



China Energy & Environment Update

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GUEST CONTRIBUTIONS AND COLUMNS

China Nuclear Industry Overview

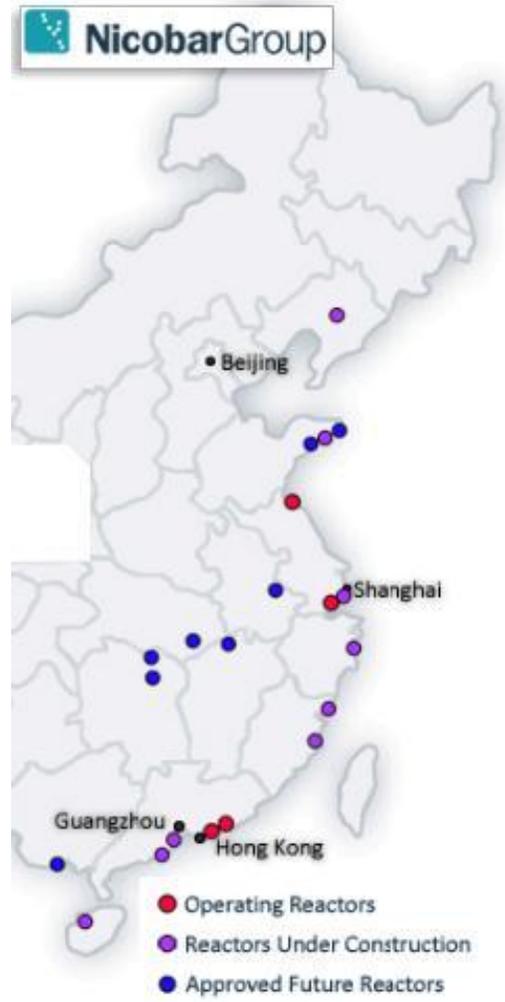
By Nicobar Group in Cooperation with the U.S. Commercial Service in Beijing, China

Nowhere today is the global Nuclear Renaissance stronger than in China. Over the last five years, China has developed the world's most ambitious nuclear new-build program. With over 20 new reactors currently under construction, China plans to add at least 50GW of new capacity between now and 2020.

Future reactor designs will be dominated by the indigenous CPR-1000 and the Westinghouse AP1000, the world's first of which is currently under construction in China. A wide array of opportunities is available to U.S. companies and their decades of industry experience, proven technologies and world-class reputations.

China's nuclear new-build is subject to government-imposed local content quotas, which influences Chinese customers' procurement decisions. Consequently, a strategic localization plan is crucial to the success of U.S. companies in the Chinese market. Nicobar

Chinese Commercial Nuclear Reactors



recommends that potential reentrants to the market engage experienced in-country service providers in determin-

CS China Energy Update

is a bi-monthly electronic publication produced by the U.S. Commercial Service in China. The Update provides U.S. companies with information and analysis on China's energy market, project alerts, highlights from the U.S. Mission in China and U.S. Department of Commerce and U.S. Government activities in the sector, and a listing of upcoming events and activities.

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The U.S. Commercial Service is part of the global trade promotion network of the U.S. Department of Commerce. Our primary goal is to help U.S. firms export their products and services. Over the years, we have developed a wide array of services to meet the needs of U.S. exporters. To learn about what we can do for you, please visit our website at:

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The views and opinions of guest contributions do not necessarily represent those of the Commercial Service or U.S. Government. Inclusion does not represent or imply endorsement of the individual or organization.

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ing how to best position themselves in compliance with local content rules.

The combination of the Chinese nuclear industry's rapid growth with its relative lack of maturity will mean that there will be many shortages in both capacity and expertise, and there are very large opportunities for U.S. companies to fill those gaps. The best way for U.S. companies to serve the Chinese market is through the establishment of a China operation in some form.

The U.S. Commercial Service nuclear energy team has experts ready to assist companies looking to promote and grow their business in China. We have resources to find

potential partners and help companies begin the partnership process. We also work closely with companies like Nicobar to uncover new opportunities for U.S. companies operating in China.

The Nicobar Group specializes in establishing and managing operations in China for U.S. nuclear companies. This includes servicing contracts that have already been won in China and leveraging those into continued future China business.

