



Township of Killaloe, Hagarty and Richards

Conservation and Demand Management Plan 2014-2019

The Township of Killaloe, Hagarty and Richards strives to reduce energy consumption and alleviate costs through the wise use of energy. We will collaborate all efforts to increase the education, awareness and understanding of energy management within our Municipality.

Township of Killaloe, Hagarty and Richards

Conservation and Demand Management Plan
2014-2019

Energy Management Plan

Declaration of Commitment

Council Resolution:

The Township of Killaloe, Hagarty and Richards is committed to allocating the necessary resources to develop and implement a strategic energy management plan that will reduce our energy consumption and its related environmental impacts.

The Corporation of the Township of Killaloe, Hagarty and Richards has, over the last number of years, undertaken a number of initiatives to reduce energy use and reduce energy costs, and to lower emissions within its day to day operations.

In 2009 the Green Energy Act, 2009; Energy Conservation and Demand Management Plans Regulation (O. Reg. 397/11) came into effect which requires public agencies to report on their 2011 energy consumption and greenhouse gas emissions as well as develop a five (5) year Energy Conservation Demand Management Plan (CDM). To meet the requirements of this Act, the Township of Killaloe, Hagarty and Richards will prepare and publish an “Energy Conservation and Demand Management Plan” (CDM), which will be composed of the following;

- Information on the annual energy consumption during the last year for which complete information is available for a full year;
- Goals and objectives for conserving and otherwise reducing energy consumption and managing our demand for energy;
- Proposed measures under our CDM plan, the cost and saving estimates for these proposed measures and the estimated length of time these measures will be in place; and
- Confirmation that Council has approved our CDM plan.

Our Commitment

The Township of Killaloe, Hagarty and Richards understands that energy conservation creates healthier environments in which to live and assists in lowering the costs associated with overall energy consumption within our Municipality. We are committed to reducing energy consumption and lessening costs through efficient use of energy and improving energy performance. The Township of Killaloe, Hagarty and Richards will ensure that the objectives presented in this plan are achieved and that progress towards those objectives is monitored on an ongoing basis and update as required under Regulation 397/11 of the Green Energy Act or any subsequent legislation.

Our Vision

The Township of Killaloe, Hagarty and Richards' vision is to reduce the total energy consumption through efficient use of energy and resources, while still maintaining an efficient and effective level of service to our customers and the general public. We will achieve our vision through the integration of energy efficiency facility infrastructure, operational efficiencies and building the foundation for energy awareness and knowledge within the corporation.

Goals (long-term):

The Township of Killaloe, Hagarty and Richards is committed to improving energy efficiency within our facilities and implementing procedures in order to reduce our operating costs, our energy consumption and associated greenhouse gas emissions. To help achieve these goals we are committed to;

- Maximizing fiscal resources through direct and indirect energy savings;
- Decreasing the environmental impact on our operations by reducing greenhouse gas emissions and ensuring wise use of resources;
- Improving the reliability of our equipment;
- Creating a culture of conservation within our Municipality; and
- Providing the guidance and leadership necessary to increase the education, awareness and understanding of energy management within our Municipality.

Overall Target:

Measurable and achievable targets are crucial to a successful long term energy conservation and demand management (CMD) plan. The Township of Killaloe, Hagarty and Richards is committed to reducing the consumption of fuels and electricity in all of its municipal operations between now and 2019 by 10%.

Objectives (short to medium term):

In order to achieve the success of our energy plan there are a number of objectives that align with its development and implementation;

- Ensure energy efficiency consistency across our Municipal facilities;
- Monitor and report on energy consumption in quarterly intervals;
- Analyze energy costs, seek savings opportunities, procurement options and take advantage of all available resources and funding for energy projects;
- Reduce the total energy consumption in Municipal facilities, normalized to weather conditions;
- Incorporate updated energy efficiency standards for building systems into leases and or construction projects;
- Invest in high-efficiency products and energy efficient sustainable design techniques when retrofitting building systems, repairing existing facility structures, designing new facilities and providing new office equipment.

