

# Energy Management Plan

## Town of Tillsonburg

**From: 2014-01-01 to: 2018-12-31**

### Commitment

- **Declaration of Commitment:** Resolve that Town of Tillsonburg Council will support the implementation of a detailed energy management plan for the Town of Tillsonburg facilities to reduce energy consumption and reduce greenhouse gases.
- **Vision:** The Town of Tillsonburg Council and Senior Management commits to an ongoing energy management reduction program to reduce utility use future consumption. All Town of Tillsonburg staff will be aware of the importance of energy reduction and be able to suggest ideas to improve performance. When purchasing new equipment energy efficiency will be considered a priority as part of the selection process. Regular funding will be contributed through capital planning to undertake these goals and consideration giving to a revolving fund where energy savings are returned to fund future projects. Staff will work with utility companies and suppliers to take advantage of rebates and new technology. Staff will keep abreast of best practices by attending seminars and networking with other facility operators in the province. These measures will improve the overall quality of life for residents and stakeholders by mitigating future cost escalation and reducing greenhouse gas production.
- **Goals:** Town of Tillsonburg staff will create and maintain a culture of conservation to ensure the following;
  1. Reduce future overall costs (cost avoidance) with reductions in utility use.
  2. Create a more sustainable environmental footprint for residents by reducing green house gas production.
  3. Lead by example to demonstrate responsible use of natural resources while still maintaining comfortable facilities for all users.
- **Overall Target:** Town of Tillsonburg staff will endeavour to reduce energy consumption by 1 to 2 per cent per annum between 2014 and 2020. This matrix will factor in degree day data to ensure the actual savings is relative to the baseline data.
- **Objectives:** Staff commits to do ongoing internal and external audits to ensure proper operation of equipment and opportunities for ongoing improvement. Staff will also monitor and evaluate billing for consumption trends to ensure they meet the baseline data relative to energy degree day data. Staff will also work cooperatively to come up with team solutions and try to maintain consistent operations to maximize future savings. For energy management to be very successful all stake holders must understand the goals and objectives and work collectively to meet the targets established. Energy management can be successful if it is engrained within the corporate culture and dovetails with other plans i.e. Sustainability Plans, Business Plans and is evaluated on a regular basis.

### Organizational Understanding

- **Summary of Current Energy Consumption, Cost and GHGs:**
- **Renewable Energy Utilized or Planned:** The Town of Tillsonburg aspires to show leadership in the promotion and development of renewable energy systems that are compatible with our asset management and land use planning objectives. As a result, we have developed solar photovoltaic systems on the rooftops of two corporate facilities. Another area of interest is producing energy by co generation and tri generation.

### Resources Planning

- **Energy Leader:** We will clearly designate leadership and overall responsibility for corporate energy management.

## **Projects Execution**

- **Municipal Level:** We will carry out the required development of business procedures and communication programs and implement them methodically according to the planned time lines within the resources constraints that apply.
- **Asset Level:** We use department and facility energy team representatives to facilitate the implementation of facility level business procedures and communication initiatives, including energy performance reporting.

## **Review**

- **Energy Plan Review:** We will review and evaluate our energy plan, revising and updating it as necessary, on an annual basis within our corporate planning process.

## **Evaluation Progress**

- **Energy Consumption:** As part of regular programs and constant improvement staff was able to reduce natural gas use 75% over a four year period. Staff implemented boiler controls and solar technology to heat pool water. This measure saved almost 100,000 cubic meters of natural gas. Other energy projects that have been implemented recently will be reported once more data is available.

## Programs

Description	Facility	Contact	Date	Status
Add energy awareness to staff meetings and regular e mails	Tillsonburg Community Centre	Kelly Batt, Parks and Facilities Manager	2014-01-08	Pending
<b>Details</b>	Communicate regular progress relative to energy savings and create a culture of conservation			
Purchase Energy Efficient replacement equipment	Tillsonburg Community Centre	Kelly Batt, Parks and Facilities Manager	2014-03-03	Active
<b>Details</b>	Ensure that research is done when purchasing replacement equipment to maximize energy efficiency.			
Arena Heating Policy	Tillsonburg Community Centre	Kelly Batt, Parks and Facilities Manager	2014-03-10	Completed
<b>Details</b>	Installed signage and two way wall radios if spectators want heaters on. It also explains that people visiting the arena should dress appropriately for the climate and the cost of heating arenas. It also explains that these measures were put into place to help conform to Energy regulation 397/11.			
Energy Audit	Tillsonburg Community Centre	Kelly Batt, Parks and Facilities Manager	2014-01-02	Pending
<b>Details</b>	Energy Audit completed by staff of LAS			

