

# Energy & Environmental Export News

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## Office of Energy and Environmental Industries Works to Understand Waste-to-Energy Industry

By Justin Rathke



OEEI Director Joe Neuhoff (second from left) and staff members are briefed on WTE technology by Covanta Director of Communications Derek Porter (far right) and other company representatives.

Waste-to-energy (WTE) technology serves two important environmental ends: it provides an alternative to landfilling of waste and produces “clean” electrical power. In fact, the Environmental Protection Agency (EPA) has stated that WTE plants produce electricity with less environmental impact than almost any other source of electricity.

According to the Integrated Waste Services Association (IWSA), which represents the WTE industry, there are 88 WTE facilities operating in 27 U.S. states that generate enough electricity to

power 2.3 million homes and use nearly 30 million tons of municipal solid waste (MSW) as fuel per year. Most WTE facilities in the United States use mass-burn technology, whereby mixed MSW is fed into a large furnace. High temperatures create steam, which is piped to a turbine generator, creating electricity.

WTE facilities employ state-of-the-art emissions control technology to prevent harmful pollutants from being released through the smokestacks. Between 1990 and 2000, municipalities and WTE companies invested more than \$1 billion in upgrades to air quality control systems.

According to an analysis developed by the EPA and IWSA, WTE facilities have a beneficial effect on greenhouse gas (GHG) emissions. They prevent the release of 40 million metric tons of carbon dioxide that otherwise would be released into the atmosphere on an annual basis. Annual reporting by IWSA to the Department of Energy’s Voluntary Reporting of Greenhouse Gases Program also confirms that each year WTE prevents the release of nearly 24,000 tons of nitrogen oxides and 2.6 million tons of volatile organic compounds from entering the atmosphere. By incinerating trash rather than allowing it to decompose, WTE facilities

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# APP Provides Opportunities for U.S. Clean-Energy Exports

By Jennifer Derstine

The Asia-Pacific Partnership for Clean Development and Climate (APP) is a joint effort by Australia, China, India, Japan, South Korea, and the United States to promote the development and deployment of cleaner and more efficient energy technologies. By doing so, the partner countries hope to curtail the growth of greenhouse gas (GHG) emissions worldwide in the context of sustained economic growth.

Launched in January 2006, the APP is an industry-led, technology-driven, results-oriented partnership. It focuses on information sharing about clean energy development as well as voluntary practical measures that can be taken by the member countries to improve energy efficiency while continuing to promote growth and development. The Department of Commerce plays an active role in this public-private initiative and seeks to ensure a strong private sector component to the partnership.

Joe Neuhoff, director of the Office of Energy and Environmental Industries, represents the U.S. government on the Renewable Energy and Distributed Generation Task Force (REDGTF) with Steven Chalk, acting director of the Solar Technologies Program at the U.S. Department of Energy. On March 26-29, the REDGTF held its third meeting, hosted by Solar Turbines at its San Diego, California, facility. Solar Turbines and General Electric are the two U.S. industry task force members.

The REDGTF is one of the most active in the APP, with 24 initial projects in its Action Plan. Another 10 projects were

proposed during the meeting in San Diego. The REDGTF also has the most “deployment-type” projects—that is, projects that focus on getting technologies to market as opposed to market-enabling or research, development, and demonstration projects.

At the REDGTF meeting, delegates from the six partner countries reviewed each project to discuss its progress. Participants also discussed challenges in project finance and specific actions the task force could take to increase both commercial deployment and industry participation in task force activities. The result was a list of priorities and strategic actions for both country and industry members to take, including:

- Sales of \$56 million of equipment to utilize coal bed methane in China;
- Completing a policy review and analysis of industry support measures;
- Identifying financial support for task force projects;
- Elevating the issue of intellectual property rights protection and enforcement;
- Improving resource, market, and technical information availability for all APP countries;
- Increasing outreach activities; and
- Documenting tariff levels on clean energy technologies and advocating for their reduction.