Our Plan

The Township of Killaloe Hagarty and Richards continues to encounter rising costs in maintaining and repairing aging infrastructure which delivers services to our community. Through the development of a comprehensive energy management plan, conservation and efficiency will be a key consideration to our facility renewal actions. The following actions will assist in reducing our energy consumption and its related environmental impacts.

Key Actions

- We will review all business processes and modify them as necessary, in order to incorporate energy efficiency;
- The energy management plan will be coordinated with the Municipality's strategic plan, budget planning process, preventative maintenance plans, environmental management plan and the overall asset management plan;
- We will incorporate energy efficiency into standard operating procedures and the knowledge requirements for operational jobs;
- We will incorporate life cycle cost analysis into the design procedures for all capital projects;
- We will clearly designate leadership and overall responsibility for corporate energy management;
- We will provide information for operators, maintainers and other employees that have "hands-on" involvement with energy consuming systems in order to enhance their capacity to achieve energy efficiency improvements;

- Where feasible/practicable we will utilize internal resources for the implementation of energy projects;
- Our energy goals and objectives will be a factor in determining the selection of external consultants and energy suppliers;
- Training focused on the energy use and conservation opportunities associated with employees' job functions will be utilized whenever possible;
- We will negotiate energy purchase contracts that appropriately addresses cost considerations, available energy services, energy quality and reliability, and other performance factors;
- Our purchasing procedures will be modified as required to incorporate energy efficiency into the criteria for selection of materials and equipment;
- The design and/or acquisition of new buildings will include energy performance factors that use appropriate principles embedded in performance standards such as LEED and the Model National Energy Code for Buildings; and
- We will investigate and document options for the implementation of energy projects that utilize public-private partnerships, creative financing arrangements including energy performance contracting, and other creative approaches.

Our Management of Energy

The Township of Killaloe, Hagarty and Richards manages its energy using a combination of energy data management and energy supply management.

Our energy data management is managed through the Administrative Assistant. The data is received via supplier invoices, it is tracked and/or monitored and entered in chart form using an excel format. Reports are then generated from the information gathered.

Our energy supply management is supplied by the following providers; Electricity is supplied by Ottawa River Power and Hydro One, and propane, oil and fuel are supplied by McCarthy's Fuels. Electricity, propane, oil and fuel is supplied to the Municipality on an as needed basis and is priced at the standard rates offered by the providers.

Portfolio Description

The Township of Killaloe, Hagarty and Richards has a diverse inventory of buildings. The following portfolio description provides context for the energy opportunity assessment and is consistent with the Green Energy reporting requirements;

Administrative Offices and related facilities, including Municipal and Council Chambers:

Township of Killaloe, Hagarty and Richards Municipal Office

1 John Street
Killaloe, ON K0J 2A0

The Township of Killaloe, Hagarty and Richards Municipal Office is owned by the Municipality. The front part of this building was built in 1926, the middle portion was built in 1960 and the back part of this building was built in 1966. This building was purchased to provide the Municipality with additional space for administrative operations, as well as to provide extra administration space if required in the future. This building currently provides office and meeting space, Council Chambers, 2 tenants, and the Killaloe and District Public Library. Both the main office space and Council Chambers are 1055.8 square feet in size. The Municipal office is heated using Fuel Oil and Electric Heat and cooled using central air. The building operates from 8:30am – 4:30pm Monday to Friday. In addition, Council Chambers is used a minimum of 2 times per month for regular Council meetings, as well as on an “as needed” basis for Committee meetings and other Council related activities.

Works Department Office

16370 Highway 60
Wilno, ON K0J 2N0

The Works Department Office is attached to the Garage and is owned by the Municipality. This building was built in 1961, is used as office space and is 947.87 square feet. This building is heated using Fuel Oil heat and or an electric furnace and is cooled using a window air conditioner. The normal hours of operation for the Works Department Office is 7am – 3:30pm (8.5 hours a day)/year round, however is also utilized when Works Department personnel are called out for winter maintenance operations.

