



Export markets for U.S. CHP and district cooling

Huge opportunities exist overseas, if you know where to look

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Wells brings exporters together with their domestic US Export Assistance Center (USEAC), the Design-Build Team, Energy Team, and over 150 US Commercial Service offices in the US and overseas. See www.export.gov/cs.

There are huge export opportunities for US companies in the Middle East, China, India and other developing countries, says Mark Wells, Senior International Trade Specialist at the US Commercial Service. Wells is part of a US Government team that offers specialized assistance to firms that export combined heat and power, district cooling, and thermal energy storage (TES) products and engineering services. Below he gives an insight into the markets and how US companies can make access.

The Middle East continues to offer prospects that are nothing short of ‘staggering’, as it develops large green-field sites perfect for CHP and large-scale district cooling, according to Wells.

Strong markets exist in Saudi Arabia, Qatar and Bahrain. But the most intense development activity continues to be in the United Arab Emirates (UAE), a market Wells expects will remain robust for at least the next five years. Most of the action is in Dubai, but billion dollar construction projects also are underway in Abu Dhabi.

Demand exists in the Middle East for CHP, district cooling, TES, and turbine inlet cooling products, as well as construction, engineering and planning services. US companies also do well selling temperature and flow control automation, metering and sub-metering products and solutions, and innovative water and wastewater reuse and treatment technologies.

The most successful US firms in the Middle East are those that have made the long-term commitment to the region and established a presence, he says, citing examples as Ellerbe Beckett, Carrier, Johnson Controls, Solar Turbines, Stellar, Trane and TAS (See TAS case study, page 26).

The International District Energy Association holds annual conferences in the US and the UAE for companies looking to export. Wells highly recommends the events as excellent opportunities to network, establish business partners and learn about the business opportunities in overseas markets.

FUTURE OPPORTUNITIES IN SAUDI ARABIA, INDIA AND CHINA

Saudi Arabia

Saudi concerns about greenhouse gas emissions and the current and future water shortages, opens the way for district cooling and CHP technologies. The government recently ratified the Kyoto Protocol and Montreal Protocol. The country’s enormous need for air conditioning also drives growth.

‘Large city projects like King Abdullah Economic City and other mega cities will need cooling and district cooling, along with the use of TES for peak shaving,’ Wells says. ‘Turbine inlet cooling has also been successfully utilized in Saudi Arabia, and will continue to be an economic way for companies to gain excess to power during peak demand parts of the day.’

Demand for these technologies will be greatest in the cities of Riyadh, Jeddah, Mecca, Medina, Al Khobar and other industrial areas within the Kingdom. Some of the key players in the country include: the Saudi Binladin Group, Arabian District Cooling Company,

Emaar Properties and Saudi Tabreed.

The industry does face some challenges, one of the most critical being the lack of water. Cities such as Jeddah, close to the sea, could

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use desalination to obtain water supply for district cooling plants. However, inland cities still face water shortages that could handicap projects. For details see: <http://www.cpi-industry.com/KSA1.pdf> and <http://www.cpi-industry.com/KSA2.pdf>.

India

Wells explains that India is another market with enormous export opportunity, as the country looks to improve energy efficiency, reduce high electricity tariffs and develop technologies like TES to save energy during peak demand. US companies are likely to find business prospects within the country's 300–400 Special Economic Zones (SEZs), where mega-scale developments will house information-technology, bio-technology research, commercial ventures, malls, residential apartments, schools, hospitals and recreation centers. The developments will be large in scope to justify the infrastructure investment for the piping and other equipment needed for district cooling. A SEZ offers duty-free imports and waives excise tax.

'One can quickly see why district cooling in India will mature in large undeveloped areas rather than in the large cities. Imagine the population density, traffic congestion, permitting issues and logistics, of scheduling construction in the dense city confines of Mumbai or New Delhi, and immediately you get the picture,' he says.