REDGTF members will discuss progress on these actions at their next meeting in India in the fall.

Each partner government sends representatives to each of the eight task forces and chairs or co-chairs at least one of

the eight. The U.S. government chairs the Aluminum, Power Generation, and Transmission (PG&T) and Coal Mining Task Forces. In addition to leading the U.S. delegation for the REDG Task Force, the Department of Commerce also participates on the Aluminum, PG&T, Cement, and Steel Task Forces. Each of these task forces met in March or April and reviewed the progress of individual projects while discussing possible cross-sector projects with other task forces.

The PG&T Task Force plans to organize site visits in the United States in August. The Steel Task Force will next meet in Australia in October. The Aluminum Task Force has tentatively scheduled its next meeting in India in November. U.S. industry is also involved on these task forces, which, for one private-sector partner, led to sales of \$56 million of equipment to use coal-bed methane in China.

APP activities extend beyond task force meetings and projects. On February 21, 2007, the U.S. Energy Association hosted an APP Stakeholders Meeting in Washington, D.C., to raise the profile of APP and encourage greater industry participation. In early March, the Commercial Service (CS) Energy Team’s Renewable Energy sub-group organized an international matchmaking forum at the 2007 Power-GEN Renewable Energy and Fuels trade show in Las Vegas, Nevada, the U.S. renewable energy industry’s premiere event. CS India and China recruited 21 foreign buyers to attend the trade show and participate in the

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# Environmental Technologies Trade Advisory Committee

**By Ellen Bohon**

On May 11, 2007, the Environmental Technologies Trade Advisory Committee (ETTAC) held its first plenary session of the year at the U.S. Department of Commerce in Washington, D.C. The ETTAC is a private-sector advisory committee that advises the U.S. government on policies and programs to expand U.S. exports of environmental goods and services. The ETTAC is

composed of senior level officers of U.S. environmental technologies companies and trade associations. Member companies are small, medium, and large-sized; geographically dispersed across the United States; and represent all segments of the sector. ETTAC meetings and agendas are announced in the *Federal Register* and are open to the public. The next one is currently being

planned for this fall. For further details on the committee, including dates of upcoming meetings, please visit [www.environment.ita.doc.gov](http://www.environment.ita.doc.gov), and click on the "Advisory Committee" icon, or contact Ellen Bohon: tel.: (202)482-0359, e-mail: [ellen.bohon@mail.doc.gov](mailto:ellen.bohon@mail.doc.gov).

## Waste-to-Energy

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prevent the release of methane, a potent GHG. Finally, by creating electricity from waste, a renewable fuel, WTE technology avoids the release of harmful GHGs from burning fossil fuels.

The Office of Energy and Environmental Industries (OEEI) of the Department of Commerce seeks to help improve the competitiveness of U.S. WTE companies in domestic and international markets. To this end, OEEI is taking the following actions:

1. Educating senior departmental officials and staff members on the benefits of WTE by highlighting key metrics, such as the amount of power created, volume of municipal solid waste disposed, amount of carbon dioxide and other GHGs reduced, and amount of fossil fuel use avoided.

2. Integrating WTE into the Department of Commerce's work program on renewable energy. In May 2007, Franklin L. Lavin, under secretary for interna-

tional trade, hosted a Renewable Energy Industry Roundtable event that included representatives from the WTE industry.

3. Leveraging bilateral and multilateral initiatives to support WTE. Covanta, a leading U.S. WTE company, participated in the recent clean energy technologies trade mission to China led by David Bohigian, assistant secretary for market access compliance. The mission was part of the Asia-Pacific Partnership (APP) on Clean Development and Climate. OEEI plans to organize a WTE conference event in India later this year to support an APP project that seeks to expand the use of WTE technology in that country.

4. Educating international markets on U.S. WTE technologies. OEEI has organized a site visit for Australian and U.S. government officials and industry representatives to the Ze-Gen Inc. waste gasification facility in Bedford, Massachusetts. Following the tour, OEEI will lead a roundtable discussion on com-

mercializing gasification technology and biofuels.

