

Canada

Water and Wastewater Technologies

CUTTING-EDGE  RELIABLE  HIGH-QUALITY  EFFICIENT

Water: it is basic to life and economic health. Yet 16% of the world's population lacks clean water. Without more investment in this sector, this deficiency is likely to rise to 40%, affecting 2.5 billion people by 2025.

Canadian companies have innovative technologies to treat contaminants in water. Canada's innovative solutions for water and wastewater treatment meet or surpass existing standards and regulations.



WHAT CAN CANADA PROVIDE

The Canadian water and wastewater technology industry encompasses a wide number of technologies, products and services including:

- ▶ **Ultra-violet disinfection** for removal or inactivation of pathogenic micro-organisms
- ▶ **Membrane technology** filtration for high purity water treatment
- ▶ **Biological nutrient removal** of nitrogen in the denitrification process

- ▶ **Anaerobic treatment** of sludges from municipal and high strength industrial wastewater



- ▶ **Ion exchange** for water softening, removal of inorganic chemicals and nutrients, and cyanide treatment
- ▶ **Wet air oxidation** for conversion of soluble heavy metals, which may be toxic, to insoluble states
- ▶ **Biosolids treatment** of solids generated in the wastewater treatment process
- ▶ **Water information systems and software** for water distribution systems monitoring within a constituency
- ▶ **Wetland technologies** for natural eco-system remediation.

Designs are implemented for municipalities, institutions and industries, as well as for unique, sensitive, remote and coastal requirements.



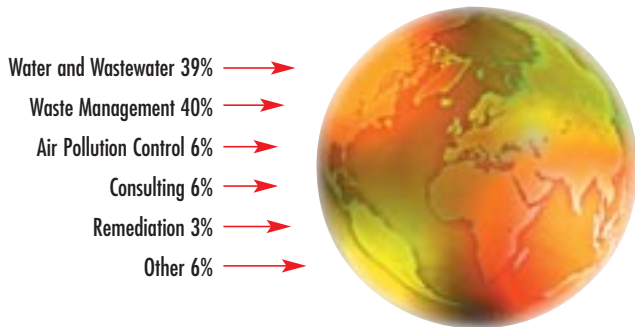
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GLOBAL NEEDS FOR WATER TECHNOLOGIES

Water and wastewater technologies constitute the second largest component of the global environment industry, as depicted below.

Global Market



Canada has the capability to serve the world. Canada has over 700 mostly small and medium-sized water and wastewater firms with annual sales totalling \$1.4 billion. These companies accounted for 21% of Canadian environmental exports. About \$300 million worth of products and services were bought by clients in markets such as the United States, Europe, Asia and Latin America.

CANADIAN EXCELLENCE

Through market-driven research and development, Canadian companies have developed highly innovative technologies, and established themselves as world leaders in several fields. Canada is recognized particularly for:

- ▶ **Disinfection Technologies** (ultra-violet radiation, chlorination, ozonation)
- ▶ **Physical and Chemical Treatment** (membrane technology for filtration, sedimentation, oxidation and precipitation)
- ▶ **Biosolids Management**
- ▶ **Biological Treatment and Bio Solids Management Systems** for liquid and sludge treatment

▶ Specialized pumps, gates and valves

▶ **Energy Recovery Systems** (technologies that recover waste products for reuse)

▶ Instrumentation and Monitoring

These specializations, combined with Canadian competitiveness, expertise and skilled professionals, provide Canadian companies with the capacity to successfully bid on and win many large and small scale-projects around the world.

WHY CHOOSE CANADIAN PRODUCTS

High-Quality, Reliability and Efficiency

Canada is a world leader in water and wastewater treatment systems that enhance public health protection and significantly reduce costs. Canadian products have improved performance, product safety and warranty protection.

Also, there are lower production, installation costs, power consumption, maintenance and space requirements. Canadian companies continuously improve existing technologies, invest in research and development, and exercise corporate social responsibility.

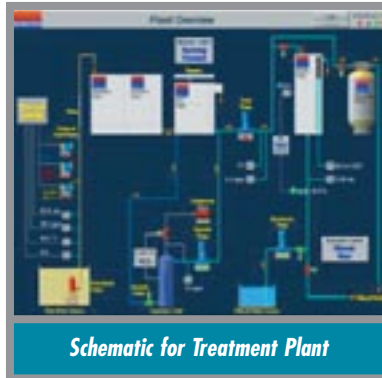
Canada's highly skilled work force and the favourable exchange rate have enabled Canadian companies to offer cost-effective products and services.



Canadian Technology in Use at Olivenhain Drinking Water Filtration Plant, California, US

Water and Wastewater Technologies

As a strong international supporter of global environmental protection, Canada has ratified the Kyoto Protocol. This provides opportunities for Canadian water and wastewater technologies.



