



To: Board of Management

From: Robin D. Hale
Chief Operating Officer

Subject: **2011 ENERGY CONSUMPTION REPORT**

Date: 2012-05-24

Summary:

This report updates the Board on the Zoo's energy consumption for 2011.

Recommendations:

It is recommended that this report be received for information.

Background:

The 2011 Energy Consumption Report Summary for the Toronto Zoo was prepared by Joel Arthurs, Energy Management Analyst, Energy & Waste Management Office of the City of Toronto. The report shows the total energy consumption and cost in comparison to the base year of 2010.

This report takes into account weather conditions and billing period length by making an adjustment to the 2010 energy use to provide for a fair comparison to energy use in 2011. All of the costs for 2011 are shown in dollars.

The report includes a number of tables, an executive summary, energy consumption and costs, and a report showing the actual (not weather adjusted) energy use for each energy type on a quarterly basis for the past three years (includes CO₂ emissions).

Comments/Discussion:

The report shows a decrease (2.0%) in energy use and a decrease (5.1 %) in energy cost in comparison to the adjusted base year of 2010. The Toronto Zoo has undertaken a number of energy efficiency improvements in the past to reduce energy consumption. These have included the installation of a centralized building automation system, lighting retrofits to energy efficient lamps, replacement of boilers, hot water heaters and HVAC units with high efficiency equipment, solar thermal heating, insulation improvements and green roofs in keeping with the Zoo's Green Plan. This decrease in energy consumption is particularly gratifying when one considers that several new facilities (e.g. Splash Island, Kids Zoo, Quarantine, Tundra,) have been added in recent years.

The following details are provided in regard to the energy consumption identified in the 2011 Report. Fuel consumption for gasoline, diesel, and propane reflect the Zoo's purchased consumption rather than the actual usage.

Electricity

Electricity usage decreased by 1.2% in comparison to 2010.

Natural Gas

Natural gas usage decreased slightly by 0.3% in comparison to 2010.

Water

Water usage has decreased by 10.2% in comparison to 2010.

Further to a suggestion made by a Board member at an earlier meeting, staff have investigated the possibility of acquiring a discounted rate for water supply. Apparently there are only two water rates and according to Toronto Water the Zoo does not qualify for the lower "industrial rate" and must continue to pay the "general rate" for the purchase of water from the City.

Heating Oil

Heating oil usage has increased by 7.5% in comparison to 2010. Heating oil is only used at Valley Halla, the Gate House, Marmot Barn, and the Ferret Barn. Since heating oil is purchased in bulk and the figures represent small purchased quantities and not actual consumption, the results may be misleading.

Diesel

Diesel fuel consumption has decreased by 50.0% in comparison to 2010. Since diesel fuel is purchased in bulk and the figures represent purchase quantities and not actual consumption, the results may be misleading.

Propane

Propane usage has increased by 12.9%. Since propane is purchased in bulk and the figures represent purchased quantities and not actual consumption, the results may be misleading. Please note that the propane fueling station at the Zoo was decommissioned in 2011 and as such propane usage will not be reported in the future.

Gasoline

Gasoline has decreased by 34.2%. Since gasoline is purchased in bulk and the figures represent purchased quantities and not actual consumption, the results may be misleading.

R. D. Hale
Chief Operating Officer

List of Attachments:

2011 Energy Consumption Report