



Buffalo Environmental Management Commission

Monthly Energy/Efficiency and Sustainability TIP SHEET April 2007

As part of its City Charter-defined mission to advise the Mayor and Common Council on environmental issues affecting the City, the Buffalo Environmental Management Commission submits a monthly "tip sheet" on a timely topic for your information, review and consideration. This month's tip sheet showcases the Enwave deep lake water cooling system in Toronto.

Since 2003 the City of Toronto has made use of a deep water cooling system to cool numerous downtown office buildings. The system draws water from below the surface of Lake Ontario and is passed through a series of heat exchangers to facilitate the energy transfer between cold lake water and a closed chilled water supply loop. The cold energy provides a renewable source of energy and air conditions approximately 3.3 million square yards of office building space connected to the system. The system uses only the coldness of the lake water not the actual water to provide the alternative to conventional air-conditioning.

Toronto's system uses **90% less energy** than conventional chillers and reduces electricity consumption by more than 85 million kilowatts. By using less electricity from conventional power generators, approximately 79,000 fewer tons of carbon dioxide are released to the atmosphere. The system is price competitive, sustainable, clean and renewable without a price premium and provides a price stable operating system. The system does not use harmful CFC refrigerants and its simplicity eliminates the risk of early equipment failure. The system reduces noise, pollution and humidity generated by conventional chillers, fans and cooling towers.

It is conceivable that such a system could have applications in the City of Buffalo, potentially saving significant resources while utilizing a clean energy source. To find out more about the system Enwave can be contacted at (416) 392-6838, info@enwave.com or www.enwave.com.

If you have any questions regarding the tip sheet please contact Joe Gardella (Interim Chair, BEMC) at gardella@buffalo.edu or Dennis Sutton (BEMC support staff) at dsutton@city-buffalo.com. We look forward to any input on the monthly tip sheet.

BEMC members are willing to attend any meetings to promote implementation of these programs in the City of Buffalo. BEMC meets monthly, on the third Wednesday, 8:00 AM, 920 City Hall. Our next meeting is April 18, 2007.