

KEY CONTACTS

British Columbia Ministry of Technology, Trade and Economic Development - International Business Development Branch

Suite 288 - 800 Hornby Street
Vancouver, BC V6Z 2C5
Phone: 1-604-660-2399
E-mail: Asia.Pacific@gov.bc.ca

Canadian High Commission

7/8 Shantipath, Chanakyapuri
New Delhi 110 021, India
Tel: +91(11) 4178-2000
Fax: +91(11) 4178-2020
E-mail: delhi@international.gc.ca

Ministry of Environment & Forests

Paryavaran Bhavan
CGO Complex, Lodhi Road
New Delhi 110 003, India
Tel: +91(11) 2436-1669, 2436-0605,
2436-0570, 2436-1147, 2436-0519
E-mail: envisect@nic.in
<<http://envfor.nic.in>>

Central Pollution Control Board

Parivesh Bhawan, East Arjun Nagar
Delhi 110 032, India
Tel: +91(11) 220-4948
Fax: +91(11) 220-4948
E-mail: cpcb@alpha.net.in

National Solid Waste Association of India (NSWAI)

B-703, Customs Colony 'A'
Military Road Marol, Andheri(E)
Mumbai 400 059, India
Tel: +91(22) 2920-7577
Fax: +91(22) 2920-2951
E-mail: nswai@envis.nic.in

Confederation of Indian Industry (Headquarters)

CII Mantosh Sondhi Centre
23 Institutional Area, Lodhi Road
New Delhi 110 003, India
Tel: +91(11) 2462-9994
Fax: +91(11) 2462-1649
E-mail: ciico@ciionline.org
<<http://www.ciionline.org>>

Links and References

India Water Portal <http://www.indiawaterportal.org>

Disclaimer: The content of this publication is provided for information purposes. The Government of British Columbia is not responsible for the content or the reliability of any of the linked websites and does not endorse the content, and products, services or views expressed within this publication – further disclaimer and limitation of liability information are available at <http://www.gov.bc.ca/com/disclaimer.html>. Companies are encouraged to seek professional advice prior to entering international markets.

WATER/WASTE WATER
TREATMENT MARKET

Market Overview

While India is relatively rich in water resources, untreated domestic sewage, industrial effluents and runoffs from chemical intensive agricultural farms are the main contributors to widespread pollution of surface and groundwater sources. Untreated domestic wastewater is a major source of pollution and wastewater treatment facilities often do not function properly or are closed due to improper design and poor operation and maintenance.

Reliable information on the Indian water market is scarce, but it is estimated the total market is worth more than US\$1 billion, divided about one-third for water provisioning, one-third for municipal water treatment and one-third for industrial water treatment.

Access to safe drinking water is a key market driver.

About 85 per cent of India's urban population has access to safe drinking water but that number falls to less than 50 per cent in rural areas. While almost half of India's urban population (46 per cent) has access to sanitation services, less than 12 percent of rural residents have similar access.

India lacks sewage systems and wastewater management plants sufficient to meet the needs of its growing urban population. In many cities the sewer systems are in very bad condition and need extensive maintenance or replacement. There is (...next page)

Water Requirements for Different Uses (in BCM)

Category	2010	2025	2050
Irrigation	536	688	1008
Domestic	41.6	52	67
Industries	37	67	81
Energy	4.4	13	40
Inland Navigation	-	4	7
Flood Control	-	-	-
Afforestation	33	67	134
Ecology	5	10	20
Evaporation	36	42	65
Total	693	942	1422

Source: National Commission for Integrated Water Resources Development Plan, 1999.

Prepared summer 2008 in cooperation with:



Opportunities

Investments in development initiatives may also lead to opportunities for waste water industries. The Jawaharlal Nehru National Urban Renewal Mission believes that over \$60 billion will be spent on urban development in 60 cities in India by 2010. As well, the Special Economic Zone scheme offers incentives such as duty free imports and tax exemptions, and these require environment impact assessments. B.C. environment companies are well poised to offer their services in this area.

US giant DuPont has signed a memorandum of understanding with the Energy and Resources Institute (TERI) to promote green building in India. TERI designed the Green Rating System for Integrated Habitat Assessment, which is a tool endorsed by the Indian government as its national building rating system.

