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U.S. Department of Commerce Leads U.S. Clean-Energy Trade Mission to China and India

By Justin Rathke

Mission Background

Companies in the environmental technologies industry know that one can “do well by doing good.” This maxim was in full effect during the U.S. Department of Commerce’s recent clean-energy trade mission to China and India. Led by David Bohigian, assistant secretary of commerce for market access and compliance, the mission took 17 U.S. clean-energy companies to five cities during January 8–17, 2008.

The market potential for clean-energy goods and services in China and India are enormous. Both countries need massive amounts of energy to power

their booming economies while simultaneously addressing pollution and climate change concerns. Assistant Secretary Bohigian called the phenomenon created by the world’s need for environmentally friendly technologies and greater energy security a “generational opportunity” for society.

“The continuing rapid growth of the Chinese and Indian economies presents unparalleled opportunities and challenges,” said Bohigian. “U.S. clean-energy companies can help China and India meet their enormous energy demands while deploying technology that benefits

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David Bohigian, assistant secretary of commerce for market access and compliance, prepares to cut the ribbon at a signing ceremony for U.S. participant Eaton Corporation in Guangzhou, China. (U.S. Department of Commerce photo)

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Clean-Energy Trade Mission

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the environment. The 17 U.S. companies participating in this mission are among the most innovative in the world, and the mission's business and government meetings allow them to present cutting-edge products and services to these dynamic markets."

The 17 participating U.S. companies came from the renewable energy, energy-efficiency, fuel storage, transportation, and clean-energy services sectors. For a full list of delegates, visit http://trade.gov/press/press_releases/2007/clean-energy_122107.asp.

This mission built on the first U.S. clean-energy technologies trade mission, which occurred in April 2007 and also took 17 U.S. companies to China and India. The second trade mission supported President George W. Bush's new international framework on climate change, energy security, and economic growth involving 17 major economies (the Major Economies Process) and the Asia-Pacific Partnership on Clean Development and Climate.

President Bush launched the Major Economies Process in September 2007 in an effort to create a new international framework on climate change, energy security, and economic growth. The purpose of the Major Economies Process is for the world's largest users of energy and largest producers of greenhouse gas emissions, including both developed and developing nations, to establish a new international approach to climate change in 2008 that will contribute to a global agreement under the United Nations Framework Convention on Climate Change.

The Asia-Pacific Partnership on Clean Development and Climate is a public-

private partnership of seven countries, representing half of the world's economy, population, and energy consumption: Australia, Canada, China, India, Japan, South Korea, and the United States. Member countries work together to break down policy barriers and to facilitate commercial deployment of technologies that reduce greenhouse gas emissions and enhance energy security.

Although government targets for deploying clean energy in China and India are ambitious, trade is often limited by onerous barriers that prevent U.S. firms from doing business. Assistant Secretary Bohigian regularly made a four-pronged argument to policymakers: (a) market-based pricing of energy is essential to attracting foreign investment; (b) the rule of law must be strengthened so that companies have faith in commercial contracts; (c) greater respect for intellectual property rights will ensure that companies choose to deploy their latest, most innovative products; and (d) clean energy projects must be allowed access to the transmission grid. The assistant secretary and the U.S. government delegation, which included officials from the U.S. Department of State, the U.S. Commercial Service, and the U.S. Trade and Development Agency, delivered this message to national and state government officials.

Mission Highlights

The mission had several highlights. One participant, Capstone Turbine Corporation of Chatsworth, California, announced the signing of a new distributor agreement with Shanghai Tech-Steel Petroleum & Natural Gas Technology

Development Co. Ltd. for the oil and gas sector in China.

While in Guangzhou, China, mission participant Eaton Corporation held a signing ceremony for the purchase of 30 hybrid electric buses by the municipal bus company. Eaton designs and manufactures electric and hybrid power systems for commercial vehicles. The company participated in both of the U.S. Department of Commerce's clean-energy trade missions.

