



## PART SIX

# Export markets for US CHP

***'International opportunity exists in energy, airport construction, healthcare, tourism, resort parks, food processing and industrial manufacturing...'***

The US government offers highly specialized assistance to firms that export CHP, district cooling, and thermal energy storage products and services. New opportunities are constantly monitored and cultivated by Mark Wells, Senior International Trade Specialist in the office of Global Trade Programs, US Commercial Service, an agency of the US Department of Commerce (USDOC).

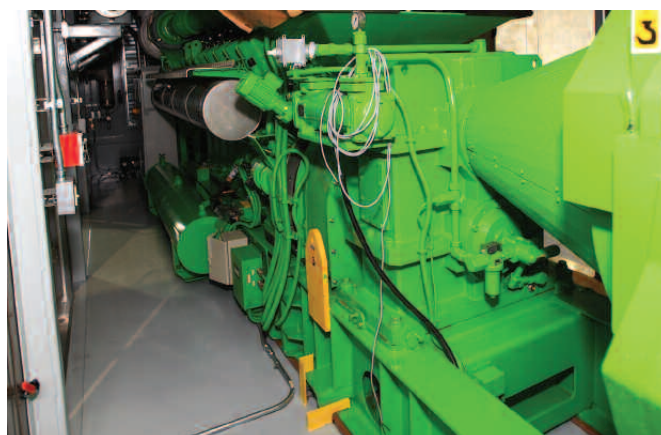
'The Middle East and China are the two hottest regions/countries right now, with over a trillion dollars in construction opportunities,' says Wells, who specializes in the CHP, district energy (district cooling), thermal energy storage, green building, global real estate and architecture, engineering and construction sectors. He adds that district cooling opportunities alone are estimated at over \$50 billion, primarily in the United Arab Emirates, Kingdom of Saudi Arabia, and other Middle East markets, such as Qatar, Bahrain and Egypt.

'You really have to visit Dubai to see first hand where the business opportunities lie for your company,' says Wells, who participated in the district cooling conferences in Abu Dhabi and Dubai organized by the International District Energy Association in January and October 2007 respectively. 'It's so dramatic, seeing 50 cranes dotting the horizon, alongside Sheikh Zayed Road. You know immediately, you must have a presence in this market. And while a lot of the action is in Dubai, there are billion dollar construction projects in Abu Dhabi too.' Wells tells his US clients, 'You arrange your ticket and the US Commercial Service will introduce you to the key real estate property developers in a region, just as we did for Stellar, based in Jacksonville, Florida.' (See case study, page 34.)

Wells' job is to help US firms identify opportunities coming up in the next two to 15 years. He follows the global real estate sector and recommends that clients attend the major real estate events around the world, like the Cityscape events in Dubai, Abu Dhabi, China,

India, Singapore and other key real estate/investment events and conferences in Asia and Europe. These events and conferences, he explains, are where you learn about construction projects due to begin in the next 10-15 years and meet with all of the key owners and property developers. This includes projects in the hospitality sector, commercial buildings, and resorts.

'If your company or firm is serious about developing worldwide opportunities, you must have a presence at these key conferences and events to learn about upcoming project opportunities and develop key business partnerships and relationships,' Wells says. 'This is the nature of this business: you must start earning those frequent flyer miles to compete.'



A 2 MW reciprocating engine generator run on methane gas produced from a nearby landfill. The power produced is sold to the local utility. The large Gen-Set system was designed and packaged by Stellar in a modular design for easy transport, installation and commissioning PHOTO: STELLAR

## Stellar finds success in export

Stellar is an integrated firm that provides design, engineering, construction and mechanical services worldwide. Based in Jacksonville, Florida, Stellar has projects from Canada to Central and South America and in the Caribbean, North Africa, the Middle East and India. Founded in 1985, the \$550 million business has continued to grow exponentially and now has nearly 1000 employees around the globe. Stellar is composed of individual business units, each designed to serve a specific market or industry such as the commercial, industrial, institutional and utility/energy markets. Its work in the Energy Systems Division includes installation of combined heat and power, packaged chiller plants and district energy systems.

Stellar had been working with US Commercial Service since 1998, and has relied heavily on it for guidance to navigate project risks and business culture in Saudi Arabia, where the company provided a \$25 million gas turbine inlet cooling system for Saudi Electric Company. Stellar provided overall system design and performance guarantees, and supplied the mechanical system with key components from the US such as chillers, pumps, heat exchangers, filterhouses, tanks, valves, controls and instruments. The project also included the design and supply of a large, stratified chilled water thermal energy storage tank that has the largest thermal storage capacity in the world.

Mark Wells, Senior International Trade Specialist with the US Commercial Service, met Stellar's officials in 2004 while speaking at the International District Energy Association annual conference in Seattle, Washington. Wells then introduced Stellar to Patrick Wall, Principal Commercial Officer in the Commercial Service's Dubai office. Wall and his staff were instrumental in introducing Stellar staff in Dubai to Nakheel, a premier real estate property developer, and key to helping Stellar set up a suitable corporate structure to establish a contracting business in the UAE.