Market Overview *Continued*

a growing trend towards public private partnerships for water and wastewater treatment plants and distribution systems.

Water scarcity has led many industries to adopt water-recycling systems especially in the food, textile, pharmaceutical, chemical and power industries. Zero discharge systems and wastewater recycling are becoming increasingly popular in India.

The Indian water treatment equipment industry is reasonably well established and cost-competitive. Locally fabricated equipment is about 30 per cent cheaper than imported equivalents, but Indian firms have limited capabilities in designing technologies for larger scale water treatment plants. The water treatment market is moving from chemical treatment and demineralisation

technologies to greater use of membrane technology.

Opportunities exist for B.C. companies to provide technical consultancy services through the contractual and/or joint venture route. Government spending is minimal compared to the total estimated requirement of almost US\$5 billion for water/wastewater treatment facilities. To bridge this gap the Indian government allows 100 per cent Foreign Direct Investment for municipal water and wastewater treatment projects.

MARKET ENTRY STRATEGIES

Large end-users such as government agencies and public water and wastewater treatment utilities generally invite bids for environmental projects. Because of the size and increasing sophistication of the environmental market, the preferred route for firms to enter the Indian market is through local intermediaries rather than selling directly to end-users.

Direct sales of certain components and devices that require little after-sales service is possible, but most foreign firms have formed collaborative relationships with agents, distributors, manufacturers and contractors in India. Joint ventures with

Indian firms to offer integrated solution in water treatment - from feasibility studies, design/technical consultancy to operational and on-line maintenance services, is a preferred market entry approach.

The Japan Bank for International Cooperation is pouring a great deal of money into India's water sector. B.C. companies may wish to bid for projects in India in partnership with major Japanese consultants such as Tokyo Engineering, Mitsui, Mitsubishi, Japan Engineering Consultants.

COMPETITIVE ENVIRONMENT

India is one of the most challenging environmental markets that are emerging in Asia. Despite this, its massive environmental infrastructure needs offer promising investment opportunities to both domestic and foreign companies.

The water and wastewater treatment industry in India is well diversified and has made rapid strides in technological capabilities both on its own and through strategic partnerships with foreign firms. European firms, especially from France, the Netherlands, the U.K.,

Germany, Finland and Belgium are strong competitors. The number of foreign joint ventures/collaborations has been growing steadily in the environmental sector.

The leading foreign firms active in water/wastewater market sub-sector include: Dorr-Oliver-Inc., J.M. Smith & Associates, AFF, Arthur D. Little, Hagler Bailly Consulting, ESI, Chem Services, Hyder Plc., U.S. Filter, Flanders Inc., YSI Inc., Anderson Inc., ENVIREX, Bacardi Corp, etc., all from USA, and R.V. Anderson & ADI Systems from Canada.

Many Indian firms are seeking joint ventures and licensing with foreign companies to further develop their technical capabilities. B.C. companies having advanced expertise and technologies in the water and wastewater treatment sector may be seen as attractive partners.

REGULATORY ENVIRONMENT

Over the last three decades India has developed an elaborate environmental policy framework and enforcement infrastructure. The key pieces of legislation driving India's wastewater treatment markets are: the Water (Prevention and Control of Pollution) Act, 1974, the Water (Prevention and Control of Pollution) Cess Act, 1977, and

the Environment (Protection) Act, 1986. The acts mentioned above and schedules thereof are available from the Central Pollution Control Board offices and can also be accessed at the Environmental Information Center website: www.cleantechindia.com.

The Ministry of Water Resources is responsible for laying down policy guidelines and programs for the development and regulation of water resources. More information is available at <http://wrmin.nic.in/policy/nwp2002.pdf>.

Key Companies

- EA Water.Com Private Limited
A1/152, Neb Sarai, IGNOU Road, New Delhi 110 068, India
Tel: +91(11) 2953-1288/89/90 / Cell: +98(1) 0000-2968
Fax: +91(11) 2953-1291
E-mail: sghorawat@eandwgroup.com

- Associated Consulting Engineers
Contact: 1504 Galleria
DLF City Phase IV, Gurgaon, Haryana 122 002, India
Tel: +91(12) 4414-8058
E-mail: info@aceindia.net