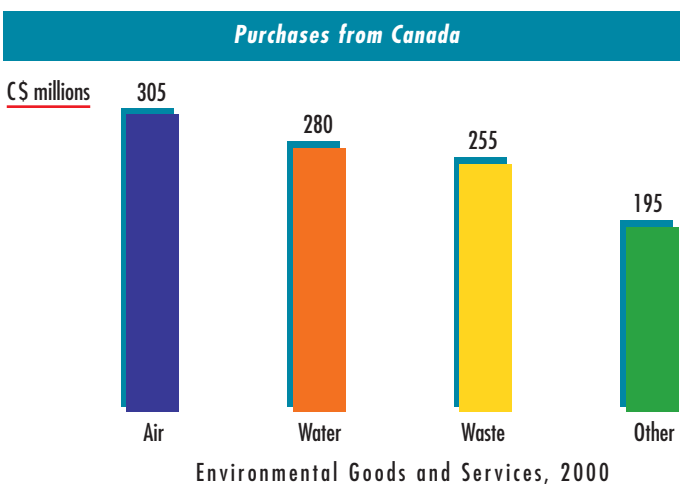
FUTURE TRENDS

Water and wastewater treatment is a domestic and international environmental concern. The world's population and challenges of pollution require new and improved water and wastewater technologies.

Virtually every major international agency dealing with environmental issues has identified clean water as a priority. The World Bank estimates that between 2000 and 2010, US\$600-800 billion must be spent on environmental technologies.

The global market for water and wastewater technologies and infrastructure is expected to increase by 2.4% annually over the next decade.

Water and wastewater treatment need Canadian environmental technologies. In 2000, international clients purchased \$280 million in water and wastewater products and services.



Municipalities are increasingly privatizing both the development and operation of new and existing municipal water systems. A variety of forces are converging to create tremendous opportunities for private companies to participate in the ownership and operation of water and wastewater facilities.



Among these forces are:

- ▶ a worldwide tightening of potable and wastewater regulatory regimes, often leading to new (and costly) capital improvement;
- ▶ a general desire to maximize by outsourcing to the private sector many tasks previously performed by governments;
- ▶ a recognition that the private sector is often better able to organize, fund and administer research and development in certain areas, and;
- ▶ a growing acceptance of public-private partnerships, whereby the private sector supports or assumes tasks previously reserved for public entities.



NEED INFORMATION ON CANADA?

▶ The **Canadian Water and Wastewater**

Association (CWWA) (www.cwwa.ca) is the national voice of the municipal waste and wastewater sector. CWWA has 350 members including municipalities, government departments, educational institutions, consulting engineering firms, and other service providers, manufacturers and suppliers of water and wastewater treatment products and components. Visit the association's web site for innovative Canadian water and wastewater products and services.

▶ The **Canadian Water Resources Association**

(www.cwra.org) — the CWRA is a national organization of individuals and organizations connected with the management of Canada's water resources.

▶ The **Canadian Environmental Solutions** — (CES),

created by Industry Canada, is a comprehensive database of water and wastewater firms, products and capabilities at www.strategis.gc.ca.

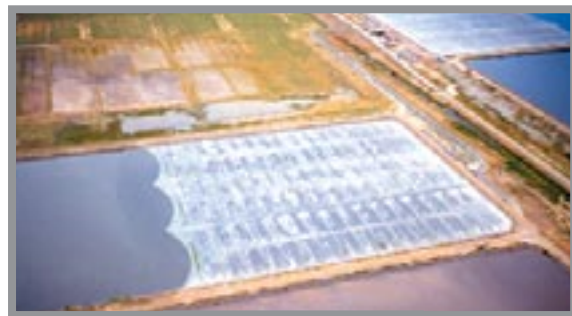
▶ The **Water Environment Federation**

(www.wef.org) — WEF develops and disseminates information concerning the nature, collection and treatment of domestic and industrial water.

CANADIAN TECHNOLOGIES AT WORK



Shanghai, China



Melbourne, Australia

Prepared by

in co-operation with



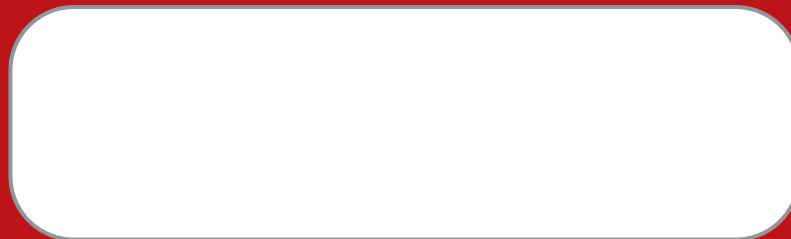
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