For a copy of the full report please click the link below:

www.buyusa.gov/china/en/732.pdf

You can also visit Nicobar online:

www.nicobargroup.com

We Look Forward to Hearing Your Thoughts

The U.S. Commercial Service in China welcomes contributions from guest authors and other organizations. **The views and opinions of guest contributions do not necessarily represent those of the Commercial Service or U.S. Government. Inclusion does not represent or imply endorsement of the individual or organization.**

If you are interested in contributing an article, research or report, mak-

ing comments or just looking for more information, please contact the U.S. Commercial Service Energy Team in Beijing:

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U.S. GOVERNMENT HIGHLIGHTS

U.S.-China Environmental Industries Forum

Elizabeth Shieh, USCS Beijing

The 2nd U.S.-China Environmental Industries Forum (EIF) was held in New Orleans on October 6 on the sidelines of WEFTEC, one of the world's largest water trade shows. The EIF is a biennial event organized by the U.S. Environmental Protection Agency, U.S. Department of Commerce, U.S. Trade Development Agency and the Chinese Ministry of Environmental Protection.

This year's event was led by China MEP Vice Minister Wu Xiaoqing with 29 other ministry-level officials and over 50 Chinese companies, as well as U.S. EPA Assistant Administrator Peter Silva and Deputy Assistant Secretary Mary Saunders along with 35 U.S. companies.

The EIF encourages dialogue between representatives from the U.S. and Chinese governments and their respective environmental industries on a variety of environmental technology, trade and policy issues. These discussions are intended to enhance cooperation in environmental protection and increase bilateral



China Ministry of Environmental Protection Vice Minister Wu Xiaoqing and U.S. Environmental Protection Agency Assistant Administrator Peter Silva witnessed a sales agreement signing for U.S.-based FuelTech.

trade in products and services related to the environmental sector.

This year's forum included a half day policy discussion and a half day of technical presentations and matchmaking.

The forum also held a signing ceremony to finalize deals between U.S. and Chinese environmental protection companies.

U.S. companies BRISEA International Development, NAIIC Holdings Group, US Rebel Group, FuelTech, LaMotte Chemical, Marsulex Environ-

mental Technologies, Honua Technologies, Quality Systems International and Covanta Holdings all signed deals with their Chinese counterparts at this year's EIF.

Covanta's deal with Chongqi Iron and Steel, for example, created a long term cooperation agreement on a waste power plant operation to be operated by the two companies' joint venture.

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Chinese Mayors Visit U.S. Cities



Elizabeth Shieh and Steven Woodard, Commercial Service Beijing

From September 12 to 26, representatives from the U.S. Commercial Service, the Department of Energy and the U.S. Trade and Development Agency led a Mayor's Training Program delegation of 19 Chinese mayors, and 5 officials from the Ministry of Housing and Urban Rural Development and the Mayor's Training Center to the U.S. The delegation visited San Francisco, Sacramento and Portland where they attended training programs and site visits.

Their tour focused on sustainable planning and building in U.S. cities as well as U.S. urban development. The delegation

met with U.S. city officials and discussed policy incentives for increasing energy efficiency, innovative financing mechanisms, power distribution as well as transit, water and solar energy policies.

The delegation visited the California Academy of Sciences, Lawrence Berkley National Laboratory, Electric Power Research Institute, University of California Davis, and a green-tech high school, among other places. This event showcased U.S. technology in areas like smart grid technology, municipal water management, clean and integrated transportation, low-carbon buildings, renewable energy, home energy management systems and more. Other topics focused on policies such

as land-use management, climate action planning, green building standards and how to use local, state and federal policies to promote overall energy efficiency.

U.S. Companies AECOM, Applied Materials, Cummins, GE, Honeywell, Ingersoll Rand, Intel, Oracle, Solatube, Solutia, UniSolar, and UTC also met with the group to go over their latest innovations in green building and planning solutions in building materials, water resource management and clean transportation.

The U.S. Trade and Development Agency regularly sponsors conferences and reverse trade missions to facilitate partnerships between overseas project sponsors and U.S. firms in meeting priority development needs. A hallmark of these events is the opportunity that they present for project sponsors and U.S. company representatives to meet one-on-one to discuss specific project solutions. Many U.S. companies find these events to be an efficient and effective means to identify available business opportunities.

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Delegations such as this Mayor's Training Program bring key overseas procurement officials to the United States to learn about U.S. technology and services that can help them to achieve their development goals. U.S. business briefings are built into the delegations' itineraries to provide op-

portunities for U.S. firms to hear directly from the visiting officials about their procurement needs.

For more information and to learn about future reverse trade missions such as these contact: Elizabeth.Shieh@trade.gov

U.S. and China Meet in Texas to Discuss Oil and Gas

Steven Woodard, USCS Beijing

The 10th U.S.-China Oil and Gas Industry Forum (OGIF) was held in Fort Worth, Texas from September 14 to 16. The OGIF is an annual gathering of both high-level government officials and industry representatives, and it is the only bilateral institution for the U.S. and China to discuss commercial oil and gas issues together with industry representatives. The event will be hosted in China next year.

