China: Solid Waste Treatment Industry

Overview of Emerging Tier II Markets 2010 Update

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Solutions for China Entry & Growth

CONTENTS

INTRODUCTION

The objective of this report is to provide an overview of the Chinese market for solid waste treatment, with a focus on seven key emerging markets beyond already established Tier I cities such as *Shanghai, Beijing,* and *Guangzhou.* [1]

All data and figures in this report are current through the end of 2009.

EXECUTIVE SUMMARY

Market overview. China is the world's largest producer of Municipal Solid Waste (MSW), producing over 223 million tons in 2008. Growing at 8-10% annually, MSW production is expected to reach 250 million tons in 2010. The country produced 1.9 billion tons of industrial waste in 2008, an 8.3% increase from 2007, and of which 13.6 million tons were classified as hazardous waste. The predominant method of treatment is disposal by landfill, which accounts for about 80% of total treated MSW, followed by incineration and compost. However, faced with problems with upgrading landfills, most cities' landfills in China are not categorized as sanitary, with less than 10% meeting international standards. Thus, the key direction for many cities is incineration, especially for cities which are more economically developed and have more capital to build incineration facilities, e.g. those on the East coast.

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Regulatory environment. China has stepped up its efforts to improve the regulatory framework for modern waste management. A series of laws were passed in the last few years that introduced more detailed regulations on various types of waste e.g. hazardous, electronic, and medical waste. However, local enforcement remains weak in many regions. The 11th Five Year Plan emphasizes the concepts of the 3Rs (Reduce, Reuse, Recycle); most cities have followed this direction issued by the central government and have planned projects to increase recycling and reutilization of waste. In 2008, the Ministry of Environmental Protection (MEP) was founded to replace the State Environmental Protection Administration (SEPA) as the nation's environmental protection department charged with the task of protecting China's air, water, and land from pollution and contamination. Directly under the State Council, the MEP is empowered and required by law to implement environmental policies and enforce environmental laws and regulations.

[1] In this report we use the term "Tier 2" or "secondary" cities to refer to cities besides Beijing, Shanghai, Guangzhou and Hong Kong. The term, however, should not be misleading as most of the Tier 2 cities analyzed in this report are of very significant in size and are key contribute greatly to the overall China economy

Best prospects. Best prospects for foreign companies closely follow government directions and its areas of planned investment in solid waste facilities, for example, whether the local government intends to encourage incineration or landfill treatment methods. In general, most needed products are those with advanced technology that domestic companies are not able to provide, which include: *1) sampling instruments; 2) treatment equipment, especially for hazardous, medical, and electronic waste; 3) sanitary landfill and incineration equipment;* and *4) waste-to-energy technologies.*

Key emerging markets. Seven emerging markets are analyzed in this report - *Dalian* and *Harbin* in North China; *Hangzhou, Ningbo*, and *Nanjing* in East China; *Shenzhen* in South China; and *Chongqing* in West China. A key trend common to all seven cities is a strong focus on developing hazardous and medical waste facilities, which represents good opportunities for foreign exporters. All the cities are also moving towards greater use of incineration, although this trend is stronger in *Hangzhou, Ningbo, Dalian* and *Shenzhen*. Sanitary landfill continues to be important in *Harbin, Nanjing*, and *Chongqing*. In *Hangzhou* and *Ningbo*, there is also a strong focus on *sludge treatment and recycling technologies*. Very limited or no Chinese companies are strong in this area, thus there are opportunities for foreign exporters. Another area which requires foreign technology is *landfill gas-to-energy technology*, for which some projects have already started in *Hangzhou*, *Nanjing*, *Ningbo*, and *Shenzhen, to name a few.*

Market access. Foreign companies face several barriers to direct exports. Local governments generally prefer foreign direct investment (FDI) in waste projects to pure imports of equipment as it brings technology transfer and capital investment. There exists strong competition amongst European and Japanese companies, which have been more aggressive in market entry and have more government support in terms of finance. However, there are still market opportunities for direct exports from other countries, either by using local distributors or establishing a presence (i.e. Representative Office).