5. Promoting the interests of the WTE industry through the Commerce Department's regulatory review work. OEEI is currently reviewing the EPA's definition of solid waste and a newly drafted rulemaking that specifically pertains to burning hazardous waste for energy recovery.

On March 22, 2007, Covanta hosted OEEI for a tour of its WTE facility in Lorton, Virginia. Plant managers were on hand to explain the technology employed at the facility, which processes 3,000 tons of municipal solid waste per day and sells up to 79 megawatts to the electricity grid. The facility is Covanta's largest plant and is equipped with a non-ferrous metals recovery system.

# Commercial Partnership Success in Coal

By Shannon Fraser

As part of the December 2005 U.S. Inward Mission to the United Kingdom, U.S. and UK clean coal technology companies met with representatives from the U.S. Department of Commerce's Office of Energy and Environmental Industries and the UK Department of Industry. The inward trade mission provided a forum to advance research, development, commercialization, and utilization of advanced clean coal technology systems both in the United States and United Kingdom. The mission prompted discussions on advanced technologies for coal-fired power generating facilities in both countries. Among the U.S. participants on the trade mission, American Electric Power (AEP), Alstom, and Babcock & Wilcox have supported collaborative power production projects that use advanced clean

coal technologies:

- AEP and Alstom recently partnered on a chilled ammonia technology program. The first phase of the project, scheduled to be in operation at the end of 2008, will be sited at AEP's Mountain-er plant in West Virginia. The 30-megawatt project will incorporate Alstom's chilled ammonia technology. The second phase of the project will be applied on a larger commercial scale at AEP's Northeastern Plant in Oklahoma. With operation scheduled for 2011, this plant will use carbon dioxide for enhanced oil recovery or geological storage.

- Babcock & Wilcox and AEP have collaborated on an oxy-fuel carbon capture and storage pilot scale demonstration project of a 10 mw facility, which is scheduled to be completed in the latter part of 2007. The commercial scale retro-

fit on an existing AEP subcritical 150-230 megawatt power plant is projected to sequester 4,000 to 5,000 tons of carbon dioxide per day. The feasibility study of the commercial scale retrofit should be completed by mid-2008.

Through these partnerships, U.S. power generation facilities and clean coal technology companies are collaborating to reduce greenhouse gas emissions, while using vast domestic coal reserves. As these clean coal technologies progress, they can be adopted by coal-rich countries, like the United States, the United Kingdom, Poland, China, India, and South Africa.

For additional information on the Department of Commerce's coal activities, please contact Shannon Fraser at (202) 482-3609; e-mail: [shannon.fraser@mail.doc.gov](mailto:shannon.fraser@mail.doc.gov).

# U.S. Department of Commerce Facilitates Commercial Success in Asia

By Marc Lemmond

Last year, from April 24-May 3, the U.S. Department of Commerce held an Environmental Technologies Trade Mission to Southeast Asia. Director for Energy and Environmental Industries, Joe O. Neuhoff, led eight U.S. companies through Malaysia, Thailand, and the Philippines to meet government officials, potential end-users, and local environmental firms. The mission was organized and facilitated by domestic and international staff of the U.S. Commercial Service.

Nobel Systems, Inc. was represented by its president, Mr. Michael Samuel. The

California firm specializes in mapping, data viewing and hosting, and geographical information systems (GIS) consulting. In the Philippines, Mr. Samuel met with senior representatives of the San Pedro Water District (SPWD) as a part of the trade mission. Following the trip, Mr. Samuel continued communicating with SPWD officers. He continued his market development efforts with another visit to the Philippines to make presentations on GIS solutions to SPWD's board and senior staff, in addition to other local water districts. During this process, Mr.

Samuel came to form a partnership with a local firm, CEST Inc. of Manila.