Among those in attendance were officials from the U.S. Department of Energy and the Department of Commerce along with their counterparts from China's National Development and Reform Commission (NDRC) and the National Energy Administration.

This year's event focused much of its discussion on shale gas and

other unconventional sources as well as enhanced oil recovery and deepwater development. China will need U.S. technology to develop its shale gas resources as well as U.S. experience in exploration and project assessment.

Held in concert with the OGIF is the U.S.-China Energy Policy Dialogue (EPD). This is the 5th annual EPD and it plays a significant role in U.S.-China gas policy development. The EPD provides a forum for sharing best practices in energy efficiency, resource conservation, market and regulatory policies, oil and gas, nuclear power generation and renewable energy technology development and deployment.

In June, 2008 at the fourth meeting of the SED, the United States and China agreed upon this ambitious framework for enhanced

cooperation. The Ten Year Framework initially established five goals: clean air; clean water; clean and efficient transportation; clean, efficient, and secure electricity production and transmission; and conservation of forest and wetland ecosystems. At the most recent SED meeting in December, 2008, a sixth goal focusing on energy efficiency cooperation was added. The U.S. Department of Energy (DOE) is responsible for the goals on transportation, electricity and energy efficiency.

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Secretary Chu Announces U.S. Centers for U.S.-China Clean Energy Research Center

Dept. of Energy press release

This September and October U.S. Energy Secretary Steven Chu announced that three consortia - one led by the University of Michigan, another led by the West Virginia University and the third led by Lawrence Berkeley National Laboratory - will receive a total of \$37.5 million over the next five years under the U.S.-China Clean Energy Research Center (CERC).

The funding will be matched by the grantees to provide at least \$75 million in total U.S. funding and will facilitate joint research and development of clean energy technologies by the United States and China. Chinese counterparts will contribute an additional \$75 million, with combined funding from both countries totaling \$150 million.

The University of Michigan's award will advance technologies for clean vehicles, while West Virginia University will use its funding to focus on the next generation of clean coal technologies, including carbon capture and storage. The Lawrence Berkeley National Laboratory

will focus on clean building technologies.

"The U.S.-China Clean Energy Research Center will help accelerate the development and deployment of clean vehicle and clean coal technologies here at home," said Secretary Chu. "This new partnership will also create new export opportunities for American companies, ensure the United States remains at the forefront of technology innovation, and help to reduce global carbon pollution."

Furthermore, U.S. buildings account for nearly 40 percent of the nation's energy consumption and carbon dioxide emissions, and nearly half of the new floor space built in the world each year is built in China, the United States and China have important roles to play as the world transitions to energy-efficient buildings, the Department of Energy said in a related press release.

President Obama and President Hu Jintao formally announced the establishment of the CERC during the President's trip to Beijing last November. At the time, Secretary Chu joined Chi-



Dr. Steven Chu, Secretary of Energy; taken from www.energy.gov

nese Minister of Science and Technology Wan Gang and Chinese National Energy Administrator Zhang Guobao to sign the protocol launching the Center. As the world's top energy consumers, energy producers and greenhouse gas emitters, the U.S. and China will play central roles in the world's transition to a clean energy economy in the years ahead. Details of the winning consortia are as follows:

Clean Coal: The West Virginia University will lead a consortium that includes the University of Wyoming, University of Kentucky, Indiana University, Lawrence Livermore National Labo-

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ratory, Los Alamos National Laboratory, National Energy Technology Laboratory, World Resources Institute, U.S.-China Clean Energy Forum, General Electric, Duke Energy, LP Amina, Babcock & Wilcox and American Electric Power. The consortium will develop and test new technologies for carbon capture and sequestration.

Clean Vehicles: The University of Michigan will lead a consortium that includes Ohio State University, Massachusetts Institute of Technology, Sandia National Laboratories, Joint Bio-Energy Institute, Oak Ridge National Laboratories, General Motors, Ford, Toyota, Chrysler, Cummins, Fraunhofer, MAG-

NET, A123, American Electric Power, First Energy and the Transportation Research Center. The consortium will focus on vehicle electrification.

