



Chapter 8: Conclusions

In support of meeting our targets for reduction in water use, the City's Environmental Plan advises that the City aggressively implement the strategies being developed in the Water Efficiency Plan. If water efficiency programs are not implemented, the City will require major infrastructure expansion to accommodate future population and employment growth. It is estimated that approximately \$130 million in water supply infrastructure expansion and approximately \$90 million in wastewater treatment plant expansion would be required by 2011 if the WEP is not implemented. The \$74.3 million cost to implement the WEP is approximately one-third of the \$220 million cost of expanding Toronto's water and wastewater infrastructure.

The WEP will be an ongoing and evolving program and must adapt to changes in future population, employment growth, and emerging water-efficiency technologies. To successfully meet the goal of the WEP, the City will need to ensure that sufficient resources are made available for the implementation of the Plan, and that the water savings achieved as part of the WEP are incorporated into the City's future infrastructure planning. Public education and promotion will also play an essential role in ensuring the plan's success.

The Water Efficiency Plan allows the City to achieve its objective of reducing both peak day demands and wastewater flows, thereby deferring the need to expand both water and wastewater infrastructure, and ultimately saving the City's taxpayers millions of dollars.

In addition, the following benefits are projected as a result of the WEP:

- Avoidance of \$29 million in operating costs related to chemical and energy use in water and wastewater treatment.
- Deferral of an additional \$4.5 million per year in operating costs after 2011.
- Reduction of 100,000 tonnes of CO₂ during the planning period
- Reduction of an additional 14,000 tonnes yearly after 2011.
- Reduction in water consumption and related water billing costs to participants in the WEP.

In conclusion, the Water Efficiency Plan shows that water efficiency programs are more cost-effective than expansion in water supply and wastewater treatment infrastructure to serve the water demand needs of a growing residential and employment population.



Glossary

AADD: average annual day demand - annual water production divided by 365 days per year.

CO₂: Carbon dioxide, linked with exacerbating greenhouse effect.

Benefit to cost ratio: cost of implementing a water efficiency measure divided by the associated benefit (i.e., how much would be saved by implementing the measure); a ratio of less than 1.0 indicates a measure that is cost-effective to implement.

DSM: Demand-side management, enabling an existing system to serve a greater population by reducing demands rather than by increasing supply.

ICI: the industrial, commercial, and institutional customer sector.

Infiltration: groundwater seeping into sewers through cracks and joints.

Inflow: surface water being directed into the sewer.

Incentive: financial enticement provided by the City to program participants.

L/c/d: litres per capita per day.

Maximum water savings: the volume of water saved per day during the peak summer demand days.

Mega litre per day: a demand rate equivalent to one million litres of water per day.

Net per capita demand: total residential water demand divided by total population.

Peak day: the single greatest water demand day during a calendar year.

Peaking factor: the ratio of the peak day demand divided by the AADD in a calendar year.

Pilot program: a program implemented on a small-scale intended to provide information about the functioning of a full-scale program rollout.

Potable water: water suitable for drinking, i.e., water supplied through the distribution system.

Present value: current worth of future expenditure; considers effects of inflation and compound interest.

SSM: Supply-side management, enabling an existing system to serve a greater population by increasing supply rather than by reducing demands.

UFW: unaccounted-for water water distributed through the system but not billed for, i.e., water lost through system leakage, meter error, theft, erroneous accounting practices, etc.



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