FACT SHEET: U.S.-China Clean Energy Cooperation Announcements

January 19, 2011

In conjunction with Chinese President Hu Jintao's state visit on January 19, 2011, progress and partnerships were announced that underpin the expanding clean energy cooperation as the United States and China work together to solve common energy challenges. Notable examples include:

U.S.-China Clean Energy Research Center

Joint work plans developed by the U.S.-China Clean Energy Research Center (CERC) consortia were signed at an official ceremony, establishing the research agenda for the next five years in each of the three areas of the Center's work: buildings energy efficiency, clean coal and clean vehicles. An official CERC logo was unveiled and the website was launched (www.us-chinacerc.org).

Following the ceremony, the Third Steering Committee Meeting for the U.S.-China Clean Energy Research Center was held. At the meeting, the Steering Committee, including U.S. Secretary of Energy Steven Chu, China's Minister for Science and Technology Wan Gang, and The Honorable Zhang Guobao of China's National Energy Administration received reports by representatives of each of the three research consortia, and discussed next steps for the implementation of the CERC's work plans. Additionally, a series of technical meetings were held among more than 150 researchers from both countries, and their business and contributing partners.

The $150 million Clean Energy Research Center was first announced by President Obama and President Hu at their Beijing summit in November 2009. After a competitive review process, DOE awarded grants to research teams led by Lawrence Berkeley National Laboratory on building energy efficiency, West Virginia University on clean coal and the University of Michigan on clean vehicles.

China announced that the Ministry of Housing and Urban-Rural Development will lead its building energy efficiency team, Huazhong University of Science and Technology will lead its clean coal team, and Tsinghua University will lead its clean vehicles team.

More information, including the joint work plans, can be found at www.us-chinacerc.org.

Center of Excellence on Nuclear Security

The U.S. Department of Energy's National Nuclear Security Administration (NNSA) and the China Atomic Energy Authority (CAEA) signed a memorandum of understanding to establish the Nuclear Security Center of Excellence (COE) that was

originally announced by China during the April 2010 Nuclear Security Summit. The COE will help meet Chinese and regional training needs in all aspects of nuclear material security and will build on the nuclear security best practices program that has been underway between the U.S. and China since 2004. NNSA is working with the U.S. Department of Defense and CAEA on a preliminary design for the Center.

Customs Training Center

The U.S. Department of Energy's National Nuclear Security Administration (NNSA) and the General Administration of China Customs (GACC) signed a Memorandum of Understanding to work together to establish a radiation detection training center at the GACC's Qinhuangdao Training Center as part of ongoing bilateral cooperation on the Second Line of Defense Program and Megaports Initiative at the Yangshan Deepwater Port in Shanghai. The center will enhance GACC's radiation detection training programs.

Energy Sciences R&D Cooperation

The U.S. Department of Energy and the Chinese Academy of Sciences signed an agreement to facilitate and promote cooperation in energy sciences research and development through joint research programs and information exchange. Under the *Protocol for Cooperation in Energy Sciences*, specific topics of focus include high energy physics, nuclear physics, nuclear energy sciences, basic energy science, biological science, and environmental science.

Commercial Signings

U.S. Secretary of Energy Steven Chu witnessed the signings of the following commercial and cooperation agreements:

- General Electric and China Shenhua Group formed a gasification technology licensing joint venture in China to advance the deployment of cleaner coal solutions in coal-to-chemicals, coal-to-liquids, and cleaner coal power generation. This collaboration is expected to generate over $100 million in U.S. exports of high value cleaner coal gasification technology and engineering.
- General Electric and China Huadian Corporation signed a joint collaboration agreement for distributed energy combined heat and power (DECHP) projects in China that will generate $350 million in U.S. exports, supporting jobs in the U.S. and China, and enabling China to conserve resources while generating cleaner electricity and thermal energy.
- Duke Energy and ENN Group signed a memorandum of understanding launching the "Future Energy Technology Demonstration Platform" for joint development and demonstration of clean energy technologies, integrating clean

coal, electric vehicles, energy efficient buildings and smart grid technologies in China's first "eco-city" in Langfang, China, with an eye to potential applications in the United States.

