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Guangdong Environmental Engineering and Equipment General Corporation
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Ministry of Construction http://www.cin.gov.cn

China National Association of Engineering Consultants http://www.cnaec.org.cn

China Building Materials Industries Association http://www.bm.cei.gov.cn

Shanghai Municipal Government Urban Construction http://www.shucm.sh.cn

Shanghai Building Materials Science and Technology Institute http://www.2456.com/eng/sbmi

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ASIA PACIFIC MARKET OPPORTUNITY PROFILE
ENVIRONMENTAL
CHINA

URBAN DESIGN & GREEN BUILDING

Market Overview

China is undergoing unprecedented urbanization and industrialization. In the next ten years over 200 million Chinese will leave their villages to become factory workers in hundreds of new towns and cities. The World Bank estimates the country's urban population will reach 850 million by 2015. China's building construction activities are the largest and fastest in human history, adding 2 billion square meters of new buildings every year – roughly equivalent to about 80,000 new high rise buildings.

China is very conscious of the need to improve environmental conditions in its cities and the need to provide housing for its growing urban population. China is creating new cities that employ green technologies and sustainable infrastructure, and was anxious to show the world its 'green' capabilities at the 2008 Olympic Games.

In 2007 China's Vice Minister of Construction stated that environmental degradation and energy waste were major obstacles to China's economic growth. The Ministry of Construction estimates that if existing buildings were made more energy efficient and new buildings were required to meet stricter standards, huge savings would be realized.

The Ministry defines a 'green building' as one that offers a healthy, comfortable and safe living environment while ensuring that energy, land, water and material resources are used in the most efficient way. Such a building has the lowest possible impact on the environment during its life span.

Green building has been given prominence in China's 11th Five-Year-Plan, 2006-2010. This elevated emphasis includes:

- Government investments of approximately US$400 billion on energy efficiency projects before 2010.
- A plan to renovate existing buildings to make them more energy-efficient (25 per cent of the buildings in medium-sized cities and 10 per cent of those in small cities will be refurbished by 2020).
- Tax rebates and other financial incentives for the construction and purchase of energy efficient buildings in the future.

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ENVIRONMENTAL

Opportunities

China's green building industry is still in its infancy, but the trend toward sustainable construction is growing. In addition to growing consumer demand for environmentally-friendly homes and offices, many green building demonstration projects and large green commercial projects have been launched as part of China's "Green" Olympic Games in 2008 and a planned "Green" World Expo 2010.

The following technologies have the best prospects in China's green building industry and thus offer the best business opportunities:

- Roofing technologies
- Insulated wall systems
- High-efficiency condensing boilers
- Low-emissive window and day lighting technologies
- Mechanical subsystems

British Columbia companies are particularly well positioned to offer:

Services: Architecture and design, and interior design.

Products: Heating, ventilation and air conditioning (HVAC) systems; building integrated solar systems; energy efficient lighting; openings – windows, louvres, doors and skylights; smart house technology; water saving and storage systems; insulation and green wall materials.

MARKET ENTRY STRATEGIES

China has 11 "green city" projects underway and more than 140 major green building projects. While many of these projects might not pass a genuine international test with respect to low energy use, recycling water systems, or use of intelligent integrated designs and materials, they do signal a serious effort to tackle the growing challenge of creating sustainable cities. China is in the early stages of forming a Green Building Council.

Despite the vast potential market for energy efficient and related "green" materials and technologies in China's building sector, B.C. companies may find it difficult to make significant sales, especially if their products have higher capital costs than domestic alternatives. Part of the reason for this is that Chinese procurement is based more on up-front costs than lifecycle costs. As well, although China's energy strategy seeks to bring more energy efficient technologies to the building sector, China's regulatory approach has many limitations, and most major developers perceive compliance as having little or no economic benefit.

Interested companies may wish to explore market entrance through intermediaries, such as qualified consulting firms, industry associations, or multilateral development banks, that can help sell products to Chinese real estate developers as part of integrated, green building packages. The green building approach can succeed where codes cannot, because it sells whole projects not individual products. Higher capital costs associated with many energy efficient technologies can be absorbed by other tradeoffs (e.g., the ability to downsize HVAC systems if the thermal envelope is improved.)

The best short-term opportunities are in the commercial building market, where developers have significantly higher budgets, are more image-conscious, are more likely to provide central heating, and who can benefit directly from any energy savings (e.g. in Shanghai, where heating and cooling are not required for residential units).

COMPETITIVE ENVIRONMENT

Entering China's building and construction market is not for the faint of heart. It is a highly competitive sector with many large international players battling to secure big ticket projects. The main challenge facing Canadian companies seeking to enter the China market involves scale. The demand for technologies, materials and basic 'know how' simply outpaces the capacities of many smaller Canadian enterprises.

Market savvy companies in Hong Kong often can provide a bridge between Canadian enterprises and the China market. Many products of Hong Kong origin enjoy zero tariffs when imported into mainland China, including environmental protection products.

The best strategy for suppliers of energy efficient building materials is a broad, project-based approach to the Chinese market that targets buyers, developers and designers from the Mainland and Hong Kong. Some experts believe that B.C. suppliers should differentiate themselves by offering to Chinese real estate developers projects that include not only architectural design consulting, but also equipment procurement, financing, and risk management.

REGULATORY ENVIRONMENT

China employs a seven standard, 3-star rating system. As of October 2007, laws relevant to green building include:

- Regulations on energy-saving for civil buildings – includes standards and guidelines relating to HVAC, building-aspect, land use and conservation, energy use and efficiency, water use and conservation, building materials, management and recycling, indoor environment quality, maintenance and operational management of buildings.
- Assessment system for green buildings.
- Building standards for residential buildings.
- Standards for technical evaluations of residential buildings.
- Law on energy saving.
- Law on architecture.