Storage Facilities where Equipment or Vehicles are Maintained, Repaired or Stored

Works Department Garage

16370 Highway 60
Wilno, ON K0J 2N0

The Works Department Garage is owned by the Municipality, was built in 1961 and is attached to the Works Department Office space. This space is 2,352.13 square feet and is used as a garage to house, maintain and repair municipal vehicles. It is also used to house one of our Municipal Fire Trucks. The Works Department Garage is heated using Fuel Oil and an electric furnace. The normal hours of operation for the Works Department Garage is 7am – 3:30pm (8.5 hours a day)/year round, however it is also utilized when Works Department personnel are called out for winter maintenance operations.

Works Superintendent Office

1 John Street
Killaloe, ON K0J 2A0

The Works Superintendent Office was built within the Municipal Office in June of 2013. The office space is 100 square feet. It is heated by a wall heater and cooled by a window air conditioner. The office operates 8:30am – 4:30pm five (5) days a week not including holidays.

Chief Building Official (CBO) Office

1 John Street
Killaloe, ON K0J 2A0

The CBO Office was built within the Municipal Office in June of 2013. The office space is 100 square feet. It is heated by a wall heater and cooled by a window air conditioner. The office operates 8:30am – 4:30pm five (5) days a week not including holidays.

Fire Stations and Associated Offices and Facilities:

Killaloe Fire Hall

5 Civic Street
Killaloe, ON K0J 2A0

Killaloe Fire Hall is owned by the Municipality and was built in 1955. The total floor area is 2,111.00 square feet. This building is used for the storage of firefighting apparatus such as fire engines and related vehicles, personal protective equipment, fire hoses and other specialized equipment as well as for training purposes. This building was heated using Fuel Oil and baseboard heat, however, in 2013 the main heating system was replaced with a Propane furnace (The part that houses the equipment had a new propane furnace installed, but there are plans to install another one in the meeting area, as the baseboard heaters are not sufficient to keep that part of the building at an appropriate temperature for meetings, training, etc.) The existing baseboard heaters were also retained. This building operates year round based on fire-call needs, approximately 24 hours a month.

Round Lake Fire Hall

2995 Round Lake Road
Round Lake, ON K0J 2J0

Round Lake Fire Hall is owned by the Municipality and was built in 1999. The total floor area consists is 2,498.80 square feet. This building is used for the storage of firefighting apparatus such as fire engines and related vehicles, personal protective equipment, fire hoses and other specialized equipment, as well as for training purposes. This building is heated using propane forced air and electric baseboard heat, and operates approximately 24 hours a month year round, based on fire-call needs.

Facilities Related to the Treatment of Water

Water Treatment Plant

226 Water Street
Killaloe, ON K0J 2A0

The Water Treatment Plant is owned by the Municipality. This building was built in 1993 and is heated using electric ceiling heaters. The Water Treatment Plant is used for the treatment of water in the Village of Killaloe and operates 24 hours a day/7 days of the week.

Facilities Related to the Treatment of Sewage

Wastewater Treatment Plant

113 Keetch Street
Killaloe, ON K0J 2A0

The Wastewater Treatment Plant building is owned by the Municipality and was built in 1979. This building is used for removing contaminants from wastewater and household sewage. The Wastewater Treatment Plant operates 24 hours a day/7 days a week.

