

W.E.T. case study



Toyota Motor Manufacturing Canada

Toyota Motor Manufacturing Canada (TMMC) is an automotive manufacturer in Cambridge and Woodstock. The Cambridge facility uses a water treatment plant with reverse osmosis (RO) units to remove minerals from the municipal water supply. This process creates ultrapure water for the painting process.

Twenty-five per cent (25%) of the incoming municipal water returns to the sewer as concentrate water from the RO units. Recovering this lost water provided an opportunity to reduce water costs.

Water savings solution

TMMC designed and installed a RO concentrate recovery system using a brackish water RO. The RO system recovers up to fifty per cent (50%) of the rejected concentrate water. The new concentrate recovery system plays a significant role in water reduction at TMMC.

TMMC is the 2009 recipient of the Region of Waterloo Water Efficiency Excellence Award for this work.



Figure 1 reverse osmosis concentrate recovery system



Economic benefits

The Region of Waterloo provided \$35,870 funding through the W.E.T. Program, reducing the payback period by one year.

TMMC realized a savings per year of \$76,680 in municipal water costs.

Water savings

TMMC now saves 36,000 m³ of water per year or 100 m³ per day; enough water for 154 homes.

Summary

Reverse osmosis water recovery

- W.E.T. Program funding: \$35,870
- Water savings: 36,000 m³ per year
- Cost to implement: \$116,000
- Annual savings: \$76,680

Region of Waterloo water programs for business

The Region of Waterloo has funding and programs to help industrial, commercial and institutional organizations reduce water costs.

Learn more at www.regionofwaterloo.ca/WaterSmartBusiness.

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