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KOREA “GREEN ENERGY” SECTOR SUMMARY

GENERAL BACKGROUND

A New renewable energy policy of the Korean government was initiated in December 1987. Technology development of the related area was started in principle in 1988. Afterward several laws also were made to promote the development and use of alternative energy.

President Lee Myung-bak on August 15, 2008 put forward a “low-carbon, green growth” strategy as a new vision to guide the nation’s long-term development. The President unveiled a comprehensive agenda during an address to celebrate 60 years of growth and democracy since the establishment of the republic in 1948. Low Carbon, green growth... is a new national development paradigm that creates new growth engines and jobs with green technology and clean energy. Lee pledged to raise government investment in promoting alternative energy sources and developing technologies that help reduce pollution and greenhouse gas emission.

The government aims to increase the proportion of energy supplied by renewable sources such as solar, wind and water from the current 2 percent to more than 11 percent by 2030, and to more than 20 percent by 2050. R&D investment in green technology will be increased more than twofold, making Korea a leading powerhouse in the green technology market, which is expected to amount to \$3 trillion by 2020.

It requires industry to be upgraded and long-term investment be made in alternative energy sources, ranging from wind, solar and tidal power and to nuclear-fission and nuclear-fusion power.

US\$193 million is earmarked for year 2008 to build the country’s technology level in solar and wind energy, hydrogen fuel cells and improved use of coal generated electricity.



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The Federation of Korean industries (FKI), the Nation's leading business lobbying group, released a survey in 2008, conducted among 107 member companies that showed 46 percent of companies have plans underway to find new growth streams for sustainable growth.

Local companies are now active in alternative energy businesses amid high fuel prices and growing concerns about global warming due to emissions from fossil fuel burning. 48 of the 615 Kospi-listed companies have revised their articles of incorporation in order to launch alternative energy business, according to the Korea Listed Companies Association. The Korean government is supporting such businesses with investment of state funds and tax incentives to achieve the goal of letting alternative energy account for the 5 percent of the nation's energy consumption in 2011.

SOLAR ENERGY

July 2008, LG Group began to operate Korea's largest solar photovoltaic power plant with a 14-megawatt capacity in Taesan, South Chung-Cheong. June 2008, a subsidiary of the state-run Korea Electric Power Corp.(Kepco) opened a three-megawatt solar PV plant, at that time the nation's biggest, in South Gyeongsang. Samsung C&T joined the solar plant boom, opening a three megawatt PV plant in South Jeolla.

In 2008, Korea Parts and Fasteners Company, a local parts manufacturer, signed a memorandum of understanding with U.S.-based Plextronics Incorporated to establish a joint venture that will produce solar panels to Korea. Solar panels, parts for photovoltaic power generation, convert sunlight into electricity.

Many top conglomerates are doing businesses related to solar PV power generation. Samsung SDI and Hyundai Heavy Industries produce solar panels of cells that convert sunlight into electricity. DC Chemical and KCC produce polysilicon, a material used to make solar cells. Among such companies, LG Group has secured a full chain of businesses related to solar PV power generation. LG Chem produces polysilicon and LG Electronics produces solar cells and modules with this material. LG Solar Energy designs solar farms.

WIND ENERGY

The completion of a wind farm in 2008 on Korea's southern resort island of Jeju pushed up the country's wind power generation capacity to 191.9 megawatts. Five new 3-megawatt turbines were set up at the wind farm to augment the four 1.5 MW units built in 2003. Nationwide, there are currently 12 wind farms with over 120 commercial turbines in operation. The cost of the wind-generation units established on Jeju reached US\$38 million. The Ministry said the new turbines will help boost Jeju's clean reusable energy production from 1.8 percent of the region's total electric power to 3.3 percent. In 2006, the country generated over 381 million megawatts per hour of electricity, with wind power making up a little over 0.06 percent.

Korea could pay more attention to fostering wind power because compared to other countries with high-levels of energy use, it lags far behind in wind power plant technology. The Samsung Economics Research Institute said in a report that major markets for wind energy-Europe, the United States and Asia saw demand soar 64.3 percent to a total \$14 billion in 2007 from a year earlier. The Wind energy market will grow at an annual average of 14 percent to total \$39 billion by 2010. In order for a country to foster its wind energy industry, comprehensive government support is needed for the production and installation of wind power plants, as well as construction of wind farm and making the process commercially viable.

BIOFUEL

While developing alternative energy sources, Korea is trying to gain access to overseas energy sources to solve its problem of insufficient energy and resources. Korean companies are acquiring resources development rights in Malaysia and Mongolia, among other countries, Korean government showed interest to import bioethanol from Brazil in 2006.



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Korea Market Intelligence

The trading arm of Samsung Group completed a takeover of a palm oil farm in Indonesia in an effort to produce biodiesel, or nonpetroleum-based fuel made from vegetable oil, late July 2008. Samsung C&T spent \$55 million to buy a palm oil farm on Sumatra Island, which can produce 100,000 tons a year. Samsung wants to complete the infrastructure for production of 800,000 tons a year of diesel, bioethanol and palm oil used to make bioenergy products by 2012. SK networks said it would start a business in Vietnam based on Jatropha, a plant whose seed oil is also used to make biodiesel.

Source: The Alberta Korea Office

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