Public Libraries

Killaloe and District Public Library

1 John Street
Killaloe, ON K0J 2A0

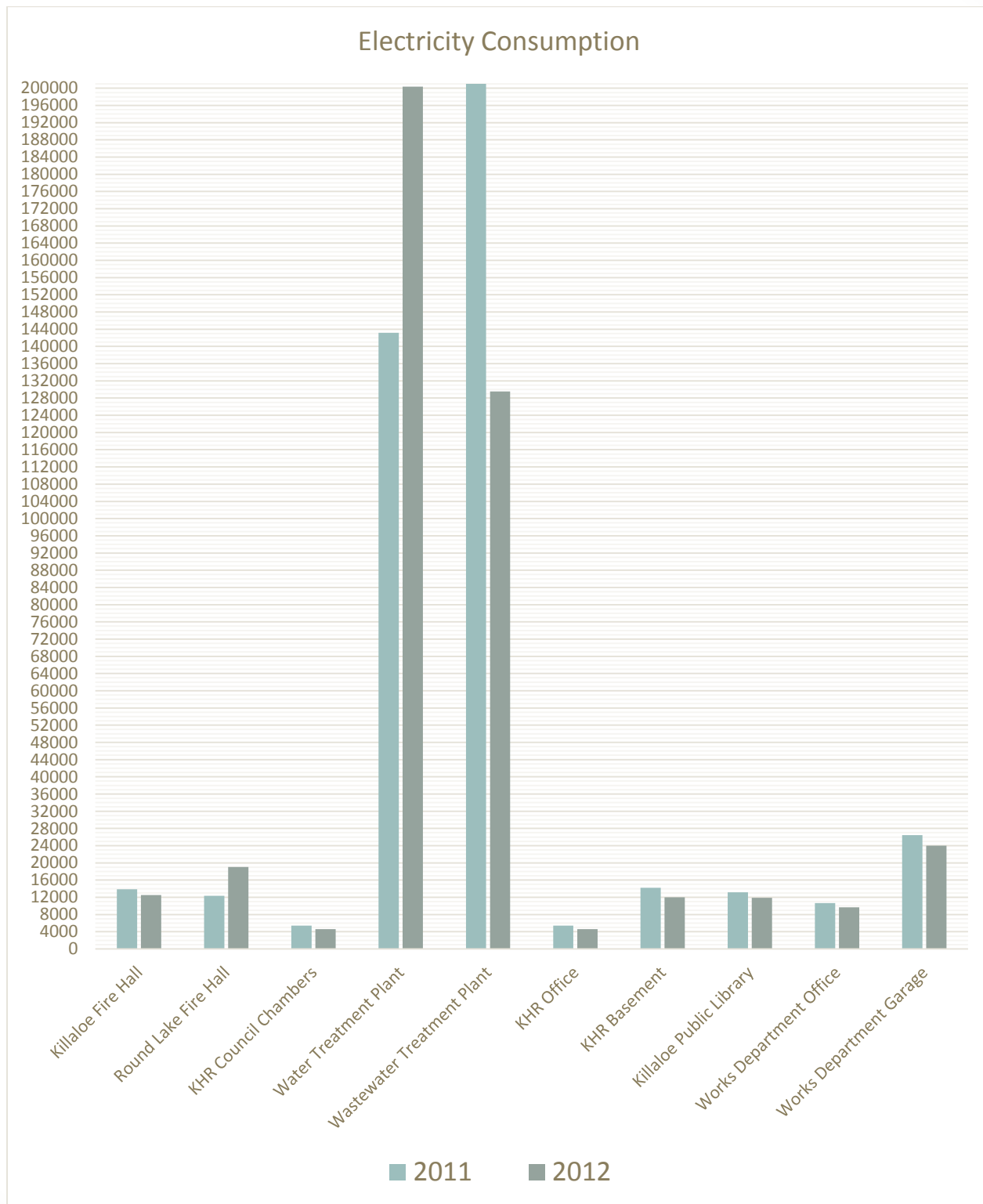
The Killaloe and District Public Library operates out of two (2) rooms within the Municipal building. This portion of the Municipal building was built in 1966 and is 1160 square feet. The Killaloe and District Public Library is heated using baseboard heaters and cooled using a window air conditioner. They operate 5 hours a day/Tuesday to Saturday.

