4.0

Commercial Project Development and Financing

4.1 Energy and Environment Initiative

In October of 1997, a joint statement, the "Energy and Environment Cooperation Initiative," was signed with the goal of strengthening bilateral cooperation in order to help meet China's energy needs in a way which protects the local, regional and global environment. The Initiative focuses on energy and environmental science, technology development, and trade between the U.S. and China. Priority areas for cooperation identified in the Initiative are urban air quality, clean energy sources and energy efficiency, and rural electrification. An important goal of the Initiative is to find ways to encourage a greater role for the private sector in China's energy development, through encouraging programs which promote such investment and through continued policy, regulatory, and investment reforms. The Initiative supports the goals of the U.S.-China Forum on Environment and Development, co-chaired by Vice President Al Gore and Premier Zhu Rongji.

The Energy and Environment Initiative program includes: conducting research; sharing data; expanding the use of renewable energy resources, other clean energy technologies, and energy efficiency; and facilitating trade and investment in these technologies. The Initiative is also aimed at helping meet China's growing energy needs and rural electrification objectives with clean energy solutions. The areas targeted for cooperation are:

- Urban air quality - with government cooperation on energy related air pollution issues including: urban air quality monitoring, implementing emission standards, housing topics (building materials, home heating and cooking), reducing lead pollution, enhanced business sector involvement in natural gas infrastructure development, coal gasification, manufacture and use of fuel efficient vehicles, emissions monitoring equipment, and improved vehicle fuels.

- Rural electrification and energy sources - increasing involvement of industry and government to help bring clean energy to rural areas, using grid-connected, and off-grid renewable energy from wind, solar, hydro, and natural gas sources.

- Clean energy sources and energy efficiency - increasing involvement of industry and government to help development and use of energy efficient motors, cogeneration, industrial processes, lighting, district heating, power transformers and buildings; and to deploy clean energy technologies to fossil fuel fired systems and to develop large scale wind and solar energy systems.

Decisions on issues relating to global climate, the environment, and energy security affect the health, safety, and quality of life everywhere. The US-China Energy Efficiency and Renewable Energy Protocol provides a framework for cooperation to provide electricity to many people and to move toward a sustainable energy future. While the urgency of this effort maybe subject to debate, the long-term need to improve efficiency, shift from fossil fuel burning to hydrogen or other fuels, and using renewables energy wherever possible, are inevitable [34]. Actions taken under the Protocol can certainly help to accelerate the transition process [35].

4.2 EXIM Bank Clean Energy Program

The EXIM has much experience in financing private power projects in China. In addition, the EXIM Bank has authorized a $100 million in export credit to the Chinese government to finance the purchase of U. S. goods and services for projects involving renewable energy and energy efficient technologies. This credit facility was established by a Memorandum of Understanding for the Clean Energy Program, signed on March 29, 1999, by the SDPC, the DOE, the EXIM Bank, and the China Development Bank. Projects eligible for inclusion are: wind, solar, and geothermal technologies; industrial cogeneration; energy efficient buildings; and low NO_x and SO_x burners. Financing is available for commercial projects with competitive financing rates. Similar arrangements, where local banks assume the risk of the borrower, are being used in Brazil and Poland. This approach allows EXIM Bank to finance transactions where the borrower would otherwise be unable to secure commercial financing.

4.3 Conferences and Workshops

There have been several conferences and workshops co-sponsored by the MOST, the DOE, and other U.S. and Chinese government agencies. These meetings were designed to encourage private sector involvement in supporting China's goals for renewable energy use, efficiency improvement and sustainable development.

On September 22-23, 1998, the conference on Financing China's Energy Needs was co-sponsored in Beijing by the U.S. Department of Commerce, the DOE, and China's SDPC. This meeting brought together an array of U.S. firms involved in the development and financing of power projects, relevant organizations from China's national government, and quite significantly, representatives of many of China's provincial and regional power authorities. Response was also very strong from the American business community. The event was oversubscribed by both the U.S. private sector and the Chinese government and total participation topped 275 participants, including 175 company representatives. The conference was considered to be a success and a useful mechanism for business development.

5.0 Conclusions

During the four years since the U.S.-China Cooperation in the Fields of Energy Efficiency and Renewable Energy began, the DOE/MOST team has made substantial progress. Efforts are succeeding in developing the tools and business framework for China to demonstrate the technical and economic feasibility of using substantial renewable energy contributions and improving energy efficiency. These joint activities have contributed to successful demonstrations of solar-photovoltaic technology, wind turbines, biomass power plants, geothermal heat and power, and electric vehicles. There have also been numerous technical publications. These activities have resulted in immediate and possible long-term benefits to U.S. industry, including facilitation and establishment of new business partnerships, expansion of markets for American products, and purchase of some U.S. made equipment for the pilot projects in China. Several joint ventures between American and Chinese manufacturing companies have already been an indirect result. Overall activities have resulted in a strong multi-disciplinary U.S.-China team capable or addressing complex bilateral energy issues in mutually beneficial ways.

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