

# Green Tech



DHAKA, THURSDAY, FEBRUARY 3, 2011, E-MAIL: [business@thedailystar.net](mailto:business@thedailystar.net)

## Talk of power

Korea Electric Power official speaks on efficient electricity transmission and distribution

IQRAMUL HASAN

**T**O upgrade current power transmission and distribution in Bangladesh and cut system loss to less than 5 percent, the government should develop long-term plans, says Jungkeun Park, vice president of Korea Electric Power Corporation (KEPCO).

In an interview with The Daily Star recently, Park talked about the various aspects of electricity, especially efficient transmission and distribution in the grid system.

KEPCO is a government owned electric company in South Korea that handles the production of around 88 percent of the total power available and 100 percent of distribution and transmission in that country. Regular power generation of Korea nears 80 gigawatt.

Park recently visited Bangladesh in a delegation of 14 members, who are partners of KEPCO in South Korea and have different electric products and technologies.

On his first ever visit to Bangladesh, Park said, "We came here to introduce our acuminate technologies and excellent products portfolio, which are necessary to operate the distribution and transmission facilities of the national grid more efficiently."

Park said in the last G8 summit, seven technologies presented by different countries were selected to change the world, and the Smart Grid technology, presented by Korea, secured the top position.

Despite the huge level of investment necessary to implement the smart grid -- developing countries invested around \$715 billion already to adopt this unique technology, Park said. "Bangladesh can also give it a try to improve their current energy crisis."

Describing the smart grid technology, Park said the smart grid is an intelligent network that increases system efficiency, reduces costing and, at the same time, cuts carbon dioxide emission. In other words, it reverses the global warming process. "We can alternatively say it's a smart cycle or network."

According to Park, Korea began installing the smart grid in 2009 and is expected to be complete by 2030. "It is quite a long-term process and can be attained fully step-by-step, by adopting a series of technology."

Currently, KEPCO comes up with two leading



Jungkeun Park

technologies in Bangladesh that can be an access point to the smart grid network. These two technologies that are related to advanced distribution are Distribution Management System (DMS) and Advanced Metering Infrastructure (AMI).

On the DMS, Park said the whole system is controlled through three centres the distribution control centre, central control centre and the automatic switch. "The whole system is backed by strong internet network with a central and backup servers."

In case of KEPCO, Park said it maintains 83 percent of the total network through cable and the rest 17 percent through a wireless network. Any fault in the transmission lines can be easily traced from the central control room and immediate action is also possible under the DMS, he added.

On the other hand, AMI boasts a highly reliable automatic remote metering system, which provides various information, including load character and consumption patterns. This technology could contribute substantially to

revenue raising and reducing the power generation costs from wise power consumption, Park said.

According to him, the integrated anti-pilferage function of AMI works by detecting pilferage by comparing each load data with client's consumption and warnings against meter tampering.

On renewable energy, Park said it is still a rather expensive option and Korea would now focus more on the transmission and distribution efficiency. It nurtures a future plan to increase the share of renewable energy in an energy mix, he added.

Another way to develop sustainable electricity systems is to select the proper energy mix for production, he said.

"We have a strong energy mix, led by the uranium required for nuclear power plants, which occupies 40 percent of the pie."

Park said his country does not have any mineral resources and it is because of the proper energy mix that they have been able to overcome their resource deficiency.

Referring to the natural gas resources of the country, he said Bangladesh has to find resources that can serve the grid for a long time and then make use of an effective energy mix.

Explaining the potential of nuclear power plants in Bangladesh, the KEPCO vice president said uranium is a rather cheap resource and if the government is keen about having nuclear power plants, it is possible. "But, one thing you have to keep in mind -- it involves a huge investment."

In Korea, it would cost around \$20 billion to build one unit of nuclear plant with a capacity of generating 1400 megawatts of power an hour, he said.

To develop the power sector of Korea, the government made huge investments and as a consequence, recession gripped the country in the '80s, Park said. "Since our people unconditionally support the government, we were able to put such problems aside."

He said the government should focus on the long-term development of the country, instead of worrying about the polls. Park recommended more private sector involvement in the power sector to achieve steady and sustainable development.

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## Govt up for carbon trading

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**T**HE government will receive more than \$9 million from the World Bank through carbon trading under the efficient lighting initiative for distributing free compact fluorescent lamps across the country.

Infrastructure Development Company Ltd (IDCOL) has recently signed a deal with the World Bank and will monitor the fund as a representative of the Bangladesh government.

Earlier, the government had planned to distribute around 27.5 million CFL bulbs to replace traditional incandescent bulbs, which were mostly 60 watts to 100 watts.

In line with project plans, the government has already distributed around 10.5 million CFL bulbs in parts of the country, in the first phase. Another 17 million CFL bulbs will be distributed in the second phase.

SM Formanul Islam, director (legal affairs) and company secretary of IDCOL, said Danish Carbon Fund, a climate fund under public-private partnership, would give the money through the World Bank as its trustee. The Fund invests in CO2 projects in countries with transitional economies and larger developing coun-

tries.

To obtain the fund, IDCOL will have to sign up for the Clean Development Mechanism, a mechanism under the Kyoto Protocol that promotes technology transfer and investment from industrialised countries to the developing world for projects on mitigating greenhouse gas emissions.

"The registration process is currently underway," he added.

The World Bank will discharge the money over the next three years to 2013 and Islam said there is scope for further carbon trading agreements in the second phase.

According to a sample survey of two feeders in Dhamrai and Mirpur by Bangladesh University of Engineering and Technology, the project will save around 100 megawatts of power from the national grid. During the project period, around 7.25 lakh tonnes of carbon emissions will be reduced and the World Bank will pay \$12.46 for each tonne.

Earlier, the Bangladesh government received a loan of \$15 million from the World Bank for distributing free CFL bulbs.

A 100-megawatt power plant will require investment worth around \$50 million, Islam said. But the government needs to



People carry compact fluorescent bulbs in hand. In June last year, the government distributed 10.5 million CFL bulbs in an effort to save power.

spend only \$15 million to save 100 megawatts, and it can receive \$9.5 million from carbon trading, he added.

On the use of the funds, Islam said the government would pay back the loans to the World Bank.

Also, the government has a plan to rehabilitate the producers of incandescent bulbs, as the production of those bulbs

would gradually come to an end, he added.

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