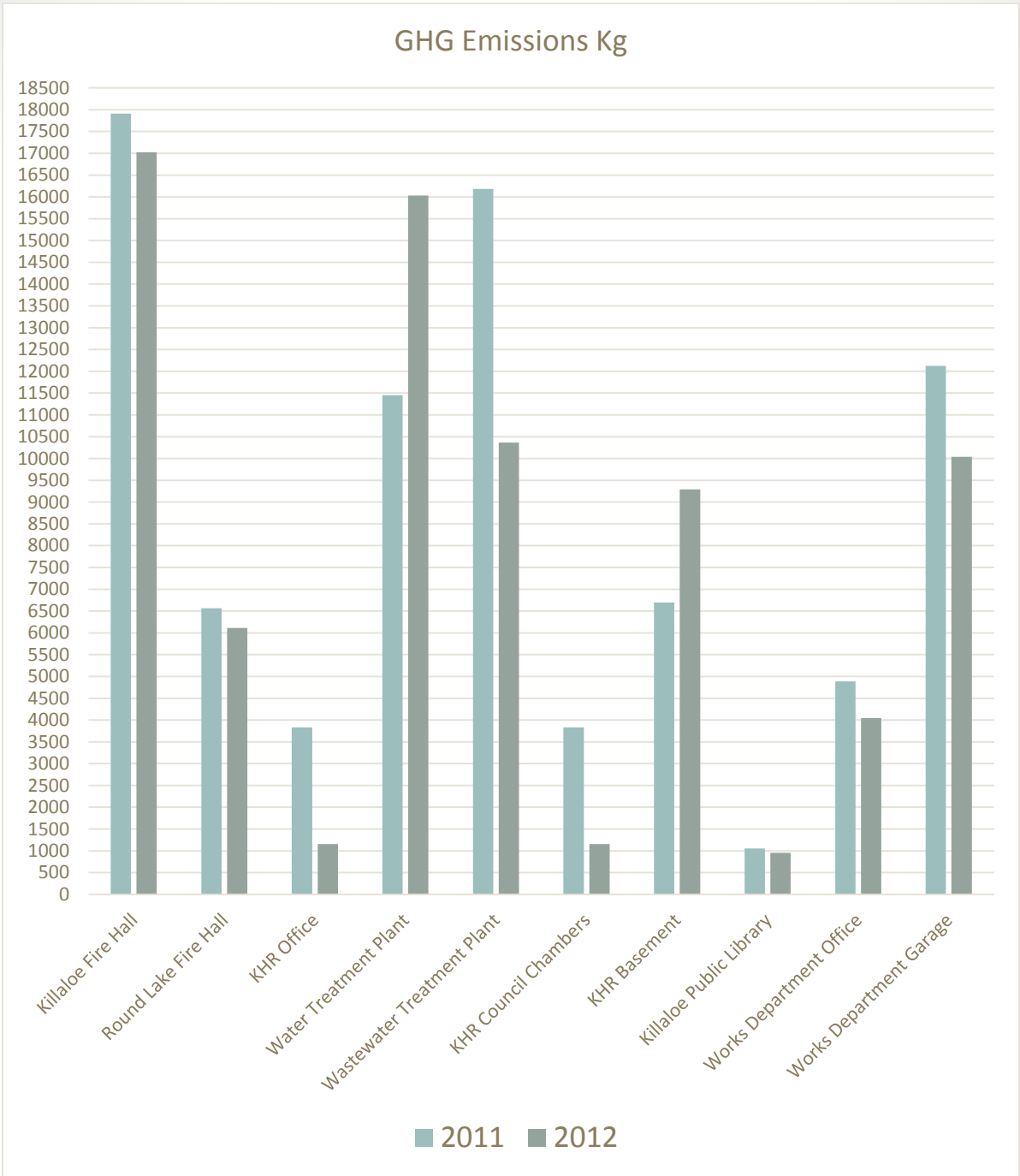
Summary of Current Energy Consumption

The Conservation and Demand Management Plan provides the Township with a living document that will continue to evolve, assist in meeting the requirements of the Green Energy Act, and support initiatives to reduce our impact on the environment as we continue to provide our services. As part of the first requirement of the Green Energy Act, energy consumption data for 2011 has been compiled, reported to the Province, published on our website and provided in hard copy at the Municipal Office. All Municipal facilities have been grouped by type for reporting purposes. Energy consumption profiles for each facility type of the Green Energy Act baseline consumption year have been developed; these include;

- Offices;
- Fire Stations;
- Maintenance; and
- Libraries.

