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International Trade Administration

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Southeast Asia Environmental Trade Mission

by Marc Lemmond

From April 24 to May 3, 2006, the U.S. Department of Commerce facilitated an environmental trade mission to Southeast Asia. The mission visited Kuala Lumpur, Malaysia; Bangkok, Thailand; and Manila, Philippines. The mission was led by Joe O. Neuhoff III, U.S. Department of Commerce director for energy and environmental industries. It featured U.S. environmental companies offering a wide variety of environmental product and service solutions.

The mission was implemented to help U.S. environmental firms become more active in one of the most promising regional markets for their technologies. In Malaysia, the market for environmental technologies was estimated to be more than $1.5 billion in 2005. An estimated 80 percent of this market is served by imports. The United States enjoys the second-largest share of the environmental import market in Malaysia at an estimated 25 percent. The growth rate of U.S. exports has been approximately 9 percent from 2002 to 2005, outpacing the rate of overall market growth, which has been around 5 percent during that time.

In Thailand, the environmental market was estimated at more than $1.35 billion in 2005. Though estimates place the U.S. competitive position behind that of Japan and various European Union competitors, U.S. environmental goods exports to Thailand increased by approximately 93 percent from 2002 to 2005.

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Mr. Shamsudin Latif, deputy director general, Department of Environment, Malaysia (center right, tan jacket) meets with U.S. Department of Commerce Director for Energy and Environmental Industries Joe Neuhoff (immediately right of Mr. Latif, red tie), other Commerce Department officials, and trade mission participants.

INTERNATIONAL TRADE ADMINISTRATION

Solid Waste and Recycling Equipment Opportunities in the European Union

by Justin Rathke and Veronika Novakova (Prague, Czech Republic), U.S. Department of Commerce

The waste management industry in the United States has traditionally focused on the domestic market. As the U.S. market becomes more static, however, companies will increase their sales of equipment and services to foreign customers. Europe, with the increasingly strict European Union (EU) environmental standards and substantial public funding resources, represents a growing opportunity to U.S. exporters.

Reflecting Europe's high premium on land, Brussels has introduced waste minimization initiatives to counteract the projected 45 percent increase in the amount of waste generated from 1995 to 2020. Currently, EU member countries generate approximately 1.3 billion tons of waste per year, of which 40 million tons are hazardous.

If your company has buyers in European markets or you are considering opportunities in Europe, you're probably struggling with whether to consider the EU as a single unit or as an assemblage of individual countries.

To some extent, the EU is coalescing into a single market with uniform environmental and regulatory policies, as well as with an increasingly used single currency. The 25 member states all fall under EU environmental regulations. However, individual countries have wide discretion in terms of environmental goals, techniques, and incentive programs. Each country has a distinct environmental market with its own characteristics. Furthermore, environmental markets in Western Europe display different characteristics than those in Central and Eastern Europe, and U.S. companies should devise market strategies accordingly.

Although not an exhaustive list, opportunities for the U.S. waste industry in EU markets are strong in the following areas:

- Separation and recycling equipment
- Composting equipment
- Waste-to-energy
- Non-incineration technologies for medical waste
- Sophisticated instrumentation and monitoring equipment
- Site remediation
- Consulting and engineering services for the development and operation of waste management and recycling facilities
- Replacement parts and systems, upgrades, and niche products and ideas in highly developed markets

Most of those trends reflect the waste prevention, reduction, and disposal optimization priorities pursued by EU environmental directives. U.S. manufacturers should be aware that certain products, such as machinery,

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INTERNATIONAL TRADE ADMINISTRATION

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The Philippines has the smallest environmental market of the countries visited during the mission. In 2005, its environmental market was estimated to be approximately $700 million. Although the market is the smallest, the United States is estimated to be second only to Japan in environmental imports into the Philippines. U.S. environmental goods exports grew approximately 76 percent from 2002 to 2005. A brief statistical analysis clearly shows the potential for U.S. environmental technologies in Malaysia, Thailand, and the Philippines.

