The Current Status and Future Prospects of the New Energy Industry

Korea will continue combating climate change in 2016 by nurturing new energy industries

Why we should nurture new energy industries

Major countries, including the US, are pursuing bold policies to cut emissions, especially for energy industries which emit a high level of greenhouse gases. In response, Korea proposed to the United Nations a more proactive approach to reducing greenhouse gas emissions. Against this backdrop, the need for Korean industries to take bold and innovative actions addressing this issue has become more crucial than ever.

In response to global climate change, a total of 12.3 trillion dollars will be invested in the areas of renewable energy and energy efficiency by 2030, according to a report by the International Energy Agency. More specifically, around 4 trillion dollars will be invested in the renewable energy sector, while 8.2 trillion dollars will be poured into strengthening energy efficiency of transportation, industries and buildings.

Korea’s current energy industry is focused on thermal power plants that run on coal, LNG, and nuclear power, among others. As a realistic alternative for greenhouse gas reduction, therefore, a new energy industry must be developed. Korean companies, however, are rather lukewarm about such development, citing uncertainties in the future. It is under such circumstances that we should bolster efforts to promote foreign investment in new energy industries and secure competitiveness of related domestic industries.

Strategies to attract investment

New energy industries refer to businesses that contribute to improving energy efficiency, energy conservation, or reduction of greenhouse gas emissions. It also refers to industries that manage energy supply and demand in an innovative way. On this note, the Korean government set a target for the year 2030 in preparation for the new climate system and to nurture four new energy industries as key areas.

Objectives for 2030

1. Create new growth momentum for new energy market (320 trillion won by 2030)
2. Reduce greenhouse gas emissions by 55 million tons

4 Key New Energy Industries

Industry Details

Energy + Prosumer

Various types of new industries where anyone can become both a consumer and producer of electricity by utilizing small-scale renewable energy and ICT technologies (ex. micro-grid, demand resource market, zero-energy buildings, eco-friendly energy towns, solar powered homes, etc.)

Low-carbon Development

Deployment of renewable energy, efficient heat power generation, and next-generation electricity infrastructure that lower carbon emissions (ex: renewable energy power generation, ultra-supercritical power generation in systems, large gas turbines, CCS, extra high voltage power transmission, superconducting power cables, ESS, etc.)

Electric Vehicle

To revitalize EV value chain including manufacturing lines (ex: battery-less recharging services, electric bicycles and motorcycles, utilization of used batteries, EV insurance, etc.)

Industries that enhance efficiency of manufacturing factories, emit low greenhouse gas, and utilize unused heat (ex: smart factories, hydrogen reduction iron, eco-friendly refrigerants, LNG thermal energy conversion, etc.)

SWOT Analysis of Korea’s New Energy Industry

Strength

- World’s best secondary battery technologies for ESS
  Global market share of ESS battery, Samsung SDI ranked first (24 percent), LG Chemicals ranked second (20 percent)
- World’s best superconducting cable technologies
- Centralized power supply system → distributed system
- Transition of power supply system → facilitates investment promotion
  - The objective is to raise the portion of distribution-type power generation to 12.5 percent by 2029

Opportunities

- Need to explore the new energy market created by 37 percent greenhouse gas emissions reduction target compared to the BAU
- Special Act on New Energy Industry’ to be implemented by the end of 2016
- Foreign investment promotion plans in line with Korean Electric Power Corporation’s (KEPCO) energy valley establishment

Weakness

- Lack of government incentives compared to other advanced countries
- Primary focus on applicable technologies of the domestic market rather than on M&A related to foreign companies’ technology transfers
- Lack of promotion for Korean companies overseas (Korea’s technological capability is underestimated in Europe)

4 years of technological gap (approximately 64 percent) between domestic and foreign companies

- Reluctance of domestic companies to make investment in new energy sector due to uncertainties over investment returns
- The government’s entrenchment of the market to private companies

Threats

Prospects of Korea’s new energy industry

The Korean energy market is smaller in size than that of China, India, the US, and Europe. Therefore, it is advisable for Korea to become a gateway for other countries entering Asian markets and in so, it should increase the competitiveness of its industries to attract investment in the long term. The new energy industry is currently in a transition period with no legal foundations in place, including special laws on new energy. In this respect, government policies should be closely monitored, while investment promotion activities for foreign companies with advanced technologies should be urgently carried out. By doing so, these companies will be able to fully reap the benefits that Korea has to offer. To this end, legal and systemic foundations should be prepared at this time to provide incentive premiums.

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