As a result, Stellar won a contract for a large project called the Jumeirah Lake Towers. The US company provided three large modular district cooling plants and the cooling towers, as well as providing architecture, design, construction, engineering and mechanical contracting services. At completion, the development will consist of an estimated 100 towers ranging from 35 to 50 storeys and 46.5 million square feet (4.3 million m<sup>2</sup>) of gross floor area. Based on the export assistance provided by the US Commercial Service, Stellar is reporting this first-ever sale to the UAE for \$100,000,000.



The Jumeirah Lake Towers project will consist of an estimated 100 towers and 46.5 million square feet of floor area  
PHOTOS: STELLAR

Wells also recommends reading major trade publications for news of prospects. He regularly studies architecture, construction, engineering, global real estate and air-conditioning magazines, looking for opportunities for his clients and Commercial Service colleagues. Four of his favorites are the PennWell publications *Cogeneration and On-site Power Production (COSPP)*, and *Renewable Energy World* and CPI Media publications *Climate Control Middle East* and *The Big Project*.

Wells helps clients identify opportunities in China's major markets: Beijing, Guangzhou and Shanghai, and China's 14 top tier-II markets: Dalian, Chongqing, Hangzhou, Harbin, Kunming, Nanjing, Ningbo, Qingdao, Shenzhen, Tianjin, Wuhan, Xiamen, Xian, and Zhuhai. 'Really Chongqing, because of its dramatic future population explosion, should be included with that first group of Chinese cities,' he says. In each of these tier-II cities, the Commercial Service (through its American Trading Centers' program in China) works locally with the staff from the China Council for the Promotion of International Trade. Together, these agencies assist US firms in finding local partners and identifying major projects. There are vast opportunities all over China, as the country has over 100 cities with populations greater than 1 million.

US firms and companies with a global strategy can't go wrong looking at the BRICs (Brazil, Russia, India, and China) and at Goldman Sachs' other top 11 markets, he says. The four BRICs and other 11 top countries all place a priority on developing energy efficiency

strategies for their countries and reducing greenhouse gases (especially CO<sub>2</sub> emissions), two key benefits provided by CHP products and services. Wells also recommends that clients look at the airport sector, especially in China and India, where both countries are building or re-modernizing over 300 airports. A huge plus in this sector is the fact that these countries are moving to a privatization model to encourage overseas investment. As a result, tremendous export opportunities related to airport projects will exist for manufacturers and service firms in the CHP, district cooling and thermal energy storage sectors.

Continued opportunity also exists in the following sectors: hotels and resorts/casinos, hospitals, medical/research centers, airports, universities and colleges, large shopping centers, commercial buildings, as well as industrial projects in the chemical, petroleum-refining, pulp and paper, pharmaceutical and food-processing sectors. The markets for industrial CHP have traditionally always been strong and will continue to be excellent for US manufacturers of CHP, district cooling and thermal energy storage products and construction and engineering services.

China and the Middle East region both have a strong interest in designing and constructing green buildings and using sustainable design concepts that concentrate on energy-efficiency and reducing greenhouse gas emissions. Wells suggests looking carefully at the opportunities in India, especially in the high-end shopping mall and food-processing sectors, and using the Commercial Service's

Customized Market Research service. This will provide a 'confidential and customized' market report on the export opportunities in a specific market niche, such as the food-processing sector in India or the district cooling sectors in Saudi Arabia, India or China.

In addition to the Customized Market Research program, the USDOC helps clients to tap into these markets by introducing them to international partners. One popular program that does just that is the Gold Key Service program, which helps US businesses identify qualified local sales representatives, distributors, and business partners. Other programs include the International Buyer Program, where overseas delegations attend domestic energy trade shows, such as Power-Gen International, which is being held this year in New Orleans, Louisiana, 11–13 December. At this event, the US Commercial Service organizes meetings between US exhibitors and overseas delegations. US exhibitors can sign up to participate in what is called 'Showtime', where they can meet with US Commercial Service Commercial Specialists to obtain market briefings on export opportunities for their product or service.

Some well-known clients that Wells has worked with directly include: Austin Energy, Baltimore Aircoil, Capstone Turbine Corporation, Carrier, Chicago Bridge & Iron, The Cool Solutions Company, Cummins Power Generation, Kohler Power Systems, Leo A Daly, Northern Power Systems, Parsons Brinckerhoff, Pratt and Whitney, Solar Turbines/Caterpillar, Stellar, Trane, Turbine Air Systems and Johnson Controls/York International.

As someone who also specializes in the energy sector, Wells works closely with other industry trade associations in addition to USCHPA,



A supporting utility skid for a renewable energy system that contains a methane gas booster compressor, gas conditioning system and heat rejection for the engine PHOTO: STELLAR

including the US Green Building Council, Design-Build Institute of America, International District Energy Association, Turbine Inlet Cooling Association, and Gasification Technologies Council.

US companies interested in exporting CHP, district cooling and thermal energy storage products, as well as construction and A/E/C products and services, can contact Wells at [mark.wells@mail.doc.gov](mailto:mark.wells@mail.doc.gov) or +1 202 482 0904. Wells brings exporters together with their domestic US Export Assistance Center (USEAC), the ACE Team, Energy Team, and over 150 US Commercial Service offices, in the US and overseas. Further information is available at [www.export.gov](http://www.export.gov).

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