Through this trade mission, the U.S. Department of Commerce is helping to introduce U.S. environmental solutions to these critical markets and to directly facilitate trade and exports for participating firms. The department has Commercial Service offices and staff members in all three countries. Commercial Service offices provided participating U.S. companies with high-level appropriate business contacts, local market analysis, translation, and other services.

Mission participants came from a wide variety of environmental technologies subsectors. Participants included the following companies:

- **Advanced Aquatics** (*www.advancedaquatics.net/*)—a Salt Lake City, Utah, firm that offers products for the development, protection, and treatment of waterways

Mr. Thirachai Thiansanchai, Director General, Department of Environment, Bangkok Metropolitan Administration (center, standing, blue tie) and staff meet with U.S. Department of Commerce Director for Energy and Environmental Industries Joe Neuhoff (immediately left of Mr. Thiansanchai in red tie), U.S. Department of Commerce Senior Commercial Officer Bangkok, Thailand Ann Bacher (front row, seated, second from right), and other Department of Commerce officials and trade mission participants.

- **Aquatech International** (*www.aquatech.com/*)—a Canonsburg, Pennsylvania, company that manufactures industrial water and wastewater treatment systems
- **CST Industries** (*www.tanks.com/*)—a Kansas City, Kansas, company that specializes in the design, supply, and construction of steel storage tanks for water, wastewater, power, agricultural, and industrial process applications
- **Dehydration and Environmental Systems** (*www.desllc.biz/*)—a Rio Vista, California, firm that manufactures dewatering and drying systems for liquid slurries in the water treatment process
- **Environment One Corporation** (*www.eone.com/*)—a Niskayuna, New York, manufacturer that creates equipment for the treatment of residential sanitary waste and utility performance systems
- **Epcon Industrial Systems** (*www.epconlp.com/*)—Conroe, Texas, company that offers a broad range of air pollution control and remediation technologies
- **Nobel Systems** (*www.nobel-systems.com/*)—a San Bernardino, California, firm that specializes in geographic information systems and services for water, sewage, electric, and other applications

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- **Weather Modification** (*www.weathermod.com/*)—a Fargo, North Dakota, company using cloud seeding technology to enhance the efficiency of rain production

Trade mission participants learned about specific environmental trends, decision-makers, and drivers in each market. Certain issues, though, were consistent throughout the three countries. The most obvious issue is an increased emphasis on environmental enforcement, which is happening through increased fines and penalties, increased funding for environmental regulatory bodies, reorganized government environmental entities, and other measures.

Another consistent theme throughout the mission was the need for more work in each country regarding transparency in government procurement. Governments are usually the administrators and funding sources for large-scale environmental projects. Therefore, it is critical that businesses be able to identify, access, and participate in government-sponsored projects in a fair way. Although it was clear that more work needs to be done in this area, mission participants were exposed to U.S. environmental and other firms that have found profitable opportunities. The U.S. government continues to work on this global market issue through trade agreements and capacity-building partnerships, as well as to maintain relationships with key government officials in each country.

U.S. Department of Commerce Commercial Service staff members will continue to work with the Office of Energy and Environmental Industries to help each of the mission participants find success in those markets. For more information on the trade mission or global markets for environmental technologies, please contact Marc Lemmond of the Office of Energy and Environmental Industries at (202) 482-3889 or *marc.lemmond@mail.doc.gov*. For additional information on the U.S. Commercial Service and U.S. Department of Commerce operations around the world, please visit *www.export.gov/*.

Office of Energy and Environmental Industries Collaborates with Industry and Government at Coal and Power Course

by Shannon Fraser

From July 18 to July 22, 2006, Shannon Fraser, coal specialist for the Office of Energy and Environmental Industries (OEEI), met with fellow U.S. government energy and trade specialists and coal science researchers at the 2006 Coal and Power Course in Pittsburgh, Pennsylvania. During the weeklong course, coal industry representatives; energy research and development technicians; and Commerce, State, and Energy department representatives examined emerging issues in coal and mining science, power generation, and energy technologies.