Below are compiled statistics from 2011 and 2012. These statistics will provide a reference point to assist in guiding decisions made regarding operational activities, and where applicable, to improve efficiency and set energy consumption targets.

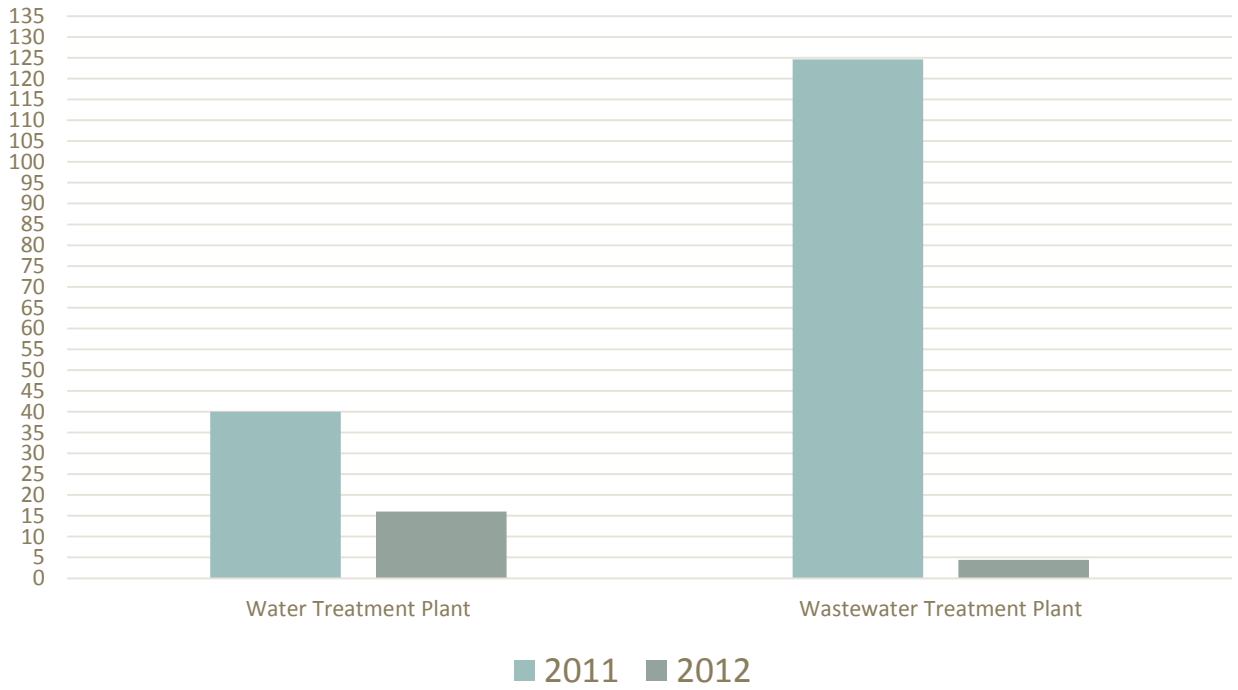


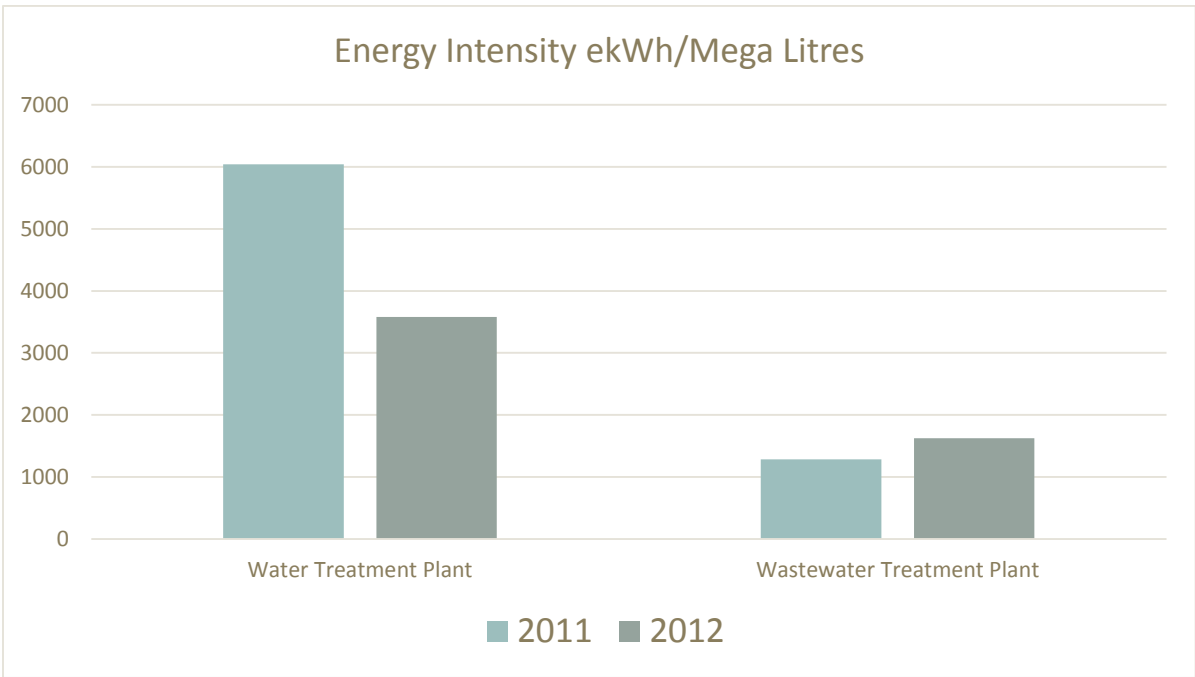
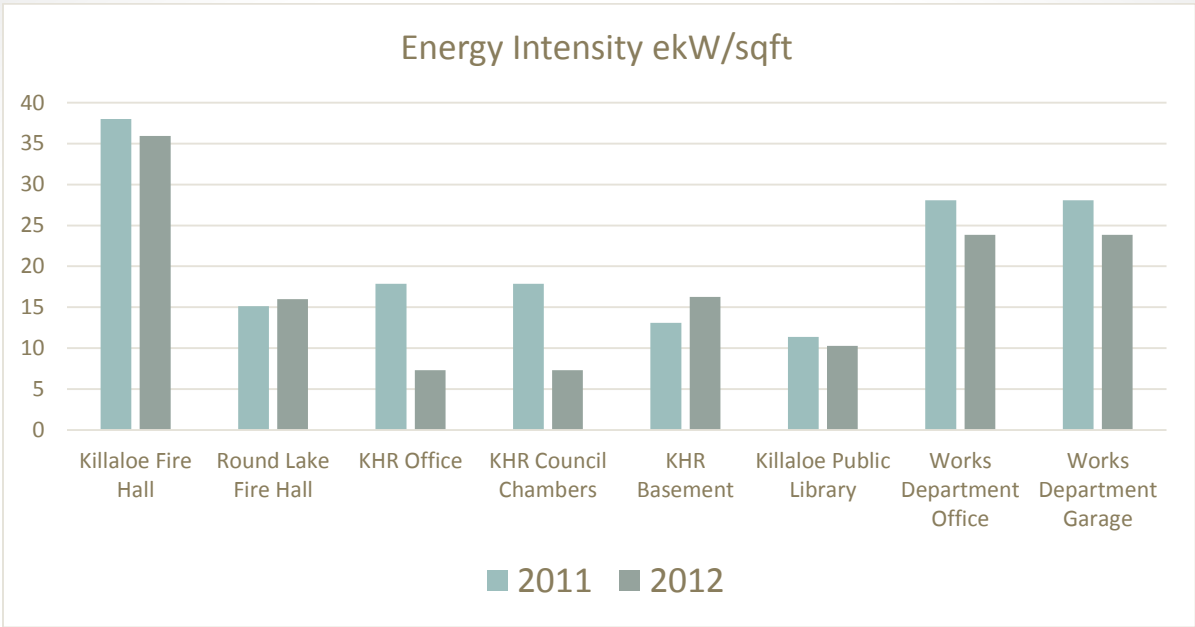


