A Country That Thinks Green

Korea’s environmental industry strives for sophistication and to enter global markets

The environmental industry is characterized by public goods, the market for which is created by government regulations and the supply for which is created by government’s research and development (R&D)-centered support. The key industry players are environmental and construction businesses engaging in environmental facility-related work, such as waste incineration facilities and waste disposal facilities. According to Environmental Business International, Inc. (EBI), the world’s environmental markets were valued at USD 924 billion as of 2013 and are expected to reach USD 1,087 billion by 2020, with an annual growth rate of about 2.4 percent. The top five countries (United States, Japan, Germany, China and Canada) occupy most of the markets, but the domestic markets of these advanced countries are not making progress in general, except for China. In contrast, emerging environmental markets like those in Southeast Asia and Latin America are recording rapid growth at a rate of about 8 percent per year. Their global market share is expected to grow gradually (21 percent in 2010—28 percent by 2020).

Let’s look at the status of major countries, focusing on their relevant policies. The United States is pushing through with the adoption of green energy, expansion of eco-housing, distribution of hybrid cars, etc., the objective being to reduce greenhouse gases by 80 percent, to below the 1990 levels, by 2050. Japan aims to be a world leader of the environment and energy areas through the global distribution of its environmental and energy technology, goods and services. China has announced a plan for the development of emerging industries with high growth potential, like the new energy industry. The country plans to expand the share of renewable energy to up to 15 percent by 2020.

Industry


Source: KETI, The Service and Structure of Strategic National R&D Projects in 2013

Investment in the Development of 16 Focal Technologies (2013)

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With regard to the share of the world’s environmental industry, the three environmental industries (water industry (USD 324.8 billion; 36.1 percent), waste / resources recycling industry (USD 266.8 billion; 29.7 percent) and sustainable environmental resources industry (USD 142.7 billion; 15.9 percent)) occupy 81.7 percent of the markets.

As for the environmental industry of Korea, it has recorded a high growth rate of 18.8 percent in terms of sales over the past years, posting an estimated KRW 82.2 trillion (USD 73.9 billion) as of 2012, or 6.6 percent of the GDP. Sectors including waste (44 percent), water (22 percent), noise/vibration (7 percent) and air (6 percent) account for 78 percent of the total sales. The environmental industry reached an exports of KRW 7.3 trillion in 2012, recording rapid growth of 35.4 percent over the past five years.

But domestic environmental businesses remain at a low level in terms of sales and number of employees. In 2012, their average sales and number of employees were USD 1.65 billion and 5.8 per business, respectively. The number of environmental businesses is increasing rapidly. In 2012, the number of Korean environmental businesses stood at 49,913 compared to 30,221 in 2008. In 2012, the number of employees engaging in the environmental industry reached 290,413, representing a 58.2 percent year-on-year increase.

Korea’s major industries, including semiconductors, auto and iron & steel, boast world-class competitiveness, but the country’s level of environmental technologies appears to be lagging behind those of major countries. According to the Korea Environmental Industry & Technology Institute (KEITI), Korea’s environmental technologies remain at 77.2 percent of the level of the most advanced country in 2012. This level gap appears to be a difference of 5.4 years, an improvement of 0.1 year compared to 2010. China appears to be only 2.9 years behind Korea. In detail, Korea enjoys a relatively high level of environmental technologies in the recycling of waste resources (84.1 percent) and waste reduction and treatment (80.8 percent) but remains at a low level in ecological system preservation and restoration (66.0 percent) and environmental health risk assessment (71.5 percent).

Korea still has an industrial structure centered on manufacturing but has started taking steps to cope with climate change, establish a resource recycling system and strengthen the management of environment and health with the aim of achieving sustainable environmental welfare and creating new values. In the areas of climate / air management, Korea is expanding new energy technologies including biomass gasification, reducing the total permissible emission volume of air pollutants in the Greater Seoul Area and applying diesel vehicle emission standards similar to those of major countries.

In the area of resource recycling, Korea plans to upgrade the resource recycling rate to 22 percent by 2020 from 15.6 percent in 2007, turn waste into energy and develop environment-friendly energy towns. For water management, the country is promoting water recycling, increasing the amount of recycled water from 880 million tons in 2008 to 2.54 billion tons by 2020 in addition to enhancing the safety management of potable water, installing sophisticated waste water / air treatment facilities and improving water supply pipes.

In the area of nature conservation, Korea has established the Master Plan for the Management of Biological Resources on the Korean Peninsula. It is implementing projects for the restoration of the ecological system designed to prevent the urban heat island effect and food in urban areas.

The country is also pushing forward with the Environment and Health Comprehensive Plan (2011-2020), stepping up efforts concerning light pollution, inter-floor noise and mercury management and improving the capability to prevent chemical accidents through adopting a system for registering and appraising chemical substances and safety diagnoses of dilapidated chemical facilities.

In the area of product-related environmental sustainability, Korea has established criteria for marking harmful chemical substances on household chemical goods in line with safety standards; it will strive to invigorate green consumption, and to encourage the use of environment-friendly goods. The government is considering reshuffling the current system for the authorization of emission facilities into a system for integrated authorization based on the economically achievable Best Available Technique that can adapt flexibly to the development of new technologies.

Concerning the development of focal technologies, ten government ministries went forward with the development of 16 focal technologies and five objectives in 2013, investing a total of KRW 961.4 billion in technological development. Specific areas of investment included renewable energy (KRW 361 billion; 37.5 percent), improvement of air quality (KRW 168 billion; 17.5 percent) and carbon dioxide and non-carbon dioxide treatment (KRW 72 billion; 7.4 percent). The government plans to enhance the effective R&D investment and help develop the environmental industry by linking the development of environmental technologies with the development of the environmental industry. It will also meet the social demand for economic growth and job creation through the development of environmental technologies in a way that corresponds with its policy directions. In addition, the government strives for the sophistication and practical use of the country’s environmental technologies through the development of 16 focal environmental technologies and five objectives, and to secure the strategic technologies required for the exploration of environmental markets with the aim of becoming one of the world’s top five countries for core environmental technology development. The chances of successfully commercializing environmental technologies are expected to rise considerably through support for the development of practicable technologies and for their practical use.

The government also strives to develop small- and medium-sized enterprises (SMEs) specializing in the environment to boost the global competitiveness of the domestic environmental industry and enable it to serve as an economic growth engine. Win-win relationships between large businesses and SMEs in the environmental industry can go a long way toward establishing collaborative partnerships with government support.

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