Throughout the week, OEEI worked with coal and power industry specialists to identify the challenges of entering new markets and the opportunities of exporting to regions where clean coal-fired power generation is emerging. Many of the representatives from participating companies noted that China and India provide the most viable prospects for coal power exports. OEEI indicated that industry, in coordination with the Department of Commerce's Commercial Service, should address potential intellectual property rights issues before market entry. As a result of the course, the OEEI staff has partnered U.S. coal and power industry representatives and the Commercial Service in the identified markets to further explore market and export opportunities. For more information on U.S. Department of Commerce activities in the coal sector, contact Shannon Fraser at (202) 482-3609 or *shannon.fraser@mail.doc.gov*.

Commerce Department Provides Export Assistance at AWWA 2006

by Ellen M. Bohon

The Office of Energy and Environmental Technologies Industries (OEEI) hosted, with the U.S. and Foreign Commercial Service, an extensive international program for U.S. companies at the American Water Works Association's Annual Conference and Exhibition (ACE) 2006 in San Antonio, Texas, from June 12 to 13, 2006.

Activities included a technical seminar for more than 95 U.S. manufacturers titled "Business Opportunities in Mexico's Water Market" and a training event for the Department of Commerce's domestic and overseas commercial specialists on market trends in the environmental sector so that they may best serve U.S. industry around the world. Also, through its International Buyer Program, the department supported delegations of foreign buyers from 17 countries and facilitated more than 150 business meetings between buyers and U.S. exhibitors at the show. OEEI and the U.S. and Foreign Commercial Service will host a similar international program at ACE 2007 in Toronto, Canada, in June 2007. That program will include a session titled "Business Opportunities in Canada's Water Markets."

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must bear the "CE mark" (Conformité Européenne or European Conformity), which indicates that the product satisfies all applicable EU directives.

EU funding is often available for waste management projects. In most cases, U.S. companies can compete for those funds, though they may need an EU partner or an EU subsidiary for certain projects. The U.S. Commercial Service at the U.S. Mission to the EU has a link to EU tenders on its Web site where companies can search tenders by sector (see link at end of article).

So how do you devise an effective, informed EU sales strategy? First, tune into the upcoming Webinar organized by the U.S. Department of Commerce's Environmental Technologies Team. The Webinar will be in November and will focus on EU opportunities for the waste and recycling, water and wastewater treatment, and instrumentation and monitoring industries.

Also, the U.S. Commercial Service provides reliable and up-to-date market research that is available at no charge to U.S. firms. For companies wanting customized services, the officers at the U.S. Mission to the EU in Brussels offer business counseling services and advocacy to U.S. companies interested in responding to EU tenders and accessing EU-funded programs.

Do you want to know more? To download a copy of the U.S. Commercial Service's *EU Commercial Guide 2006*, visit *www.buyusa.gov/europeanunion/ccg.html*. To learn about EU tenders, grants, and financing, visit *www.buyusa.gov/europeanunion/euopportunities.html*. Environmental technologies–specific materials, including updates on the upcoming Webinar, can be found at *www.buyusa.gov/europe/environmental_technologies.html*. Identify the nearest U.S. Export Assistance Center by going to *www.export.gov/* or by contacting Justin Rathke of the Office of Energy and Environmental Industries for more information on global solid and hazardous waste markets at (202) 482-7916 or *justin.rathke@mail.doc.gov*.

Renewable Energy and the Philippines

By Edu Niala (Manila, Philippines), U.S. Department of Commerce

The Philippine Department of Energy has drawn up a 10-year Renewable Energy Policy Framework that, among other things, seeks to increase renewable energy capacity, to develop sources for rural development and off-grid electrification, and to encourage increased private-sector participation in renewable energy projects through a package of incentives. As a result, several projects have been set up or are in various stages of development all over the country, many of which are supported by international funding agencies.

There is increasing interest in tapping renewable energy sources in the Philippines because of several factors. These factors include the spiraling costs of imported fossil fuel; expected surge in power demand in both rural and urban areas resulting from increased economic activities; environmental concerns arising from the use of conventional energy sources, such as coal; and attempts to arrest an impending power crisis while addressing the power needs of remote, off-grid, and, therefore, underserved communities. Moreover, multilateral agencies, such as the World Bank, the Asian Development Bank, and the United Nations Development Program, have been promoting the use of renewable energy sources to address sustainability and other related issues, particularly in developing countries such as the Philippines.

