The China Sustainable Energy Program
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CHINA CLIPPINGS

Issue 15 October 2004

Message from the Director:

Dear Energy Policy Colleagues:

Attached is a quarterly update of the China Sustainable Energy Program. Much has transpired since our June update; China's torrid pace of growth continues, electricity demand has outstripped supply in 24 provinces (electricity is growing at over 15% year-on-year), and some 300,000 megawatts of new power plants—a 70% expansion of China's existing capacity—are now in the pipeline for development. Our program continues working to refocus China's energy policy officials on alternatives to dirty coal-based energy, including tapping the extraordinary volume of wasted energy, through demand-side energy efficiency, which is far cheaper, faster, and cleaner to develop than new supply.

Our highlights below show progress in demand-side efficiency, including new appliance standards. China also finalized aggressive new vehicle fuel economy standards, which are up to 20% more stringent than U.S. CAFE standards, and will usher cleaner engine technologies into China's market. China has also indicated it intends to promote hybrid-electic vehicles over tarditional less efficient internal combustion technologies.

Best regards,

Doug Ogden

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China Sustainable Energy Program—Update October 2004

Appliance Efficiency & Buildings Codes

Appliance Efficiency.

The Standards Administration of China issued new air conditioner standards in September 2004 along with new energy labeling requirements. The standards do two things: (1) set a "reach" standard such that all manufacturers must reach the efficiency level of the top 20% of the market by 2009, and (2) ban the least efficient 30% of today's market starting in March 2005. These standards will cut the need for 72 large (500-megawatt) coal-fired power plants by 2020.

Building Codes

In June 2004, the Ministry of Construction incorporated new lighting requirements into China's commercial building codes that are 4-5 watts per square meter lower than the draft standard of a year ago. Because China constructs some 600 million square meters of commercial buildings annually, the incremental savings from the downward revisions are immense—some 3,500-4,000 megawatts annually (7-8 large (500-MW) coal-fired power plants every year!). In 10 years, if fully implemented in the new building stock, this standard alone could save roughly 30 million metric tons of carbon annually.

Transportation

Vehicle Fuel Economy.

China's light duty vehicle fuel economy standards are now law. The Standardization Administration of China (SAC) issued the final standards on September 2, 2004 with no modifications. Enforcement will follow a "full mandatory" approach, i.e., vehicles that don't pass the standard can not be certified for sale. Procedurally,

manufacturers and importers must submit any new vehicle prototype to an authorized test facility to determine if it meets certain mandatory standards, including fuel economy. Only if the vehicle passes can it be certified for production, import, or licensed for sale or operation. The standards follow narrow weight classifications, and are more stringent for heavier vehicles than for lighter ones. Ninety percent of the SUVs plying America's roads will not be allowed to operate in China starting in 2008. The standards will cut 23 million tons of carbon in 2020, displacing 212 million barrels of oil, equivalent to removing 25 million cars from the road. Congratulations on adoption of this standard goes to the China Automotive Technology and Research Center (CATARC) in Tianjin, Dr. Dongquan He, Dr. Feng An and Dr. Michael Wang of Argonne National Lab, and Michael Walsh.

Transportation Systems

One year ago, three cities—Beijing, Xian, and Kunming—were interested in developing bus rapid transit systems (BRT), and Beijing was planning construction of a 16-kilometer demonstration corridor. Today, there are 15 cities all in advanced planning. (Shenyang, a major industrial center in northeast China, is the most recent city to commit to developing BRT.) Beijing's corridor is on track for completion later this year, and the city announced plans for over 300 kilometers of additional BRT lines by 2020. We launched our BRT program just prior to State Council action that froze subway funding nationally, which left mayors without ready alternatives to increasingly crippling congestion. Our main international consultants, Kangming Xu and Jason Chang, have been providing technical assistance full time to a growing list of enthusiastic mayors. In response to the rising flood of interest, the Hewlett Foundation awarded a $1 million per year, five-year grant to the Energy Foundation in June 2004 to launch a new NGO in Beijing—The China Sustainable Transportation Center. CSTC will provide BRT system design assistance to all interested Chinese cities, and will function as a training crossroads where international experts provide in-depth assistance to transportation engineers from throughout China. The office currently has three interns; our goal is 7-8 full-time staff within one year.

Vehicle Emissions

The State Environmental Protection Administration (SEPA) announced rigorous new vehicle emission controls in June. China will likely move to Euro III in 2007, and Euro IV by 2010. Beijing will move faster: The Beijing Environmental Protection Bureau adopted both Euro III and the Euro III fuel quality standard for implementation in 2005. These emissions standards are forcing China to confront its fuel quality problem; China's urban health suffers from 800 ppm sulfur in gasoline and up to 2,000 ppm in diesel. Early proposals indicate that China plans to move to 150 ppm sulfur in gasoline and 350 ppm in diesel by 2007, and possibly 50 ppm by 2010. CSEP advocates continue to promote rapid improvement with a goal of near-zero sulfur (10-15 ppm), reflecting best practice adopted in the U.S., Europe, and Japan.