The U.S. Department of Commerce also seeks to promote foreign investment to the United States; Assistant Secretary Bohigian used the mission as a platform to promote the United States as an attractive location for foreign companies to do business. AzurePower, a solar-power plant owner and operator, is in talks with an Indian entity from West Bengal seeking a 10 percent stake in the company, which should facilitate projects for AzurePower in India.

The U.S. Department of Commerce will soon publish a reference guide for U.S. firms to use in locating and taking advantage of clean-energy opportunities in China and India. The report will be available at no cost at www.trade.gov. Realizing that the demand on behalf of U.S., Chinese, and Indian players is so great for a repeat mission, Assistant Secretary Bohigian will soon lead another clean-energy delegation to those markets. For information on dates and how to apply, visit www.trade.gov.

Justin Rathke is an international trade specialist in the Office of Energy and Environmental Industries within the U.S. Department of Commerce's International Trade Administration.

U.S.–China Oil and Gas Industry Forum

By Sarah Lopp

The eighth U.S.–China Oil and Gas Industry Forum (OGIF) took place in San Francisco, California, on September 9–11, 2007. The event successfully continued the bilateral energy dialogue that was first established in 1998. The U.S. Department of Commerce, the U.S. Department of Energy, and the Chinese National Development and Reform Commission cohosted the forum.

Public-Private Partnership

OGIF is the only bilateral vehicle available for industry and government to address common commercial energy issues together. As a public–private sector partnership, U.S. and Chinese representatives from industry and government address existing and future commercial opportunities and challenges facing the U.S. and Chinese energy sectors.

This year’s OGIF included sessions on U.S. and Chinese energy overviews, specifically China’s five-year plan for the natural gas industry and the report “Facing the Hard Truths About Energy – A Comprehensive View to 2030 of Global Oil and Natural Gas.” Strengthening international oil and gas cooperation was a theme in many of the Chinese and U.S. energy companies’ presentations.

Success stories in coal-bed methane extraction, energy efficiency, and marine high-sulfur gas field exploration were topics covered in a key energy issues session. Domestic pricing of natural gas in China and other market-based issues, as well as exploration and production technology, were discussed. New and unconventional oil and gas production, including coal gasification and heavy oil refinement, were a focus of the final day of OGIF.

Industry Access

OGIF provided U.S. industry access to key Chinese energy policy decision-makers from the Chinese National Development and Reform Commission, China National Offshore Oil Corporation, China National Petroleum Corporation, China United Coalbed Methane Corporation, Sinochem Corporation, and Sinopec. Industry representatives in attendance felt that, as a result of OGIF, they had a much better understanding of China’s energy plans, views on foreign investment in China’s oil and gas industry, and potential business opportunities to pursue.

The Office of Energy and Environment Industries of the U.S. Department of Commerce has organized OGIF for eight

years, working closely with industry and the Department of Energy each year to ensure that industry priorities are represented in the agenda and that the industry’s objections are met throughout the forum. The OGIF’s U.S. Steering Committee includes representatives of the U.S. oil and gas industry, the U.S.–China Business Council, the United States Energy Association, the Department of Commerce, and the Department of Energy.

Next Conference

The ninth OGIF is tentatively scheduled for fall 2008 in China. The U.S. Steering Committee, which is planning the ninth OGIF, is open to any U.S. oil and gas firm. If your company is interested in participating on the Steering Committee or would like more information about OGIF, please contact Sarah Lopp of the Office of Energy and Environment Industries at (202) 482-3851 or sarah.lope@mail.doc.gov.

Sarah Lopp is an international trade specialist in the Office of Energy and Environmental Industries within the U.S. Department of Commerce’s International Trade Administration.