For more information on renewable energy opportunities in the Philippines, contact Edu Niala at (632) 888-4088 ext. 5829 or *edu.niala@mail.doc.gov*. For more information on global export markets, visit *www.export.gov/*.

Renewable Energy Capacity in the Philippines

Resource	Existing Capacity (MW)	Plants or Sites in Operation
Hydro	3,343	21 Large hydro plants (› 10 MW) 52 Mini-hydro plants (100 kW to 10 MW) 61 Micro-hydro plants (‹ 100 kW)
Geothermal	1,932	11 plants
Wind	25,201	4 sites
Solar	1.4	3 sites
Total	**5,301.61**	**152 plantssites**

WATERGY: Water Efficiency Improvements Represent Market Opportunities

by Judith Barry, Alliance to Save Energy

"WATERGY" was coined by the Alliance to Save Energy to describe the strong link between water and energy in municipal water systems. In the developing world, energy used in supplying water may easily consume half of a municipality's total budget, drawing precious financial resources from other important municipal functions such as education, public transportation, and health care. Energy consumption in most water systems could be reduced by 25 percent through cost-effective, energy-efficiency actions.

To tackle this problem, the WATERGY Program of the Alliance to Save Energy helps municipal water suppliers institute energy management systems, develop metering and monitoring systems to collect data, establish baselines and metrics, and conduct facility energy audits. This approach shows cities significant energy, water, and monetary savings through technical and managerial improvements in water supply systems, providing consumers with quality water while using a minimum of water and energy. Opportunities for WATERGY efficiency improvements abound throughout all stages of a water supply system. In developing countries, the most promising areas for intervention are usually the following:

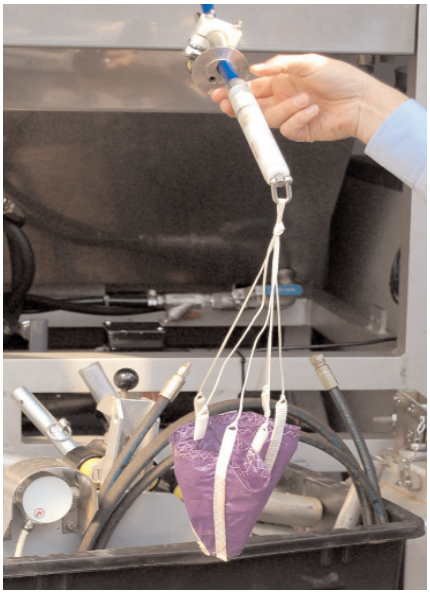
- Improving the pumping system
- Automating system operations
- Monitoring regularly (preferably including metering of end use)
- Managing leaks

Those improvements often pay for themselves in months, and most do so within a year. Almost all the improvements recover their costs within three years.

The pumping system is an all-important feature, because every liter of water that passes through the system represents a significant energy cost, which is magnified by every liter lost to leaks. Pumping improvements range from low-cost measures, such as trimming impellers (when pumps are oversized) and rewinding motors, to higher cost measures, such as replacing inefficient pumps and installing variable speed drives.

System automation saves water, energy, and operation costs; improves service; and lengthens equipment life. Automation handles operational functions in real time in response to changing situations. Some examples are optimizing pressure in the network, triggering alarms in case of emergency, turning off the pumps, and scheduling reservoir filling to coincide with low electricity rates or low water demand. There is enormous need for automation and control technologies, including systems such as supervisory control and data acquisition.

Regular monitoring of the water system components, operations, and performance is essential to reaching efficiency goals. Monitoring is conducted according to a carefully designed protocol that regularly tracks performance and evaluates it against a set of benchmarks and targets. Monitoring should be part of the larger operations and maintenance protocol, with regular measurements made on the pump system, motors, and electrical system. Water utilities in developing countries often lack the basic equipment



SSIS leak detection.

