

USC Summary Report 2018-2022

Members:

Gordon Maracso: Electrical Engineer/ Dofasco/NRBN/Grimsby Power/ES Fox/NPEI

Dave Cano: Electronics Engineer / Energy Efficiency Manager Town of Oakville

Jeff Fee: Stationary Engineer / Facility Management Ridley College

Staff:

Jason Marr, Director of Public Works

Teresa Quinlin-Murphy, Director of Corporate Services

Vickie vanRavenswaay, Director of Recreation, Culture & Wellness

Bryan Secord, Supervisor, Recreational Programs and Facilities

Mike Guglielmi, Manager, Information Technology

Bob Hildebrandt, Councillor, Ward 3

Summary

Decreasing energy use **reduces energy costs** and has resulted in a financial cost savings offsetting additional costs of implementing any energy-efficient technology and rate increases. Reducing energy use can also be a part of the solution to the problem of greenhouse gas emissions.

Here are some ways saving energy at the Town was achieved:

- Education
- Making it personal
- Posting business energy saving results
- Upgrade equipment
- Encourage energy innovation
- Organizational Change

The first step was the Organizational Change in cooperation with Staff and Council to place the Meridian Community Center under the Recreation Department. This was a key to the efficient daily operation of the Centre.

The second step was a chronological review of the last 5 years of Energy Usage for the Major Energy Consumption Facilities and also to create an ongoing reference point for each facility. **Refer to Appendix A**

1. Analysis of energy usage by Facility over last 5 years (**Appendix A**):

This was to demonstrate trends. We believed these types of graphs create a competitive desire to get involved, to "Buy In" to Saving Energy. Meetings were held in different venues and out of Town to get a first-hand feel and see what others were doing regarding education.

- MCC
- Old Arena
- Town Hall
- Tice Road

2. Old Arena

The Building had been decommissioned but gas and hydro usage was still high. The solution was to turn off all gas supply and only parking lot lights remained on until property was sold. One time Forecasted Savings of \$30,000.00 in 2019.

3. MCC

This was the USC's #1 priority as the highest consumer of both electricity and gas.

Changes implemented are too numerous to list other than major ones.

- a. BAS program revised to allow supervisor access to set operating conditions to suit facility usage schedule.
- b. Lighting switches installed to allow staff to turn off areas unnecessarily lit 24/7.
- c. Implemented cold water flooding, shutting down two hot water boilers. Equipment cost covered by grant for hardware.
- d. Stopped using 2 x 150hp compressors to produce regenerative heating of the MCC arena.
- e. Implemented weekly graphics of consumption as reported by Hydro One with reports being issued to responsible individuals to show results of program changes. **Refer to Appendix B**

- f. Met with Hydro One after reviewing the contract signed by Town for hydro supply. Unfortunately, Town signed with Hydro One without ever asking NPEI to supply power. NPEI's power bill is approximately 15% lower because of their delivery costs (which essentially measures the efficiency of an organization).
 - g. 2019 July - renegotiated contract with Hydro One and achieved a credit of \$68,000 for past usage. Resigned contract for proper hydro rate classification. Hydro Rate Classification is reviewed on a yearly basis to ensure Town is getting the best rate for required service.
4. Town Hall BAS installation was completed April/May 2022. Savings estimated at 33% of annual budget for hydro and gas. Cost of BAS automation covered by grant.
5. LED lighting- Conversion starting in 2022
- Maintenance Costs down 80%
 - Energy Costs Costs down 72%
 - Projected 20 Year Savings \$1,378,338
 - GHG Reduction 53 tonnes/yr

Summary of Savings:

1. Yearly MCC electricity savings vs budget approximately \$150,000.
Refer to Appendix C
2. Cold water flooding estimated savings \$60,000/year.
3. Town Hall \$6000 per year estimated savings.
4. LED Lighting estimated savings \$ 62,526 start of conversion and \$182,000 /year at completion.
5. Turned off utilities at Old Arena \$30,000 - one time savings
6. Renegotiated Hydro Contract - Established proper Hydro One Classification Rate - One time Credit of \$68,000

Outstanding Issues/Next Steps:

1. Hydro Classification for Pelham Residents - Urban (High Density) vs Medium Density
2. Low Voltage in Fenwick

3. Hydro One: Power Imbalance - 600 Volt 3 phase power/Fenwick and the MCC
4. Infrastructure Upgrades to meet increase in demand
5. Yearly Hydro One Rate Classification review and rate agreement approval

Items 1, 2, 3 & 4 are all part of ongoing negotiations with Hydro One, our MPP, the Energy Minister and the Town.

Notes:

The Utility Sustainability Committee Terms of Reference are available on the Town of Pelham website for reference.

Attachments

Appendix A – Facility Trends 2014-2018

Appendix B – Monthly Consumption for Metered and Adjusted kWh

Appendix C – MCC Hydro Report