Building Capacity in Afghanistan's Oil and Gas Sectors

By Paul Hueper

The Islamic Republic of Afghanistan continues to make gradual moves toward holding an international licensing round that would lead to greater commercialization of the country's sizable undiscovered oil and gas resources. After many years of work, the government of Afghanistan is likely to hold a bidding round in 2008. Despite the challenges of investing in Afghanistan, interest by U.S. and foreign energy companies should be strong, not only because of the resource potential on offer, but also because of the strengthening domestic market for natural gas.

History of Afghanistan's Oil and Gas Resources

U.S. companies led the first geological surveys in northern and western Afghanistan between the mid-1920s and the outbreak of World War II. Following the first oil discovery in Afghanistan—at Angot by a Swedish contractor—the Soviet Union subsequently took over further exploration at that field and in the area surrounding Sar-i-Pol and Sheberghan, which is Afghanistan's gas-producing center and is located about 120 kilometers west of Mazar-i-Sharif. Soviet-led exploration and development work between the late 1950s and 1988 led to the identification of all of the 15 known oil and gas fields, which hold proved reserves of about 5 trillion cubic feet (tcf) of natural gas and perhaps 100 million barrels of oil.

Soviet-era development was confined to a small area, however, and significant

exploration potential still exists for both oil and gas in a roughly 87,000-square-kilometer swath of northern Afghanistan, particularly around Kunduz. In March 2005, a joint assessment by the U.S. Geological Survey and the Afghan Ministry of Mines of northern Afghanistan's oil and natural gas resources quantified the region's potential. Using Soviet-era data and analysis of analogous petroleum systems in the region, the assessment concluded that undiscovered gas resources could be three to seven times larger than the known reserves and that 1.6 billion barrels—

and perhaps up to twice this volume—of undiscovered oil resources likely exist.

Aid in the Development of Afghanistan's Energy Sector

Since 2002, the U.S. Department of Commerce's Office of Energy and Environmental Industries (OEEI), the U.S. Geological Survey, the U.S. Minerals Management Service, and the U.S. Trade and Development Agency have continued to provide various forms of in-country technical assistance and training to Afghanistan's Ministry of Mines. Much

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Afghan officials visited a Western-run drilling operation in eastern Georgia's Kura Basin.

Afghanistan's Oil and Gas Sectors

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of this work has been geared toward assessing investment requirements and priorities, conducting resource assessments, undertaking technical training and assistance activities related to capacity building, and reviewing proposed investment-related legislation.

Afghanistan's oil and gas sector faces many challenges. One key element to attracting foreign investment is to ensure safety and security with respect to the country's current oil and gas operations. To further this goal, OEEI helped in October 2007 to arrange a training class—Oil and Gas Field and Pipeline Safety, Security, Inspection, and Monitoring—that was designed to help build the institutional capacity and operating capabilities of Afghanistan's Ministry of Mines. This training program was overseen and funded through the U.S. Geological Survey and involved 10 officials from the Ministry of Mines and the government-run Afghan Gas Company and Afghan North Exploration.

The course was taught by three U.S. Minerals Management Service engineers and an OEEI technical expert. Safety training was conducted during three days of classroom work and covered pertinent aspects of the U.S. regulatory regime and the ways oil and gas well site inspection and enforcement procedures are conducted, particularly with respect to drilling permits, hydrogen sulfide control, well abandonment, well work-over and completion, pollution risks, and accident reporting.

The training took place in Tbilisi, Georgia, which was selected because the country's oil industry is roughly comparable in size to Afghanistan's gas



Afghan officials learned about the benefits of using U.S. drilling technology to tap reservoirs with complex geology.

industry and uses similar Soviet-era infrastructure. Following the classroom training on safety and security, Afghan officials visited a major oil and gas export pipeline facility that showed the benefits of large-scale U.S. and Western investment. They also visited a Western-operated drilling site that highlighted U.S. oilfield technology and safe operational methods, especially those used in regions with difficult geology.