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needed to monitor their system, including flow meters, pressure meters, and power quality analyzers. As for metering consumer water use, many cities in developing countries either have no end-use metering or need to have their system expanded and improved.

Last, but certainly not least, water networks in developing countries are often plagued by high leakage rates, which make effective leak management a major source of water and energy savings. Detecting and repairing leaks requires knowledge and equipment that are often lacking. Another highly effective leak management strategy is pressure reduction, which is generally a more cost-effective solution than expensive repairs to numerous leaks in buried pipes. Leakage rates can be lowered dramatically with automated controls and valves that reduce pressure in the network, especially at night. Leak management presents opportunities for water management firms and companies selling equipment such as leak detection devices and pressure reduction valves.

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Creating an Energy-Efficient World

Rates of return depend on local conditions, but some WATERGY measures pay for themselves within several months, such as optimizing electric installation power factors, improving operations and maintenance procedures, and reducing pressure in the network (where high leakage rates occur). Measures that pay for themselves in a year or two include metering and using automated controls to shift demand away from peak electricity rate periods. Even the more expensive WATERGY improvements have simple payback periods of two to three years, such as installing a new automation system, a variable speed drive, or an energy efficient pump or motor. The availability of measures with shorter and longer payback periods allow water services companies (WaSCOs) and energy services companies (ESCOs) to put together attractive performance contracting packages that can begin accruing savings quickly.

With the support of the U.S. Agency for International Development and other partners, the WATERGY program has made impressive gains improving water supply services for citizens of developing countries, improving overall system efficiency in municipal water systems, reducing costs and negative environmental impacts, and expanding water and wastewater services to underserved populations. WATERGY has been implemented in more than 40 cities worldwide. The cost-effective successes from those projects are generating widespread interest in other cities, representing an opportunity for U.S. companies offering energy and water saving services and related equipment.

The Alliance to Save Energy is a non-profit coalition of prominent business, government, environmental, and consumer leaders who promote the efficient and clean use of energy worldwide to benefit consumers, the environment, and economic growth. For more on the programs and activities of this organization, visit *www.ase.org*. For more information about WATERGY, please contact Judith Barry, international program director, at (206) 816-2860 or *jbarry@ase.org*.

Calendar of Events

Inter-American Development Bank Porcurement and Projects Training Workshop

Washington, D.C.
November 2–3, 2006
Contact: Ellen Bohon
Phone: (202) 482-0359
E-mail: *ellen.bohon@mail.doc.gov*
Web-site: *www.iadb.org/biz*

MineWest 2006

Denver, Colorado
November 8–9, 2006
Contact: Shannon Fraser
Phone: (202) 482-3609
E-mail:
shannon.fraser@mail.doc.gov
Web site: *www.mining-media.com/minewest/*

Export-Import Bank of the U.S. Clean Technology Exports Conference

Irvine and Menlo Park, CA
November 14, 2006 - Irvine
November 16, 2006 - Menlo Park
Contact: Marc Lemmond
Phone: (202) 482-3889
E-mail:
marc.lemmond@mail.doc.gov
Web site: *www.exim.gov*

India Business Development Mission

Bangalore, Kolkata, Chennai, Hyderabad, Mumbai, or New Delhi, India
November 29–December 6, 2006
Contact: Marc Lemmond
Phone: (202) 482-3889
E-mail:
marc.lemmond@mail.doc.gov
Web site: *www.export.gov/indiamission/*

AWEA Wind Energy Fall Symposium

Phoenix, Arizona
December 6–8, 2006
Contact: Aaron Brickman
Phone: (202) 482-1889
E-mail:
aaron.brickman@mail.doc.gov
Web site: www.awea.org/events/

BAQ 2006 (Better Air Quality)

Yogyakarta, Indonesia
December 13–15, 2006
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marc.lemmond@mail.doc.gov
Web site: *www.baq2006.com/*

POWER-GEN Renewable Energy

Las Vegas, Nevada
March 6–8, 2007
Contact: Aaron Brickman
Phone: (202) 482-1889
E-mail:
aaron.brickman@mail.doc.gov
Web site:
http://pgre07.events.pennnet.com/