

ASIAN ENERGY SECURITY NETWORK DAILY REPORT, March 10, 2004

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1. The Development and Status of the Power Grid in China, and International Cooperation for Grid Integration in Northeast Asia

The Nautilus Institute (Xin He, "THE DEVELOPMENT AND STATUS OF THE POWER GRID IN CHINA, AND INTERNATIONAL COOPERATION FOR GRID INTEGRATION IN NORTHEAST ASIA," 10/1/03) released a presentation presented to the Nautilus Institute's 3rd Workshop on Grid Interconnection in Vladivostok, Russia on September 31, 2003. The paper notes that China's Power industry went through a substantial period of economic and organizational reform in 2002. At the same time, the State Grid Corporation of China (SGCC) has promoted a set of initiatives that can be described together as a "West to East Electricity delivery, Bi-directional Power supply between the South and the North, Interconnection nationwide" Strategy. But how might the development and

status of SGCC, and the work toward this overall strategy of internal grid connections in China, affect the prospects for international cooperation for grid integration in China? This paper covers seven major themes: the reform of China's power industry during 2002, current power supply and demand conditions in China as of 2002, prospects for sustainable and stable growth of power supplies in China, the short-term aspects of the focus on nationwide interconnection of SGCC grids, the status of electric power industry in Northeast of China, the transmission interconnection between Northeast China Power Network and the North China Power Network, and prospects for international transmission connections between China and other countries in Northeast Asia.

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2. Expanding Natural Gas Use in China

U.S. Environmental Protection Agency and the China State Development Planning Commission (Dong Xiucheng and Jeffrey Logan, "EXPANDING NATURAL GAS USE IN CHINA," April 2002) reported that Chinese planners are promoting natural gas mainly for its relative environmental benefits. A heavy reliance on coal over the past five decades has made China one of the most polluted countries in terms of air emissions. Environmental pollution is now widely acknowledged to cost the economy billions of yuan in losses each year due to impacts on human health, agricultural productivity, and human-built infrastructure. The move to natural gas is a step to reverse the environmental damage, and would also have a significant impact on greenhouse gas emissions. Despite the positive signals in development of a natural gas value chain, stronger government support is needed if China is to maximize the benefit of natural gas. Developing the natural gas system from exploration to end-use requires enormous investment and strong coordination between economic planning agencies, municipalities, environmental protection bureaus, and energy companies. This study outlines important trends in China's natural gas sector and identifies opportunities where China, the United States, and possibly other organizations can collaborate to overcome barriers that prevent rapid development of the industry. It is a relatively modest effort and will require earnest follow-on work to catalyze significant change.

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3. Energizing China's Wind Power Sector

Joint Global Change Research Institute (Debra Lew and Jeffrey Logan, "ENERGIZING CHINA'S WIND POWER SECTOR," March 2001) reported that wind power could play an important role in China's electricity sector, but key barriers must be addressed before this clean energy source meets its potential. Electricity consumption in China grew by 10 percent last year raising anew questions about how the country will power its factories, businesses, and homes over the coming decades. China's traditional power choices-coal and hydro-have significant environmental and social repercussions that have become increasingly serious political and economic issues. Natural gas has received much attention lately as an alternative, but renewable energy sources such as wind are also gaining favor. China has been developing its wind resources for over a decade but had only about 345 megawatts of installed capacity-equivalent to the output of a small coal or gas-fired plant-by the

end of 2000. While off-grid wind power provides clean, relatively cheap power to herders, farmers, and villagers, the impact of these units on China's energy sector is small compared to what grid-connected wind farms can achieve.

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4. Wind Energy Technology Trends and Applications in East Asia

The Nautilus Institute (Michael Margolick, "WIND ENERGY TECHNOLOGY TRENDS AND APPLICATIONS IN EAST ASIA," Nai Kun Wind Development, Inc., 11/8/03) released this paper and presentation examining the potential the development of wind energy in East Asia written for the Forth East Asian Energy Futures Project (EAEF) workshop convened by Nautilus Institute in November 2004 in Vancouver, Canada. This presentation surveys the potential for development of wind energy in China, South Korea, Taiwan, and the Philippines and concludes that not only are wind resources available in East Asia but there is a strong potential to "leap-frog" to latest technology as well as develop the region's manufacturing potential for the world market.

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5. Sustainable Energy Sector Strategy In Mongolia

Mongol-Erdem Energy Consulting Company (Tsegmid Sukhbaatar, "SUSTAINABLE ENERGY SECTOR STRATEGY IN MONGOLIA," December 2001) released this paper and presentation examining sustainable energy development in Mongolia. This presentation notes that rather than impeding financial development of the energy market, energy efficiency can bolster the profits of investors. The author notes that "energy efficiency and demand side management technologies and techniques can greatly reduce energy consumption and increase returns to investors. This means that money can be used far more productively, and the resulting savings can be invested in other economic sectors."

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6. ROK 1st Long Term Power Development Plan

Korean Power Exchange (Young-Chang Kim, "THE 1ST BASIC PLAN OF LONG-TERM ENERGY SUPPLY AND DEMAND," August 2002) released this plan, based on information supplied by the Korean Power Exchange (KPX) and the Korean Electric Power Corporation (KEPCO), discussing the national policy for the ROK on the electric supply and demand and provides market participants with appropriate information for the successful operation of the energy market. This is one of the first plans completed after the ROK government decided to restructure the energy supply industry to promote efficiency and consumer rights.

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7. KEDO LWR Project

The International Herald Tribune (JeanPierre Leng "THE REACTOR THAT WAS NEVER FINISHED," New York, 3/3/04) reported that on the eastern coast of the DPRK is the construction site of the Korean Peninsula Energy Development Organization (KEDO) which employed more than 1,500 workers for its reactor project. Now only a few hundred remain, waiting to learn of the fate of the project for which nearly \$1.5 billion has already been spent. KEDO, established as an international organization in March 1995, developed the infrastructure required for a Western-standard construction site in the first two years of operation. KEDO and North Korea signed a dozen agreements in fields as diverse as privileges and immunities, maritime and air transportation, communications and quality assurances. For several years, the negotiations represented the only forum where North and South Korean diplomats could officially meet. Pyongyang, in turn, created an interagency structure whose sole purpose was to negotiate with KEDO. The past 10 years have made it clear that the present crisis can only be solved through negotiations. A definitive agreement must lead to North Korea's full compliance with nonproliferation obligations, and also address the energy shortage it faces. In this respect all options are on the table, from the completion of the nuclear reactor project to the resumption of fuel oil deliveries, or any other conventional energy package. In eight years, KEDO assembled a wealth of expertise and contacts. These resources should not be lost.

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