Energy Efficient Building Technology: The Lawrence Berkeley National Lab will lead a consortium that includes Oak Ridge National Lab, the Massachusetts Institute of Technology, the University of California-Davis, the National Resources Defense Council, the Energy Foundation, ICF International, the National Association of State Energy Officials, the Association of State Energy Research and Technology Transfer Institutions, Dow Chemical Company, Honeywell, General Electric, Saint-

Gobain, Bentley, ClimateMaster, and Pegasus Capital Advisors.

The U.S. government funding will be used to support work conducted by U.S. institutions and individuals only. Chinese partners will be announced in the coming months by the Chinese government.

EPA Administrator Visits China

The U.S. Environmental Protection Agency (EPA) Administrator Lisa P. Jackson was in China from October 9 to 14. This was the administrator's first official visit to China, where she highlighted and built on a wide range of joint efforts aimed at addressing current and emerging environmental challenges, from sustainability to greenhouse gas pollution.

During the trip, Administrator Jackson signed a Memorandum of Understanding with her counterpart from China's Ministry of Environmental Protection, opened the Regional Air Quality Meeting in Beijing, visited the world's largest electronic waste site and hosted a town hall meeting with students at Sun Yat-sen University in Guangzhou.

For 30 years, the United States

and China have engaged in a wide range of cooperative activities aimed at increasing energy efficiency; reducing emissions of pollutants, toxics, and greenhouse gases, limiting threats to public health caused by pollution; and creating a foundation for long-term environmental sustainability.

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China Clean Energy Exchange Program Reverse Trade Mission

From www.ustda.gov/news

USTDA sponsors conferences and reverse trade missions to facilitate partnerships between overseas project sponsors and U.S. firms in meeting priority development needs. A hallmark of these events is the opportunity that they present for project sponsors and U.S. company representatives to meet one-on-one to discuss specific project solutions.

The Clean Energy Exchange Program will introduce Chinese energy sector officials and project sponsors to U.S. clean energy technologies through a series of three reverse trade missions (RTM) to the U.S. over the next 18 months.

These visits will include ten days each of meetings with U.S. industry and U.S. government agencies in Washington, DC and two other U.S. cities, on the commercial, technological, and regulatory aspects of clean energy project development. The series of OV's supports the mission of the U.S.-China Energy Cooperation Program (ECP), recently launched in China with the assistance of USTDA. The Exchange Program will further support China's efforts to improve the supply, cost, and efficiency of energy in China.

Agency conferences are held in the United States or overseas and typically bring together key decision makers from several countries. Many U.S. companies find

these events to be an efficient and effective means to identify available business opportunities.

Reverse Trade Missions bring key overseas procurement officials to the United States to learn about U.S. technology and services that can help them to achieve their development goals. U.S. business briefings are built into the delegations' itineraries to provide opportunities for U.S. firms to hear directly from the visiting officials about their procurement needs.

For more information contact:

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U.S.-China Standards Roundtable on Energy Efficiency and New Energy

On September 29, 2010, the U.S. Department of Commerce and the Standardization Administration of China convened a roundtable in Beijing, China on Energy Efficiency and New Energy Standards.

This event established a platform from which both countries may gain an understanding of the de-

velopment of emerging energy technologies, including energy efficiency, electrical vehicles, photovoltaic, and other alternative resources, and to explore opportunities for future engagement.

The program covered the latest developments in energy efficiency-related standards and cer-

tification, Energy Star certification, electrical vehicles and charging stations and the opportunities in solar collectors.

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www.buyusa.gov/china/en/energy.html

NEWS AND ANALYSIS

China Smart Grid Standards Framework released

The State Grid Corporation of China has released its 2010 roadmap and framework for implementing smart grid standards in China and a comparison to other international standards. This important document will help guide

smart grid investors and manufacturers in their China operations.

Visit the U.S. Commercial Service China Power Generation webpage and scroll down to the reports section and you can find

the full English-language electronic report:

www.buyusa.gov/china/en/power.html

Developing West China's Hydroelectric

Steven Woodard, CS Beijing

The Ganzi Tibetan Autonomous Prefecture in Sichuan is in a prime strategic position for the development of hydroelectric power stations. The Yangtze and Yellow Rivers both flow through Ganzi and feed other rivers like the Yalong and Dadu. Researcher Zhou Wei estimates that the area has theoretical hydroelectric reserves of 5,700 mkW. This will be an important consideration as the 12th 5-year plan takes shape.

This also coincides with China's drive to develop the economies of Central and Western China. Government investment is likely to be increasingly funneled into infrastructure projects and energy production. The boost in jobs from construction and the



benefit for added tax revenues mean local governments like Ganzi are eager to approve hydro projects.