After several collaborative meetings, briefings, and communications between the companies and SPWD, the general manager of SPWD and president of CEST signed a contract for the supply, installation, and service of Nobel's GIS technology on February 15, 2007, at the Manila office of the U.S. Commercial Service. Nobel had used Commercial Service products throughout the market development process to identify con-

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# Free Trade Agreements Boost Environmental Trade Opportunities

By Marc Lemmond

Last September, several offices in the U.S. Department of Commerce partnered with other federal and state government agencies, non-governmental organizations, and the private sector to illustrate the benefits of U.S. free trade agreements (FTAs) to the U.S. environmental technologies industry. The United States is currently party to more than 20 bilateral or regional free trade agreements and is actively working on completing many more.

During a day-long seminar, the Office of Multilateral Affairs, the Baltimore International Business Center, and the Office of Energy and Environmental Industries of the U.S. Department of Commerce worked with the American Council of Engineering Companies, BB&T, and the Howard County, Maryland, Economic Development Authority to show area environmental firms how FTAs can augment their international trade efforts. The U.S. Department of State, Office of the U.S. Trade Representative, U.S. Trade and Development Agency, Export-Import Bank of the U.S., World Bank, Inter-American Development Bank, American Association for the Advancement of Science, and the government of Honduras were also represented.

Seminar panels focused on: (1) an overview of Free Trade Agreements; (2) environmental trade opportunities by project-funding organizations; (3) finance overview, and; (4) the feature country, Honduras.

The FTA overview panel highlighted the fact that each FTA negotiation pro-

cess includes an environmental review to ensure no provisions of the agreement will result in unforeseen negative environmental consequences. FTAs include an environment chapter specifically requiring each party to establish and enforce environmental laws. These chapters also require opportunities for public participation and voluntary environmental protection cooperation between the parties. This participation and cooperation often include proposals for knowledge sharing, technology transfer, and joint projects.

FTAs in general seek to address common international market access issues such as tariff and non-tariff barriers, intellectual property protections, and government procurement practices. These issues are often cited as barriers to trade in environmental technologies. Efforts to address them seem to be producing results. For instance, since the U.S.-Singapore FTA was completed in 2002, U.S. environmental goods exports to Singapore have increased by approximately 77 percent. Another example is the U.S.-Jordan FTA, completed in 2000. From that year to 2005, environmental goods exported from the U.S. to that country skyrocketed to an increase of more than 400 percent.

The trade opportunities and project funding panels featured U.S. Department of Commerce liaisons to various multilateral development banks, who explained how projects are developed, tracked, and supplied through organizations such as the World Bank, Inter-American Development Bank,

and African Development Bank. They also explained how building long-term relationships with borrowing organizations in developing countries, adopting a patient business development strategy, and understanding political risk can allow companies to take advantage of the clearing house of information, expertise, and project funding that flows from these organizations. Selected current projects in FTA partner countries were discussed in detail. The U.S. Trade and Development Agency also explained its role in supporting activities to introduce U.S. companies and international buyers, facilitating “orientation visits” that showcase U.S. technologies to visiting decision-makers, and publicizing important projects and events.

The feature country presentation on Honduras allowed attendees to hear the environmental protection and trade benefits of FTAs from the perspective of one of the recent partners of the United States. Honduras is one of six partner countries included in the U.S.-Central America Free Trade Agreement completed in 2004. A representative for trade and economic affairs in the government of Honduras explained how the FTA negotiation process is helping to drive the formation of environmental protection policy in Honduras and throughout Central America. Environmental enforcement and other compliance assurance activities are boosted as well. Honduras and other Central American countries are also looking forward to increasing

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## Clean-Energy Exports

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matchmaking event that brought foreign buyers together with U.S. renewable energy technology and service providers. Early feedback from industry indicated the potential for international sales in support of renewable energy projects overseas exceeds \$18 million.

