

Environmental Activities of Enwave Energy Corporation

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Major Environmental Activities

- Deep Lake Water Cooling
 - Large **renewable energy project** in Toronto
 - 2000 Green Plan Recommendation 27, 32
 - Generated 260 million kWh thermal of renewable energy (fiscal 2007)
 - Capital Cost on completion of \$247 million
 - System partly connected in 2007
 - System almost fully committed.

Major Environmental Activities

- Deep Lake Water Cooling
 - Major **Energy Efficiency Project** in Toronto
 - 2000 Green Plan Recommendation 28
 - Reduces Electricity use by up to 90% for building cooling
 - Reduced electricity consumption by 57 million kWh net (fiscal 2007)

Major Environmental Activities

- Deep Lake Water Cooling
 - **Water Efficiency Project** in Toronto
 - 2000 Green Plan Recommendation 15
 - Reduces Toronto Water use for building cooling
 - Reduced water consumption by 591 million litres (fiscal 2007)
 - Saved customers \$946 000 for Toronto Water (fiscal 2007)

Major Environmental Activities

- Deep Lake Water Cooling
 - **CFC Reduction Project** in Toronto
 - Eliminates CFC emissions from building cooling equipment
 - Reduces CFC impact on Ozone Layer in the Upper Atmosphere
 - Cuts harmful UVA and UVB rays

Major Environmental Activities

- Deep Lake Water Cooling
 - **Climate Change Project**
 - Reduces CO2 emissions
 - Up to 58,736 tonnes (fiscal 2007) *

* Reduction of fossil fired electricity on the margin since bulk of savings occur in summer when fossil plants are operating 24 hours per day

Major Environmental Activities

- Deep Lake Water Cooling
 - **Air Quality Project**
 - 2000 Green Plan Recommendation 22
 - Reduces Smog Causing Emissions:
 - NOx 20,070 Kilograms (fiscal 2007)
 - SOx 3,633 Kilograms (fiscal 2007)
 - Fine Particulate PM10: 5882 Kilograms (fiscal 2007)
 - CO 48,388 Kilograms (fiscal 2007)
 - VOC 288 Kilograms (fiscal 2007)

Major Environmental Activities

- Deep Lake Water Cooling
 - **Demand Reduction Project**
 - 2000 Green Plan Recommendation 28 (c)
 - Reduces electrical load on distribution grid of Toronto Hydro
 - 70 MW reduction on completion

Major Environmental Activities

- **Distributed Generation Project**
- 11 MW Steam Turbine Generators
 - Back up power fuelled by clean natural gas
 - Grid power available to Toronto Hydro
 - 2000 Green Plan Recommendation 30(e)
 - Operational 2008

Major Environmental Activities

- Deep Lake Water Cooling
 - 2000 Green Plan Recommendation 29
 - **Increasing efficiency of City Facilities**
 - Metro Hall/Metro Centre is connected
 - New City Hall in 2008
 - Old City Hall in 2009
 - Police Headquarters in 2009
 - Union Station in future

Major Environmental Activities

- Deep Lake Water Cooling
 - 2000 Green Plan Recommendation 33
 - Increasing efficiency by DLWC for **New Developments** including:
 - Royal Bank Centre
 - Ritz Carlton
 - Tridel Element Condo
 - Trump Tower
 - Ryerson University Business Centre
 - Maple Leaf Square

Other Environmental Activities

- **Green Roof on DLWC Transfer Facility**
 - 2000 Green Plan Recommendation 8
 - Reduces cooling load in the building
 - Helps reduce Heat Island Effect in the urban core area

Other Environmental Activities

- **Cooling Tower Elimination** by DLWC
 - Reduces mechanical noise in the urban core
 - Reduces impact on outdoor humidity
 - Reduces water quality concerns from cooling tower aerosols

Future Environmental Activities

- Expansion of DLWC
 - “Change is in the Air” Recommendation 16, 17 and 22
 - Increase the capacity of DLWC by 20% by use of balancing storage
 - Increase the use and benefits of DLWC by off peak application
 - Develop long term plan for doubling of DLWC in cooperation with the City