea holds the view that Annex I parties have significant role in this regard by spearheading their progress towards providing technological assistance for non-Annex I parties, in accordance with the principle of common but differentiated responsibilities and the specific circumstances of each country as stipulated in the text of the UNFCCC.

Adherence to such key principles is central for ensuring wider participation and should be incorporated in any future discussion on addressing global climate change.