Fuel Oil Litres



Annual Flow Mega Litres





Previous and Current Environmental and Energy-Related Initiatives

In the summer of 2013 Local Authority Services (LAS) provided the Municipality with an energy audit walk – through assessment on the Municipal Office along with the Works Department Office and Garage and in the winter of 2014 Ontario Clean Water Agency (OCWA) provided the Municipality with an energy audit walk through assessment on the Water and Wastewater Treatment Plants. The information compiled from the assessments will be taken into consideration in Strategic Planning for the Municipality as well as this Conservation Demand Management Plan.

In 2013 renovations took place at the Killaloe Fire Hall. Insulation (r20) Roxul and drywall sheeting of adjoining wall between the Fire Truck Bays and Training Centre was installed. An Aluminum door with sweep was also installed. The existing oil furnace was removed and replaced with two (2) Reznor V3T Core 2 propane heaters with a thermal efficiency of 83%. The openings in exterior walls from the removal of the old oil system pipes and wires were sealed and an annual maintenance program was initiated for all oil and propane fired appliances in all Municipal Buildings.

In June 2013 two (2) utility rooms were renovated into offices (Works Superintendent Office and CBO Office). Both offices included insulating the exterior walls using r24 insulation. Fluorescent ceiling bulbs T8 were installed as well. Replaced existing wall mounted electric heaters with new energy efficient “Ouellet” wall mounted heaters and installed window mounted air conditioners – ComfortAire with R-410A: Model Rads61-J Energy Star rated.

Fluorescent ceiling bulbs in the Administration Office, Council Chambers, Main Hallway of Municipal Office, Round Lake Fire Hall, Killaloe Fire Hall, Round Lake Rink, Killaloe Rink, Information Booth, Works Garage, Works Office, Works Storage, Works Lunch Room, Water Treatment Plant and the Wastewater Treatment Plant were all changed from T12 to T8.

In May 2014 at the Wastewater Treatment Plant a current sensor on Blower #2 was installed and wired to the OCWA SCADA system. The purpose of the device is to give a reading of how much power the blower is using at any one time. The data collected will be used to inform us if the blower is running efficiently or not.

Next Steps

From the information gathered from the audits performed on some of our Municipal buildings the Township of Killaloe, Hagarty and Richards will consider the following equipment for our operations;

- HVAC equipment (e.g. boilers, chillers, pumps, motors etc.);
- Lighting and controls;
- Building envelope (e.g. roofs, insulation, windows and doors etc.);

- Building automation system controls;
- Process improvements; and
- Back-up generators.

The above mentioned projects will adhere to the following steps;

1. Project Identification and Feasibility;
2. Energy Audits, Feasibility Analysis or through detailed Condition Assessments;
3. Planning and Budgeting – Project Financing, Incentives, Business Case and Approvals;
4. Implementation – Tender, Request for Proposal, Project Execution, Project Management; and
5. Monitoring and Verification – Measure and Verify Results, Reporting Achievements. This will ensure that options for improving energy efficiency are considered, evaluated and quantified in terms of life cycle costing analysis, including cost maintenance and emission reductions.

In Conclusion

The Township of Killaloe Hagarty and Richards recognizes the importance of energy efficiency and conservation within the Municipality. Encouraging electricity conservation will reduce harmful emissions from fossil fuel and cut peak – demand electricity needs. The Township of Killaloe, Hagarty and Richards will take into consideration our energy use and work towards a culture of conservation.