- AES China, a subsidiary of AES Corporation headquartered in Arlington, Virginia, entered into an agreement with Chongqing Energy Investment Group, Ltd., to jointly develop, construct and operate a series of renewable energy projects, including hydroelectric, wind, ventilation air methane, clean coal and low carbon technology projects located in Chongqing, Xinjiang and other Western China provinces.
- Alcoa and the China Power Investment Corporation announced a memorandum of understanding to collaborate on a broad range of aluminum and clean energy projects representing $7.5 billion in potential investment both within China and abroad.
- American Electric Power (AEP) signed a cooperation agreement with China Huaneng, China's largest power company, through which AEP will begin a multi-step evaluation of a post-combustion advanced amine carbon capture technology developed by China Huaneng that if successful could lead to power plant applications in the United States and elsewhere. The two companies will also exchange information on power plant operations and efficiencies and identify opportunities for further improvements on efficiencies.
- American Electric Power signed a cooperation agreement with State Grid Corporation of China, the largest utility in China, through which the two companies will jointly evaluate and potentially advance six transmission and distribution technologies, including ultra-high-voltage transmission equipment, advanced energy storage technologies, smart-meter technologies, and distributed generation technologies. If the technologies prove feasible, the companies will explore the potential for fabrication and manufacturing in the United States.
- Florida-based UPC Management, LLC, entered into a strategic framework agreement with China Guodian Corporation to jointly invest in, and develop, construct and operate one gigawatt of wind projects in China.
- Ener1 and Wanxiang Group signed a joint venture to co-manufacture electric vehicle batteries for the rapidly growing Chinese market by harnessing cutting-edge American technology and advanced Chinese manufacturing capability in Hangzhou. As a result, Ener1 plans to expand their U.S.-based R&D and engineering staff.
- Westinghouse Electric Company and China's State Nuclear Power Technology Corporation signed a two-year extension of a nuclear cooperation agreement that focuses on continued deployment of the Westinghouse AP1000 nuclear power plants now being built in China, as well as service and maintenance, technology development and strategic investment.
- Westinghouse Electric Company and China Baotou Nuclear Fuel signed an agreement for the design, manufacture and installation of nuclear fuel fabrication

equipment that will enable China to manufacture fuel for the fleet of Westinghouse AP1000 nuclear power plants now being built.

Los Angeles – Shanghai Electric Vehicles Cooperation

As part of the U.S.-China Electric Vehicle Initiative announced in November 2009 and the multilateral Clean Energy Ministerial Electric Vehicles Initiative announced in July 2010, the U.S. Department of Energy and China's Ministry of Science and Technology signed an agreement to support the electric vehicle demonstrations in Los Angeles, California and Shanghai, China. Under the *Statement of Intent concerning Sharing Electric Vehicle Demonstration Data between Shanghai and Los Angeles* both countries will exchange summary data on establishing basic supporting infrastructure for electric vehicles, conducting consumer research, deploying electric vehicles and charging infrastructure, and establishing vehicle approval processes.

International Solar Decathlon

The U.S. Department of Energy will work with China's National Energy Administration, Peking University and U.S-based Applied Materials, Inc., to help establish Solar Decathlon China, a competition to challenge Chinese university students to design, build and operate houses that are energy efficient and self-reliant in energy usage based on DOE's existing Solar Decathlon program. Under the *Memorandum of Understanding on Collaboration in Organizing an International Solar Decathlon in* China, DOE will provide advisory support to help organize the competition, which will create opportunities for U.S. companies to showcase their leading energy technologies in the Chinese market.

Eco-cities Cooperation

The U.S. Department of Energy and China's Ministry of Housing and Urban-Rural Development agreed to develop a joint U.S.-China Eco-city Initiative to help address large urban growth in a sustainable manner. The demonstration project will identify five cities and districts which would integrate advanced energy efficiency and renewable energy into city design and operation. It will facilitate research on guidelines and policies to support widespread development of Eco-cities, conduct technology research and undertake training in integrated urban design.

Future Bilateral Meetings

The U.S. Department of Energy and China's National Development and Reform Commission agreed to organize the Second U.S.-China Energy Efficiency Forum on May 5 and 6, 2011, in Washington, D.C.

In addition, the next Joint Coordinating Committee meeting of the U.S.-China Peaceful Uses of Nuclear Technology Agreement of 1998 will be held in Spring 2011 in Washington, D.C.

For more information, please refer to "U.S.-China Clean Energy Cooperation: A Progress Report by the U.S. Department of Energy," a new report available for download at http://www.energy.gov/USChinaCleanEnergy