

China is the second-largest emitter of CO<sub>2</sub>, and presents significant opportunities for the application of technologies aimed at the reduction of greenhouse gases.

#### Carbon Dioxide Emissions 1996 (million tonnes)

|                |                |
|----------------|----------------|
| U.S.A.         | 5 301.0        |
| <b>China</b>   | <b>3 363.5</b> |
| Russian Fed.   | 1 579.5        |
| Japan          | 1 167.7        |
| India          | 997.4          |
| Germany        | 861.2          |
| United Kingdom | 557.0          |
| <b>Canada</b>  | <b>409.4</b>   |

Source: World Bank 1999 Development Indicators

#### Constraints

The biggest constraint to accessing China's environmental protection market continues to be the lack of hard currency financing. While foreign technologies, including those of Canada, are acknowledged to be of superior quality, Chinese buyers are often more concerned about financing and price. Soft loans and grants from foreign governments strongly affect Chinese end users' purchasing decisions. It is crucial for Canadian companies to be creative and flexible in financing projects, and to adapt their products to different end users. Building relationships with local research institutes, agencies or government bodies represents an effective way to promote products and services.

Competition from domestic companies is increasing. In 1998, there were over 9000 environmental protection enterprises registered in China, with an output value of 52 billion RMB and accounting for 0.7 percent of GDP. To date, approximately two thirds of wastewater treatment equipment is supplied by local firms, as they have the advantage of local distribution networks and links to local governments. However, the bulk of the domestic industry still produces low-end technologies, and

cannot compete with high-end equipment imported from developed countries. While the Chinese government is eager to foster the development of its domestic environmental companies, it recognizes the need for foreign high-tech equipment. Thus, it strongly encourages companies to enter into joint ventures — a trend that will likely extend to other subsectors.

Canadian companies interested in gaining access to the China environmental protection market will face strong competition from Japan, Germany, the United States and the European Union, as well as domestic producers. Next to having an appropriate technology or product, adaptability is very important. Not only do market characteristics differ from one region to the next, but JV arrangements are no longer the only option by which to gain access. Companies should thoroughly explore all possible approaches when building a marketing strategy to find the right niche in the China market.

#### Action Plan

The objectives of the action plan for this sector are as follows:

- ♦ to pursue co-operation and business opportunities in the environmental protection sector into the 21st Century, under various bilateral agreements, including but not limited to the Memorandum of Understanding on Environmental Co-operation and the Framework Statement for Co-operation on the Environment;
- ♦ to organize technical workshops and seminars to raise the awareness of Canadian capabilities among Chinese project managers and end users, and to provide opportunities for Canadian companies to meet potential partners and explore sources of financing;
- ♦ to pursue business opportunities with a view to reducing air pollution and facilitating the transfer of technologies aimed at the reduction of greenhouse gas emissions; and
- ♦ to facilitate Canadian companies' participation in relevant exhibitions, along with meetings with major contractors and key players in China, and to encourage the participation of Chinese delegations in Canadian trade shows.

## Forestry — Pulp and Paper

### Mainland China

#### Business Environment

Pulp and paper production and consumption have risen significantly with China's rapid economic growth over the past 15 years. Production is increasingly unable to meet the demand for greater volume and higher-quality paper products. This growing demand is challenging China's domestic industry, which is increasingly constrained by limited raw material, a lack of financing and outdated mill technology. Following the disastrous flooding in the summer of 1998, the government issued a ban on logging in certain areas of China, which will, in time, result in increased imports of raw material. Prior to the implementation of the ban, most major production facilities harvested and stockpiled approximately two years supply of logs.

Major international pulp and papers firms are investing in China. A boom in construction has also led to an increased demand for wood and other wood-based building products.

#### Market Opportunities

In the Pacific Rim area, China is one of the fastest-growing markets for pulp and paper products. There are business opportunities through export sales of pulp and paper and wood products, the transfer of technology, and investment. Canada exported to China approximately \$390 million of such products in 1998.

**Equipment:** China is investing heavily in its pulp and paper industry. Annual investments equivalent to \$1.6 billion for technical improvements and imports of machinery are anticipated under China's Ninth Five-Year Plan. In 1998, Canada exported some \$8.7 million in machinery and equipment related to pulp and paper making and sawmill wood working.

**Pulp:** The total Chinese market for pulp (wood pulp and non-wood fibres) for 1998 was 18.3 million tonnes. Canada supplied 23 percent of China's pulp imports in 1998, valued at \$322 million, representing one of Canada's largest exports to China.

Domestic production will continue to be supplemented by imports to meet the growing demand. By the year 2000, China's market for wood pulp and non-wood fibres should be more than 25 million tonnes, of which between two and three million tonnes will be imported, depending on the price of pulp and the availability of foreign currency.

**Paper:** Production in the paper and paperboard sector has been growing rapidly for the last 10 years, and reached 27 million tonnes in 1997 (26 million tonnes in 1996), falling short of the apparent demand of 32 million tonnes (28.5 million tonnes in 1995). Approximately 5.5 million tonnes were imported in 1997. Current projections forecast that domestic production will be 30 million tonnes by the year 2000 and 40 million tonnes by the year 2010. Demand is expected to continue to exceed production, necessitating additional paper imports.

Canadian exports of paper and paperboard were \$85 million in 1997 and only \$50 million in 1998, with the decrease due in large part to the Chinese government's 1998 decision to impose anti-dumping duties on Canadian newsprint suppliers, and to the stockpiling by major importers in 1997. China imported 236 400 tonnes of newsprint in 1998 — a drastic decrease from the previous year, when China imported 453 400 tonnes. The decrease is as a result of low world market prices in 1997, which allowed Chinese importers to stockpile considerable amounts of newsprint.

**Wood:** Housing reform, coupled with growing consumer affluence, is fuelling greater interest in new housing and home renovation. This trend is creating a potential new market for Canadian value-added wood products, particularly in interior finishing. In 1998, Canadian exports were \$6.3 million of lumber and \$3.3 million of wood-based panels and wood-based building products. In 1998, China imported 4.4 million cubic metres of wood and 1.3 million cubic metres of plywood, veneered panels and similar laminates. Rising demand for certain value-added wood products will continue. For instance, the increased use of beech, maple and oak hardwood flooring is an emerging market trend. As well, veneers, wood panels, including engineered wood panels such as oriented strand board (OSB), and particle board are widely used in furniture manufacturing.