But, Ganzi is still plagued with poor logistics and underdevelopment. The power grid is weak, transportation is difficult and the region is very isolated.

In addition, much more focus is being placed on non-economic benefits associated with hydroe-

lectric power in China. Pre-planning, project studies and environmental assessments will likely become more common and increasingly restrictive over the next decade in an effort to protect biodiversity and understand people's livelihoods could be affected.

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China's Hydroelectric Power Pledge

Steven Woodard, CS Beijing

Zhang Guobao, head of China's National Energy Agency, has stated there will be a RMB 1 trillion investment in dam-building projects. China hopes to generate 15% of its energy from non-fossil fuels including 9% from hydro power. This comes as China reaches a total hydro generating capacity of 200 giga-

watts. The Three Gorges Dam can generate 22.5 gigawatts at its full potential. China's capacity more than doubles the next largest hydro producer, Canada, and Zhang says there will be another 100 gigawatts added over the next ten years. This signals a real commitment to diversifying away from coal, and provides a significant opportunity for ex-

ports into non-fossil fuel sectors in China. Environmentalists, however, argue that dam projects are causing serious harm to river ecosystems, downstream erosion and straining China's dwindling water supplies.

China Proposes Carbon Tax

Steven Woodard, CS Beijing

Ministry officials in China are considering introducing a tax on carbon dioxide emissions. The new tax could come into effect in 2012. The Ministry of Environmental Protection (MEP) and the

Ministry of Finance (MOF) disagree over the specific details of the plan. The MEP hopes to start the tax at 20 yuan per tonne of carbon dioxide rising to 50 yuan by 2012, while the MOF starts at 10 yuan and rises to 40 yuan over the same period. A tax in-

creasing the cost of burning fossil fuels will help boost demand for both carbon capture and storage systems and renewable energy technologies.

China Forces Energy Intensive Factories to Close

Steven Woodard, CS Beijing

The Ministry of Industry and Information Technology (MIIT) listed 2,087 energy intensive or heavily polluting plants spanning 18 industry sectors that were to be shut down by the end of September. This includes 317 iron and steel mills, 192 coking plants, 17 aluminum plants, 6 copper refiners, 19 glass makers,

762 cement plants, 201 dying facilities and 84 leather producers. The facilities on the list will see their emission license revoked, bank credits, new investment approval and land use permits denied, and safe production permit withdrawn. At the same time of the shutdown order, the National Development and Reform Commission reported pro-

gress in cancelling preferential electricity tariffs for heavy energy users.

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UPCOMING EVENTS

EPTES 2010 (Certified) November 9 - 13, Shanghai

Web: <http://www.ciif-expo.com/>

Contact: Stellar.Chu@trade.gov

Being a specialized show of China International Industry Fair 2010 (CIIF2010), Environmental Protection Technology & Equipment Show (EPTES) is an international platform which focuses on environmental protection technologies and equipments such as Waste Treatment and Recycling, Water Treatment, Cyclic Economy and Utilization of Renewable Resources, Transportation Energy Saving and New Energy. Deadline to reserve space on-line is August 30. Limited space still available.

Shanghai International Petroleum & Petrochemical Exhibition (SIPPE)

November 25-27, Shanghai

Web: <http://www.sippe.org.cn/>

Contact: Jianhong.Wang@trade.gov

SIPPE attracts around 400 companies each year and covers a very broad range of sectors within the petroleum and petrochemical industry. The show features equipment, gas trans-

portation, offshore oil, automation, instrumentation, explosion prevention and more.

International Solar Industry and Photovoltaic Exhibition and Conference (SNEC) Feb 22-24, 2011, Shanghai

Web: www.snec.org.cn/

Contact: Hongying.Cai@trade.gov

SNEC features over 1,300 exhibitors from 60 countries in the solar and PV industry. Categories include production equipment, PV modules, batteries and other components, solar materials, lighting systems and other houseware as well as large integrated projects. The conference features management and technology experts.

China International Petroleum & Petrochemical Technology and Equipment Exhibition (CIPPE/CIOOE 2010)

March 22-24, 2010 Beijing, China

Web: www.cippe.com.cn/cippeen/

Contact: Jianhong.Wang@trade.gov

The Commercial Service of the U.S. Embassy in Beijing is

pleased to invite U.S. firms to showcase their equipment and services in our "U.S. Pavilion" at CIPPE/CIOOE 2010. CIPPE, with nine years of track record, is the most influential and well established event of its kind in Asia, showcasing an array of companies interested in China's oil & gas and petrochemical industries. CIPPE offers U.S. firms an excellent opportunity to export to China.

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