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China's energy focused on renewable sources

BEIJING - China's top economic planning body, the National Development and Reform Commission (NDRC), announced at the end of June a plan to raise consumer electricity rates by the equivalent of 2.5 US cents per kilowatt-hour. A tiny fraction of the additional charge, or 0.1 cent per kilowatt-hour, will be used to develop renewable energy, a senior NDRC official said weeks later. This was unprecedented, the official said. The money would be used to cover the portion of the costs of renewable-energy development that are higher than the average for conventional energies. The practice complies with the principle enshrined in the Renewable Energy Law that the extra costs of renewable energies should be shared by all end users of electricity across the country. On April 20, at the second gathering of the State Energy Leading Group, the highest authority in China on energy issues, Premier Wen Jiabao stressed that renewable energy is strategically important. He urged all government departments concerned to take effective measures to accelerate the development of renewable energies, so as to "lift the share of quality, clean energies in the total energy mix". China's energy industry has made impressive progress. Statistics show that the production of primary energy reached 2.06 billion tons of coal equivalent last year. The figure marked a climb of 238% over 1978. At the end of 2005, the country's total installed power-generating capacity exceeded 500 million kilowatts. In the past two decades, growth in production supported a 5.16% average annual growth in primary energy consumption. However, gross domestic product (GDP) went up even faster, at an annual average of 9.6%. The result was a supply shortage that short-circuited in 2004, when 24 of the 31 provinces suffered power cuts. Last year's coal output, a record high and double the 2000 figure, was still not enough to meet market demand. Meanwhile, China's net imports of crude-oil products climbed to 143 million tons, nearly doubling the 76 million tons it imported five years ago. Domestic energy resources are limited. In per capita terms, China is relatively poor in many energy resources. Its remaining exploitable reserves of petroleum, natural gas and coal equal merely 7.7%, 7.1% and 58.6% of the world averages respectively. At the current speed of extraction, experts say, these energy resources will last just 15, 30 and 80 years respectively. The corresponding world averages are 45, 61 and 230 years. The situation prompted the country's economic planners to look for alternative energy sources. Renewable energies were high on the wish list. Water power has a relatively long history in China, where more than 40,000 small hydropower facilities aggregate 34 million kilowatts in capacity, the biggest hydropower park in the world. Given its grave energy-security concerns, China is stepping up efforts to develop renewable energies. According to the Medium- and Long-Term Program for Renewable Energy Development, prepared by NDRC, renewable energies are expected to account for 16% of the country's total energy mix by 2020. Hydropower capacity will reach 300 million kilowatts, wind power 30 million, biomass energy 30 million, and solar energy 1.8 million. The program has been scrutinized by the State Energy Leading Group and a revised version will soon be submitted to the State Council, China's cabinet, for final approval. China has three laws pertaining to energy issues: the Electricity Law, the Energy Conservation Law, and the Renewable Energy Law. The almost unanimous endorsement of the Renewable Energy Law by the National People's Congress (NPC), China's parliament, in February 2005, ahead of schedule, caught many people by surprise. The law became effective on January 1 this year. A dozen or so implementation measures that accompany the law were made public about a month later. And measures for managing a special state fund for renewable energies and measures for giving renewable energy projects discount loans and preferential tax treatment are reportedly being worked out. Ma Kai, minister in charge of the NDRC, said in July that on the agenda of government work for the period 2006-10 is to enact an Energy Law and revise the Energy Conservation Law. Relevant government departments vowed to see through the new legislation within two years. The Energy Law will deal with basic and strategic energy development issues in China. It will rely on economic leverage to regulate the energy sector, making sure that extravagant users of energy pay a higher price, and encourage the prospecting and extraction of energy reserves and the development of renewable and new energies, said sources who were closely involved in the drafting work. Officials in local governments are enthusiastic about promoting renewable-energy projects. Their motives vary, though, from securing

a lucrative source of government tax revenues to building up a "green government" image and gaining plaudits for their personal work performance records. The so-called "green GDP" factors now have a considerable bearing on the government's assessment of an official's performance. Companies, state-owned or private, domestic or foreign, are also eager to embrace renewable energy projects, for reasons similar to those mentioned above, or out of a belief that the energy sector is a gold mine - or will be in the future. And for some companies, state-owned enterprises in particular, government pressure is also playing a role. On a number of occasions this year, NDRC Deputy Minister Zhang Guobao has said a certain proportion of the products produced by big energy developers would have to come from renewable sources. A major barrier that has prevented renewable energies from being developed faster is the weakness China has shown in independent technology development. To date, most renewable-energy equipment or components used in China for wind power, biomass or solar energy have been imported, resulting in high costs. However, the problem has been acknowledged. The National Medium- and Long-Term Outlines for Scientific and Technological Development (2006-20), released by the government in February, designated "energy" as the chief area that "needs urgent support from science and technology". The document mapped out a host of government-supported plans covering key fields of study, cutting-edge technologies, big special programs, as well as basic research. The push for renewable energies is not entirely driven by energy concerns. Environmental factors are also critical. China ratified the Kyoto Protocol in May 1998. Although it was not obliged by the pact to meet a specific emission-reduction quota, China is making efforts to show that it is a responsible member of the global family. International cooperation is necessary in addressing problems such as duststorms because, more often than not, the dust that sweeps through Beijing a dozen times each year comes from abroad, said an official with the Beijing Meteorological Bureau. And China has a promise to keep with the upcoming Summer Olympic Games in Beijing. In its bid to host the event years ago, Beijing pledged to stage a Green Olympics, which would be more environmentally friendly than any previous Games. The 2008 Beijing Olympic Games are expected to recruit a diverse selection of renewable-energy technologies. Its main venue, the Olympic Green, is to have 20% of its power supplied by wind-generated electricity. According to statistics, US\$38 billion was invested in renewable-energy development worldwide in 2005. China topped the list with a commitment of \$6 billion, which did not include its spending on large hydro projects. (Asia Pulse/XIC)