More recently, Commerce Assistant Secretary David Bohigian led an APP-focused trade mission to China and India from April 17–26, 2007, composed of clean energy and energy efficiency companies. The companies met with key foreign government officials with the support and guidance of the U.S. government delegation. Mission participants also had one-on-one business meetings with potential Chinese and Indian buyers and partners arranged by local CS staff. The purpose of this mission is very clear: use the convening power of government to make commercial sales for U.S. businesses.

The Commerce Department is part of a larger U.S. Government effort supporting the APP. In early April, the U.S. State Department announced financial support for APP projects in a request for proposals on [www.grants.gov](http://www.grants.gov). Funds of up to \$26 million are available to support APP



OEEI Director Joe Neuhoff (left) and Jennifer Derstine (right) meet with the chairman of the REDGTF, Kijune Kim, director of the New and Renewable Energy Division of the Ministry of Commerce, Industry, and Energy of South Korea

activities in fiscal year 2007. Applicants submitted concept papers for activities to be undertaken in India that contribute to the goals of the APP through innovative public-private partnerships. OEEI Director Joe Neuhoff will help review submitted proposals.

For additional information on APP Task Force activities, the Clean Energy Technologies Trade Mission, or the U.S. renewable energy industry, please contact Brian O'Hanlon of OEEI at (202) 482 3492; e-mail: [brian.ohanlon@mail.doc.gov](mailto:brian.ohanlon@mail.doc.gov).

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## Free Trade

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trade with the United States in travel and tourism, agriculture, and renewable energy fuels.

Participating U.S. government agencies hope to be able to illustrate FTA benefits to other sectors in similar events in the future. For more information on this seminar or environmental considerations of international trade agreements,

please contact Leila Odom of the U.S. Department of Commerce Office of Multilateral Affairs at (202) 482-2353; e-mail: [leila.odom@mail.doc.gov](mailto:leila.odom@mail.doc.gov). For more information on environmental trade and relevant programs, please contact Marc Lemmond of the Office of Energy and Environmental Industries at (202) 482-3889; e-mail: [marc.lemmond@mail.doc.gov](mailto:marc.lemmond@mail.doc.gov).

# U.S. Department of Commerce Environmental Trade Mission

## Bulgaria, Romania, and Turkey—October 1–5, 2007

Expand your company's environmental product or service into the dynamic markets of Bulgaria, Romania and Turkey. The U.S. Department of Commerce's Environmental Trade Mission to these markets on October 1–5, 2007, offers a cost-effective way to meet potential business partners and government decision makers in these fast growing markets.

For additional information and to register for this mission please go to: [www.buyusa.gov/environmental/tbrtm.html](http://www.buyusa.gov/environmental/tbrtm.html).

### **Bulgaria and Romania**

- Joined the European Union in January 2007
- Bulgaria will invest more than \$11.7 billion for water projects alone in order to meet EU accession requirements.
- Best sales prospects for U.S. exporters in Bulgaria: wastewater and drinking water treatment, recycling and waste utilization, solid and hazardous waste collection, disposal and treatment, and clean production technologies
- Romania plans an estimated \$35 billion on upgrading environmental infrastructure to EU standards.
- Best sales prospects for U.S. exporters in Romania: water and wastewater treatment technologies, solid and hazardous waste management and large combustion plant air quality control.
- EU funds are available to support government investments in environmental infrastructure. Almost all the technologies needed for these environmental upgrades will have to be imported.

### **Turkey**

- Adopted EU consistent environmental regulations in 2006.
- Investing an estimated \$80 billion in environmental infrastructure investment over the next 20 years, with 70 percent government and 30 percent private financing.
- Best sales prospects for U.S. exporters: waste management, landfill development, waste-to-energy projects, recycling, industrial cleaning and maintenance, air pollution control, drinking water and wastewater management and treatment.