A niche also exists for US companies that have utility services and also TES experience – an expertise Indian engineers typically lack. US firms can share their best practices, lessons learned and technologies, in addition to selling CHP, district energy, TES, water treatment, automation, flow control, metering and sub-metering, and measurement solutions and technologies. As in the Middle East, water is also a major issue for the country of India. US companies with water saving and conservation technologies and expertise will be in high demand. For details see: <http://www.cpi-industry.com/india.pdf>.

China

Wells helps clients identify opportunities in China's major markets: Beijing, Guangzhou and Shanghai and China's 14 tier-II markets. In each of these 14 tier-II cities, the Commercial Service (through its American Trading Centers' program in China), works with the staff from the China Council for the Promotion of International Trade. Together, these agencies help US firms find local partners and identify major projects. China has more than 100 cities with populations of greater than one million, creating opportunities all over the country, he says.

Airports and other opportunities

US firms and companies with a global strategy cannot go wrong looking at the BRICs (Brazil, Russia, India, and China) see http://www.iea.org/Textbase/Papers/2008/CHP_Report.pdf. Wells also advises that clients analyze the airport sector, especially in China and India, which are building or re-modernizing more than 300 airports. CHP and other district cooling technologies, such as TES, are excellent technologies for airports given their energy intensity, reliability requirements and operating profile.

Other sectors that offer opportunities include hotels and resorts/casinos, hospitals, medical/research centers, airports, colleges, large shopping centers, commercial buildings, as well as industrial projects in chemical, petroleum-refining, pulp and

paper, pharmaceutical and food-processing.

China, India and the Middle East show a strong interest in green building design with a focus on energy efficiency, water saving/re-use, and greenhouse gas reductions. Wells encourages clients to look carefully at the energy efficiency advantages of CHP, TES and other innovative technologies – especially where there is a financial or regulatory incentive to reduce carbon emissions and to save and reuse water.

Wells' job is to help US firms identify opportunities emerging for the next two to five years. He follows the global real estate sector and recommends that clients attend the major real estate events, such as the Cityscape events in Dubai, Abu Dhabi, China, India, Singapore, as well as similar conferences in Asia and Europe.

'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 future project opportunities and develop key business partnerships and relationships', Wells says. 'Relationships are the most important factor in doing business. This is especially true in the Middle East and China.'

Wells also suggests reading trade publications for prospects, among them PennWell's *Cogeneration and On-site Power Production* (COSPP) and *Renewable Energy World*; CPI Industry publications' *Climate Control Middle East* and *The Big Project*; IDEA's *District Energy*, and Nicholas Publishing International's *Cityscape* magazine.

Commercial Service export programs

Wells welcomes US companies to investigate the Single Company Promotion program offered by the US Commercial Service's overseas offices: 'In the US many companies like to organize road shows on their own, or with other companies to showcase their products, services, technologies and solutions. We developed the Single Company Promotion program to do exactly the same thing for our clients in their overseas target markets. This has been a huge success for many of our clients as we help them identify and develop targeted marketing promotions.'

The US Commercial Service also assists clients tap into overseas markets by introducing them to qualified and pre-screened international distributors and other business partners who can represent your company in your target market. 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.

Some well known clients that Wells has worked with include: Austin Energy, Baltimore Aircoil, Capstone Turbine Corporation, Carrier, Chicago Bridge & Iron, The Cool Solutions Company, Cummins Power Generation, Evapco, Inc., HOK, Johnson Controls, Kohler Power Systems, Leo A Daly, McCrometer, Inc., McQuay International, Parsons Brinckerhoff, Pratt and Whitney, Syska Hennessy Group, Solar Turbines, Stellar, Thermo Systems LLC, Trane, TAS and WATG. He also works closely with several industry trade associations, particularly USCHPA, www.uschpa.org, the US Green Building Council, www.usgbc.org, Design-Build Institute of America, www.dbia.org, International District Energy Association, www.districtenergy.org, and Turbine Inlet Cooling Association, www.tica.org.

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