This training class is a small part of an ongoing U.S. interagency effort that will bolster commercial and investment prospects in one of Afghanistan's most important economic sectors. In the very near future, Afghanistan will be poised to offer U.S. energy companies very interesting upstream investment opportunities. Planned expansion of the country's electric power sector using domestically produced natural gas as fuel

could provide the underlying basis for strong industrial and commercial growth throughout the country.

For more information on Afghanistan's energy sector, contact Paul Hueper at (202) 482-8153 or paul.hueper@mail.doc.gov.

Paul Hueper is oil and gas industry analyst in the Office of Energy and Environmental Industries within the U.S. Department of Commerce's International Trade Administration.

Energy Information Administration Set to Launch Enhanced Emissions-Reporting Program

By the Energy Information Administration, Voluntary Reporting of Greenhouse Gases Program

The Voluntary Reporting of Greenhouse Gases Program was established by Section 1605(b) of the Energy Policy Act of 1992, commonly known as the 1605(b) Program. The original program was designed to provide a means for individuals and organizations that have reduced their greenhouse gas emissions to record their accomplishments and share their ideas for action. Figure 1 shows key sectors and selected reporters from the data for 2005. Guidelines issued in 1994 permitted entity-wide and project-level reporting.

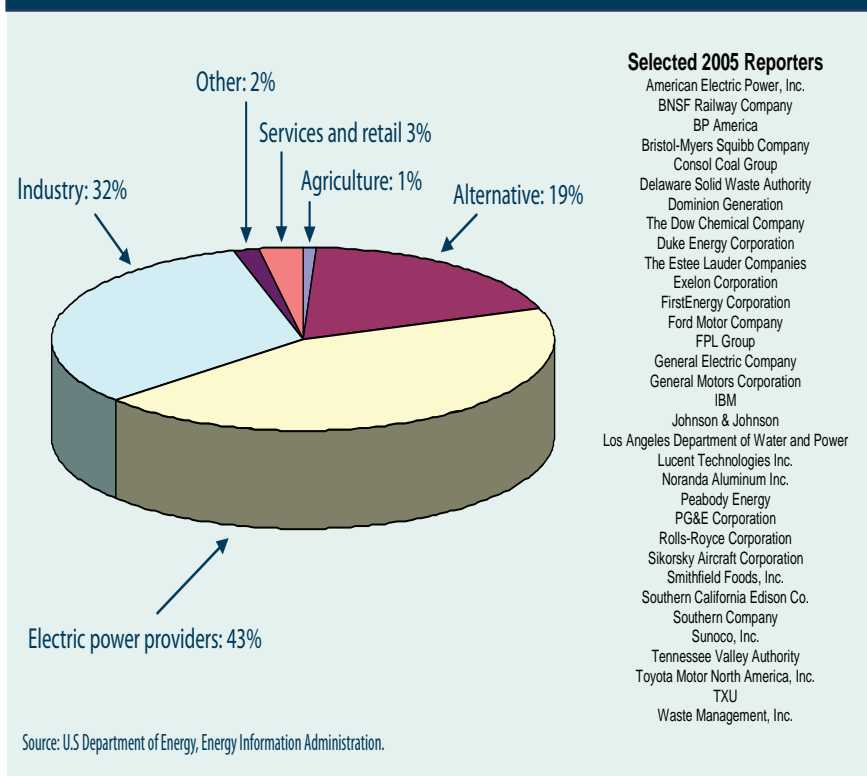
History of the 1605(b) Program

Between the program's launch in 1995 and 2006, 425 distinct entities reported to the original program. Participating entities consisted of key companies in a wide range of industries, including electric utilities, various manufacturers, oil companies, coal mine operators, landfill operators, and even a few individual households. In the last year of the original program, participants reported reductions for 2,379 projects and over half of them (53 percent) reported entity-level emissions or reductions.