Renewable Energy

Mandatory Market Share

NDRC announced in June 2004 at the World Renewable Energy Conference in Bonn that it will issue by 2006 a "Renewable Energy Law," championed by PAC member Qu Geping. The law will require 60 gigawatts (GW) of renewable energy by 2010, and 120 GW by 2020—roughly 12 percent of expected electricity consumption in 2020. If China achieves its goal, it will become a world leader in developing alternatives to fossil fuels, particularly small hydro and wind energy.

Wind Concessions.

Beijing announced in August 2004 that it will begin building the world's largest wind farm this October, due for completion prior to the 2008 Olympics. The total installed capacity will be 400 megawatts, and will generate 2 billion kWh each year (enough to supply roughly 1.6 million Beijing residences).

On September 20, NDRC announced winners for the second round of wind concession projects in Inner Mongolia (100 MW), Jilin Province (100 MW, which could be expanded to 200 MW), and Jiangsu Province (100 MW could be expanded to 150 MW). Beijing Power International won the Inner Mongolia bid and the tariff is 0.382 RMB/kWh (U.S. 4.66 cents/kWh); Longyuan and Huaneng both won the Jilin project with bids of approximately 0.51 RMB/kWh (U.S. 6.22 cents/kWh); Longyuan also won the Jiangsu bid with a bid of 0.52 RMB/kWh (U.S. 6.34 cents/kWh).

Photovoltaics

NDRC launched a feasibility study of an 8 MW grid-connected photovoltaic power station in the Western desert.

Workshop Updates

National Energy Efficiency Standards for Air Conditioning

Approved On September 16th, the Standardization Administration of China and the National Development and Reform Commission (NDRC) jointly released new, national energy efficiency standards for room air conditioners, central air conditioners, and water coolers. The standards raise the energy efficiency of these products by an average 15 percent (about 80 kilowatt-hours per unit per year), and will take effect on March 1, 2005. By 2020, a total of 36 million kilowatts will be reduced nationwide. Air conditioning manufacturers will be required to attach labels to their products alerting consumers of the energy efficiency rating of their products. Efficiency categories range from Class 1 (most efficient) to Class 5 (least efficient). Products that rank under Class 5 will not be allowed on the market. The national energy efficiency standards for air conditioners were jointly drafted by China National Institute of Standardization, Tianjin University, and others organizations, with Energy Foundation support.

Jiangsu DSM

Peak power shortages in Jiangsu Province reached 8 million kilowatts this summer, making Jiangsu one of the most power thirsty provinces in China. Developing Demand Side Management (DSM) and energy efficiency programs can effectively ease power shortages and bring about long-term social, economic,

and environmental benefits. On July 13th, experts from the Energy Foundation, the Regulatory Assistance Project, Natural Resources Defense Council, and Best Technology, Inc. held talks in Nanjing with the Jiangsu Provincial Economic Commission, Jiangsu Electric Power Company, and State Grid Corporation's Demand Side Management Guidance Center on Demand-Side Management. The two sides signed a cooperation agreement to conduct a technical and economic analysis of DSM's potential in Jiangsu and will formulate and implement a mid- and long-term DSM energy efficiency program. Shanghai DSM On July 15th, international consultants held DSM talks with the Shanghai Municipal Government. Peak power shortages in Shanghai reached 3 million kilowatts this summer. The city adopted various measures including load shifting, implementation of interruptible power procedures, and power demand adjustments. Still needed are stepped up investments in end-use efficiency, including energy-savings equipment and appliances. After the meeting, the two parties signed a Memorandum of Understanding promoting and strengthening DSM. The US experts offered personnel and software training to their Chinese counterparts.

9th Sustainable Energy Media Forum

On July 21st, Global Village of Beijing held the 9th Sustainable Energy Forum for Journalists; the forum focused on "Bus Rapid Transit (BRT)" and attracted the participation of more than 40 journalists, interested volunteers, and other NGO representatives.

Total motor vehicles in Beijing have surpassed two million; private cars number 1.28 million and account for 64 percent of the total. Traffic congestion in the city has grown serious. Although only a tiny minority can afford cars, nevertheless the congestion caused by cars is crippling transportation in most eastern cities. Multi-modal solutions, including exclusive lane buses called "bus rapid transit," that move people with subway efficiency at 5 percent of the costs, are needed. At the forum, Energy Foundation Transportation Program Officer He Dongquan, senior transportation planner Xu Kangming, and Professor Zhang Xuekong defined BRT, introduced examples of BRT in various countries, and gave suggestions on developing BRT in urban China.

10th Sustainable Energy Media Forum

On August 12th, the 10th Sustainable Energy Media Forum attracted the participation of more than 40 journalists. Dai Yande, Deputy Director the National Development and Reform Commission's (NDRC) Energy Research Institute, Liu Shujie, Deputy Director of NDRC's Economic Research Institute, Dr. Gan Lin, Director of WWF China's Climate Change and Energy Project, and Dr. Wang Wanxing from the Energy Foundation, provided their opinions on Demand-Side Management (DSM) issues in China and the role of the media in furthering energy efficiency.