### **Trade mission includes for each country:**

- Pre-screened, individualized appointments with potential business partners
- Country market briefings
- Meetings with key government officials
- Logistical support (interpreters, ground transportation)
- Networking opportunities, including U.S. Embassy reception in Romania
- Pre-departure counseling and follow-up assistance

### **Itinerary:**

- **Sunday, September 30**  
Arrive in Istanbul, Turkey
- **Monday, October 1, Istanbul, Turkey:**
  - Country market briefing
  - Customized business appointments

### **Tuesday, October 2**

- Government meetings
- Technical site visits
- Travel to Romania

### **Wednesday, October 3, Bucharest, Romania:**

- Country market briefing
- Customized business appointments
- U.S. Embassy reception

### **Thursday, October 4**

- Romanian government meetings
- Travel to Bulgaria

### **Friday, October 5, Sofia, Bulgaria:**

- Country market briefing and customized business appointments

**Participation Fee:** \$3,800 per company. Fee is for one company representative. An additional \$500 will be charged for each additional company representative. Air travel and lodging are not included.

This mission is open to 10 environmental companies with market potential in Bulgaria, Romania, and Turkey. Space is available on a first-come, first-serve basis. Your participation is not secured until payment is processed. Applications close by August 15, 2007, or earlier if the trade mission is full.

### **Contacts:**

Julia Rauner-Guerrero, tel.: (619) 557-2963; e-mail: [Julia.Rauner.Guerrero@mail.doc.gov](mailto:Julia.Rauner.Guerrero@mail.doc.gov)

Bill Cline, tel.: (775) 784-5203; e-mail: [Bill.Cline@mail.doc.gov](mailto:Bill.Cline@mail.doc.gov)

## Success in Asia

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tacts, facilitate meetings, and provide other assistance. The two-year contract is worth more than \$100,000 (6.15 million pesos).

Mr. Samuel is grateful to the U.S. Department of Commerce for its role in facilitating Nobel Systems' international market development efforts. He stated: "Thanks for all your help. What a perfect way to start my export business."

For more information on environmental markets in Asia, please contact Marc Lemmond of OEEI at (202) 482-3889; e-mail: [marc.lemmond@mail.doc.gov](mailto:marc.lemmond@mail.doc.gov).

## Calendar of Events

### Longwall U.S.A International Exhibition and Conference

June 5–7, 2007  
Pittsburgh, Pennsylvania  
[www.mining-media.com/longwall/index.html](http://www.mining-media.com/longwall/index.html)

### Clearwater Coal Conference

June 10–15, 2007  
Clearwater, Florida  
[www.coaltechnologies.com/conferences.html](http://www.coaltechnologies.com/conferences.html)

### American Membrane Technology Association Annual Conference

AMTA 2007  
July 23–27, 2007  
Las Vegas, Nevada  
[www.amtaorg.com](http://www.amtaorg.com)

### 2007 ACEEE Summer Study on Energy Efficiency in Industry

July 24–27, 2007  
White Plains, New York  
[www.aceee.org/conf/07ss/07ssindex.htm](http://www.aceee.org/conf/07ss/07ssindex.htm)

### Energy Ocean 2007

August 21–23, 2007  
Oahu, Hawaii  
[www.energyocean.com](http://www.energyocean.com)

### Bluefield Coal Show

September 12–14, 2007  
Bluefield, West Virginia  
[www.bluefieldchamber.com/csinformation.htm](http://www.bluefieldchamber.com/csinformation.htm)

### International Pittsburgh Coal Conference

September 10–14, 2007  
Johannesburg, South Africa  
[www.engr.pitt.edu/pcc/2007%20Conference.htm](http://www.engr.pitt.edu/pcc/2007%20Conference.htm)

### U.S. Department of Commerce Eastern Europe Environmental Trade Mission

October 1–5, 2007  
Bulgaria, Romania, Turkey  
[www.buyusa.gov/environmental/tbrtm.html](http://www.buyusa.gov/environmental/tbrtm.html)

### IDA WORLD CONGRESS ON DESALINATION AND WATER REUSE

October 21–26, 2007  
Gran Canaria, Spain  
[www.idadesal.org](http://www.idadesal.org)