The enhanced 1605(b) Program was an outgrowth of President George W. Bush's February 2002 Global Climate Change Initiative, which included the goal of reducing U.S. greenhouse gas emissions intensity (greenhouse gas emissions per unit of economic output) by 18 percent by 2012. The president called for changes to the program that would enhance measurement accuracy, reliability, and verifiability by working with and taking into account emerging domestic and international approaches. Over the next four years, the U.S. Department of Energy worked to implement the necessary enhancements to the program's General and Technical Guidelines, soliciting input from the public and other federal agencies through workshops, public comment periods, and an interagency group that included the U.S. Department of Agriculture, the U.S. Department of Commerce, and the U.S. Environmental Protection Agency.

The goal was to create a program that enhanced data quality and transparency while retaining sufficient flexibility to encourage participation in the voluntary program. Balancing these often-conflicting goals proved to be a challenge, but the interagency group managed to produce guidelines that improve data quality requirements for all reporters, allow for flexibility through a two-tiered system of registered and reported reductions, and provide simplified requirements for small emitters (entities with

Figure 1. Selected Reporters and Key Sectors of the 1605(b) Program, 2005



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annual emissions that do not exceed 10,000 metric tons carbon dioxide equivalent).

Reasons for Participating

There are a number of reasons for participating in the voluntary reporting program. Participating entities have the opportunity to create a public record of their emissions, emission reductions, and sequestration achievements, thereby establishing a baseline carbon footprint and chronicling positive actions taken to reduce that footprint. In addition to public relations benefits, participation also opens up economic benefits through the establishment of a greenhouse gas accounting infrastructure, as well as learning benefits through discovering economic greenhouse gas reduction actions. Maintenance of a public record will also help companies prepare for a possible regulatory program. Registration under the 1605(b) Program offers additional incentives—registered reductions could be held by the reporting entity for use in the event that a future regulatory program recognizes such reductions. Over time, it is anticipated that these reports will contribute to a reliable record of contributions made toward reducing greenhouse gas emissions.

General and Technical Guidelines of the Enhanced 1605(b) Program

The Department of Energy's Energy Information Administration (EIA) is poised to launch the enhanced 1605(b) Program. Shaped by revised General and Technical Guidelines finalized in early

2007, the enhanced program improves accuracy and emphasizes entity-wide assessments of greenhouse gas emissions and emission reductions. The enhanced program is expected to launch in early 2008 on completion of an Internet-based reporting system.

The final General Guidelines appeared in the *Federal Register* on April 21, 2006. On January 31, 2007, the Department of Energy published an interim final rule to correct, update, and make clarifying changes to the Technical Guidelines used for the 1605(b) Program. On April 2, 2007, the Department of Energy issued a final rule that adopts the January 2007 Technical Guidelines as final without change. For PDF versions of the General and Technical Guidelines, visit www.eia.doe.gov/oiaf/1605/aboutcurrent.html.

Shift of Focus

The enhanced 1605(b) Program reflects the emphasis of the revised guidelines—a shift from the focus on project-level reporting (emissions and emission reductions achieved as a result of a selected action or project of an entity) to entity-level reporting (emissions and emission reductions achieved from all of the collective actions of an entity). In other words, the enhanced program aims to generate a complete and accurate assessment of an entity's emissions footprint, as well as a record of any actions taken by the entity to reduce that footprint. Important reporting concepts introduced with the enhanced program include the following:

- A two-tiered reporting system that includes both *registering* reductions

and *reporting but not registering* reductions. Entities registering reductions will have to comply with specific, stringent reporting requirements. Large emitters (entities with annual emissions of 10,000 or more metric tons carbon dioxide equivalent) registering reductions are required to report an entity-wide emissions inventory. All entities reporting to the program should include some type of inventory, though it may be a partial inventory for small emitters or entities reporting but not registering reductions.

- An emphasis on improving emissions intensity as quantified by physical or economic measures of output.
- The concept of a *subentity*, which is a distinct component of any entity, such as a discrete business line, facility, plant, vehicle fleet, or energy-using system. Subentities must be delineated if different methods or distinct output measures are used to calculate reductions, but they also can be delineated strictly on an organizational basis.

