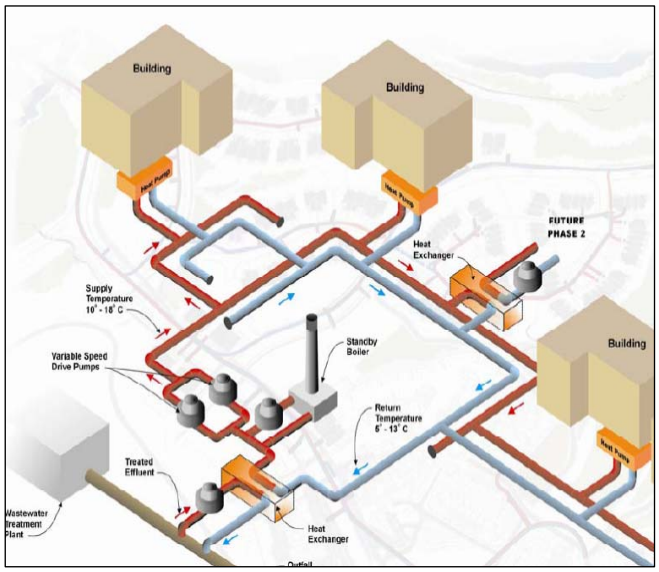
WATER & WASTEWATER MANAGEMENT PROVIDE A DELUGE OF SUSTAINABLE INNOVATION

The Vancouver 2010 Olympic and Paralympic Winter Games showcased the very best in Canadian innovation and expertise in water management and wastewater technologies fields. In line with making the 2010 Winter Games the cleanest Games to date, innovative water and wastewater technologies were used in order to support the needs and activities of athletes and spectators alike.

One exciting innovative project which demonstrates a promising technology is the extraction of waste heat from treated municipal wastewater. The District Energy-Sharing System (DESS) for the Whistler Olympic and Paralympic Athlete Village was developed to utilize waste heat available in the treated municipal wastewater effluent. This highly effective system provided up to 90% of the annual heating requirement for the Village.

One unique aspect of this system is that it extracts low-temperature ambient heat from wastewater, making it flexible enough to provide both heating and cooling in the DESS. The system, using Canadian technology, is one of the first closed-looped heating and cooling district energy systems in the world.

The Whistler Athlete Village / Resort Municipality of Whistler Waste Water Heat Recovery Project is an excellent demonstration of how waste water heat recovery can be a viable source of renewable energy and showcased how creative solutions created by Canadian companies can answer multiple needs for energy reduction and wastewater reuse.



This is just one of many examples, however, of how Canadian innovation and partnerships are developed for sustainable goals.

Services

Canadian firms are also highly regarded for their expertise in the provision of a number of services, including:

- sustainable small community solutions for water & wastewater
- specialized storm water management
- small community treatment expertise

Technologies

Canada has demonstrated distinct capabilities in a number of innovative technologies. These include:

- biosolid recovery processes
- conversion of wastewater sludge into heat and electricity
- cutting edge ultraviolet disinfection techniques
- developing less energy intensive technology for reverse osmosis and desalination

National Success

Canadian strengths in the water and wastewater management sector enjoy a global reputation and many years of strong domestic environmental regulations have fostered this competitive industry.

All across Canada there are examples of cities, communities and companies engaged in the drive to provide cleaner water with less energy and to deliver it through a reliable infrastructure system that is well managed.

In the community of Chester, Nova Scotia, for example, the Kaizer Meadow Environmental Management Centre handles 1,000 tons of garbage every week from 14 Nova Scotia municipalities. It was opened in 2006 and is the first facility of its kind to use a wastewater-treatment system that keeps effluent out of waterways by fully treating leachate, a liquid containing contaminants, which typically drains from landfill sites.

Septic waste at Kaizer Meadow is treated using a leading-edge mobile de-watering system which increases the trucks capacity by ten times per load (the majority of septic waste being liquid).

The Water Pollution Control Plant in Orangeville, Ontario,,uses patented Canadian technology to treat raw wastewater using an electrolytic process that not only eliminates biosolids, but also requires a much smaller footprint than conventional treatment approaches, thereby lowering capital costs. As a by product, the process produces a mixture of hydrogen and oxygen gas that can be used to generate energy through combustion or a fuel cell -- energy that can be sold back to the grid or re-used to further help reduce costs.

Design and construction of the pilot project is expected to be completed in 2010. Once operational, the pilot plant will divert a small portion of raw sewage through its reactor on a continuous flow basis in order to demonstrate its viability for municipal wastewater treatment. The treated wastewater will be returned to Orangeville's Water Pollution Control Plant for ultimate discharge to the receiving stream.

Similarly, across the Olympic and Paralympic region, host communities have plans for reduction, reuse, recycling and rethinking water and wastewater. These changes are happening through improved processes, advanced technology, and a real focus on intelligent usage and reuse of our water resources.

Canadian Leadership

Since the mid 1990s, environmental protection has shifted away from end-of-pipe control to pollution prevention and sustainable development.

Increasing costs for energy, chemicals, biosolids treatment and disposal, labour and ultimately scarcity are driving this move to increased sustainability.

Canada is providing leadership to build strong growth in five key areas related to water management and wastewater treatment:

Demand reduction -using less energy, less water, less chemicals, less labour

Waste to product -convert an expense item to a revenue source, such as through biosolids recovery from wastewater which is in turn sold as fertilizer for agricultural use

Reuse -increasingly important as available fresh water supplies are consumed more quickly than they can be replenished

Infrastructure renewal -reducing water loss through faulty pipes and leaks

Desalination -researching techniques and technology to overcome the high energy use by thermal processes and reverse osmosis

Canadian Trade Commissioner Service (TCS)

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