## Processes

Description	Facility	Contact	Start	End	Status	Cost	Save (ekWh/yr)	Save (\$)	ROI
LED Lighting Retrofit	Tillsonburg Community Centre	,	2017-04-24	2017-06-19	Pending [0%]	0.00	0	2100.00	9
<b>Details</b>	Upgrade exterior lighting from CHL and HID to LED technology								
Change Washroom Lighting and fixture lenses	Tillsonburg Community Centre	Kelly Batt, Parks and Facilities Manager	2015-03-23	2015-03-30	Pending [0%]	1000.00	0	1000.00	1
<b>Details</b>	Change fixture lenses and decommission valance lighting								

Remove valance lights in looby and upgrade display vases	Tillsonburg Community Centre	Kelly Batt, Parks and Facilities Manager	2015-05-04	2015-06-29	Pending [0%]	5000.00	0	2500.00	2
<b>Details</b>	Remove valance and display case lighting and replace with LED Lights								
Pool Lighting	Tillsonburg Community Centre	Kelly Batt, Parks and Facilities Manager	2015-06-22	2015-07-27	Pending [0%]	20000.00	0	1700.00	9
<b>Details</b>	Replace pool lights with LED fixtures								
Memorial Arena Lighting	Tillsonburg Community Centre	Kelly Batt, Parks and Facilities Manager	2016-05-30	2016-06-13	Pending [0%]	62000.00	0	5100.00	10
<b>Details</b>	Replace 42 HID lights with LED fixtures								
Community Arena Lighting	Tillsonburg Community Centre	Kelly Batt, Parks and Facilities Manager	2017-05-22	2017-06-12	Pending [0%]	34000.00	0	4300.00	7
<b>Details</b>	Replace 21 fixtures with LED lights								
Zamboni Room Lights	Tillsonburg Community Centre	Kelly Batt, Parks and Facilities Manager	2015-05-25	2015-05-29	Pending [0%]	250.00	0	125.00	2
<b>Details</b>	Replace room lights with T5								
Occupancy sensors	Tillsonburg Community Centre	Kelly Batt, Parks and Facilities Manager	2015-07-20	2015-08-17	Pending [0%]	8000.00	0	2500.00	3
<b>Details</b>	Replace light switches with occupancy sensors in building								
Low E ceilings	Tillsonburg Community Centre	Kelly Batt, Parks and Facilities Manager	2016-04-25	2016-05-16	Pending [0%]	50000.00	0	7000.00	7
<b>Details</b>	Install low e ceilings in both arenas								
Building Automation Systems	Tillsonburg Community Centre	Kelly Batt, Parks and Facilities Manager	2017-06-05	2017-07-24	Pending [0%]	60000.00	0	9000.00	7
<b>Details</b>	Install BAs equipment to control and monitor building settings and temperatures								
Zamboni Heater door interlock	Tillsonburg Community	Kelly Batt, Parks and Facilities	2014-07-14	2014-07-28	Pending [0%]	500.00	0	250.00	2

	Centre	Manager							
<b>Details</b>	install an interlock to turn off heater when overhead doors open								
Waste heat compressor room recovery	Tillsonburg Community Centre	Kelly Batt, Parks and Facilities Manager	2017-06-12	2017-07-24	Pending [0%]	50000.00	0	8000.00	6
<b>Details</b>	Use waste heat from compressor room to heat water								
Install an advanced refrigeration control system	Tillsonburg Community Centre	Kelly Batt, Parks and Facilities Manager	2015-04-13	2015-04-27	Pending [0%]	35000.00	0	0.00	3
<b>Details</b>	Install an updated refrigeration computer to have better control of the plant and save energy								
Compressor replacement	Tillsonburg Community Centre	Kelly Batt, Parks and Facilities Manager	2017-05-22	2017-06-12	Pending [0%]	100000.00	0	25000.00	4
<b>Details</b>	Replace compressors with smaller multiple units to save energy and better handle changing refrigeration loads								
Install a high efficiency 75 kva transformer in the refrigeration room	Tillsonburg Community Centre	Kelly Batt, Parks and Facilities Manager	2018-04-30	2018-06-25	Pending [0%]	7000.00	0	1000.00	7
<b>Details</b>	Improve power use with a new transformer								