- Provisions for reporting on emission offsets achieved by other parties.
- Optional third-party verification.

EIA revised Form EIA-1605 to comply with the revised guidelines and, following clearance by the U.S. Office of Management and Budget, posted the final versions of the form and instructions for its completion on the 1605(b) Program Web site on October 15, 2007 (see www.eia.doe.gov/oiaf/1605/Forms.html).

New Reporting System

EIA is currently developing an Internet-based, electronic reporting system for the enhanced 1605(b) Program. The

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new reporting system will eliminate the need for distribution of stand-alone software that reporters must install on their computers. The new electronic reporting form will be user friendly, with workflow that will overcome the apparent complexity of the paper reporting form by directing each reporter to only those parts of the form it must complete.

EIA plans to complete the electronic reporting form and launch the reporting cycle for data through 2006 in early 2008.

Together with the revised reporting software, EIA is also developing calculation tools that will aid reporters in calculating the emissions and reductions reported on Form EIA-1605 that are found by using the methods in the Technical Guidelines. Use of these methods is required under the enhanced 1605(b) Program. The calculation tools are scheduled to be completed and posted on the Internet before the enhanced program launches in early 2008. The Simplified Emission Inventory Tool will also be completed in early 2008. This

tool will aid reporters in determining if they are small or large emitters and in estimating de minimis emission sources, which are sources with negligible emissions that can be excluded from the reporter's emission inventory. Because small emitters are entities with annual emissions of less than 10,000 metric tons carbon dioxide equivalent, they are subject to less stringent emission inventory requirements.

After the enhanced program's launch in early 2008, the filing deadline for self-certified reports is expected to be in late spring 2008, as reporters will generally have a few months from the launch date to submit reports. Reporters with independently verified reports will have an additional two months to submit their reports. EIA will publicly announce the program's definite deadlines—as they become available—through a press release, the *Volunteer Newsletter*, an announcement to an electronic mail list, and EIA's Web site.

More information, including calculation and other technical assistance

tools and reporting guidance, will be posted to the Voluntary Reporting of Greenhouse Gases Web site in the coming months. Prospective reporters can access the Web site at www.eia.doe.gov/oiaf/1605/frntvrgg.html. For additional questions, contact the program's Communications Center at infoghg@eia.doe.gov or call (800) 803-5182.

Calendar of Events

International Conference on Clean Technologies for the World Mining Industry

Santiago, Chile

April 13–16, 2008

www.ctwmi.com

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Coal Prep 2008

Lexington, Kentucky

April 29–May 1, 2008

www.coalaggprepshow.com

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Electric Power 2008

Baltimore, Maryland

May 6–8, 2008

www.electricpowerexpo.com

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Water Environment Federation 2008 National Water Quality Monitoring Conference

Atlantic City, New Jersey

May 18–22, 2008

[www.wef.org/ConferencesTraining/](http://www.wef.org/ConferencesTraining/ConferencesEvents/NatWater)

[ConferencesEvents/NatWater](http://www.wef.org/ConferencesEvents/NatWater)

[QualityMonitoringConference](http://www.wef.org/ConferencesEvents/NatWater)

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American Water Works Association Annual Conference

June 8–12, 2008

Atlanta, Georgia

www.awwa.org/ace08/

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Air and Waste Management Association Annual Conference

Portland, Oregon

June 24–27, 2008

www.awma.org/ace2008

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International District Energy Association Annual Conference

Orlando, Florida

June 29–July 2, 2008

www.districtenergy.org/calendar.htm

Frank Caliva

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Power Plant Air Pollutant Control Symposium

Baltimore, Maryland

August 25–28, 2008

www.megasymposium.org

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MINExpo International 2008

Las Vegas, Nevada

September 22–24, 2008

www.minexpo.com

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