Discover
KIRKLAND LAKE

June 18, 2019
Regular Meeting of Council

Moved By: _____

Seconded By: Stacy Wight

That Council accepts the Energy Conservation and Demand Management Plan as presented by the Acting Chief Administrative Officer.

Approved: _____
MAYOR PAT KIELY

The Corporation of the Town of Kirkland Lake
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KIRKLAND LAKE
THE RIGHT ENVIRONMENT

Energy Conservation and Demand Management Plan

2020-2024

July 1, 2019

Town of Kirkland Lake

Disclaimer: This document has been prepared by the Ontario Clean Water Agency on behalf of the Town of Kirkland Lake in accordance with Ontario Regulation 507/18 under the Electricity Act, 1998 for submission to the Ministry of Energy, Northern Development and Mines. This Plan is constantly evolving and may be revised to reflect the most current information and circumstances. The Town of Kirkland Lake, its council, directors, officers, shareholders or representatives do not accept any liability whatsoever by reason of, or in connection with, any information in this document or any actual or purported reliance on it by any person. The Town of Kirkland Lake may update any information in this document at any time.

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Executive Summary

The Town of Kirkland Lake retained the Ontario Clean Water Agency (OCWA) to update the Town's 2014 CDM Plan by incorporating the experience gained in energy conservation over the last five years. This updated CDM plan was developed as per the regulation and guidelines provided by Ministry of Energy, Northern Development and Mines and covers the period from 2020 to 2024. The plan was presented to Council and approved on June 18, 2019.

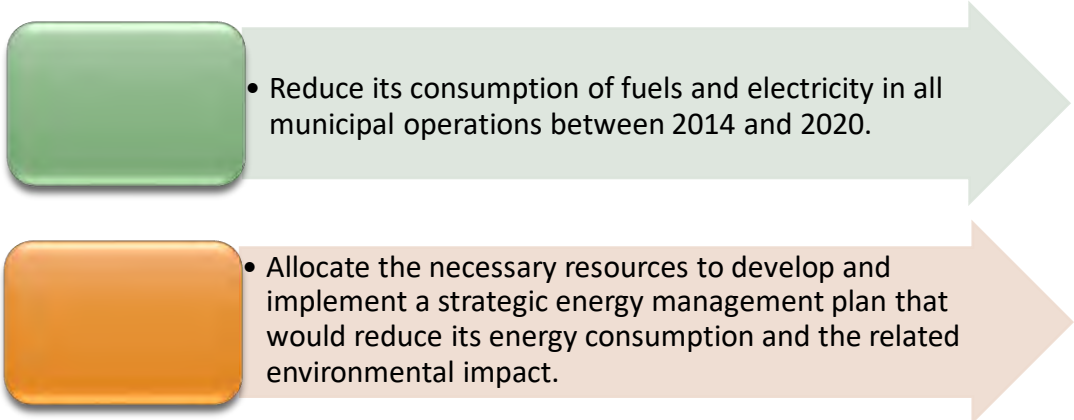
The updated plan describes our Town's:

- Energy conservation goals and objectives;
- Current and proposed energy conservation measures;
- Results from the first CDM plan; and
- Changes made from the previous plan to help achieve the new goals and objectives.

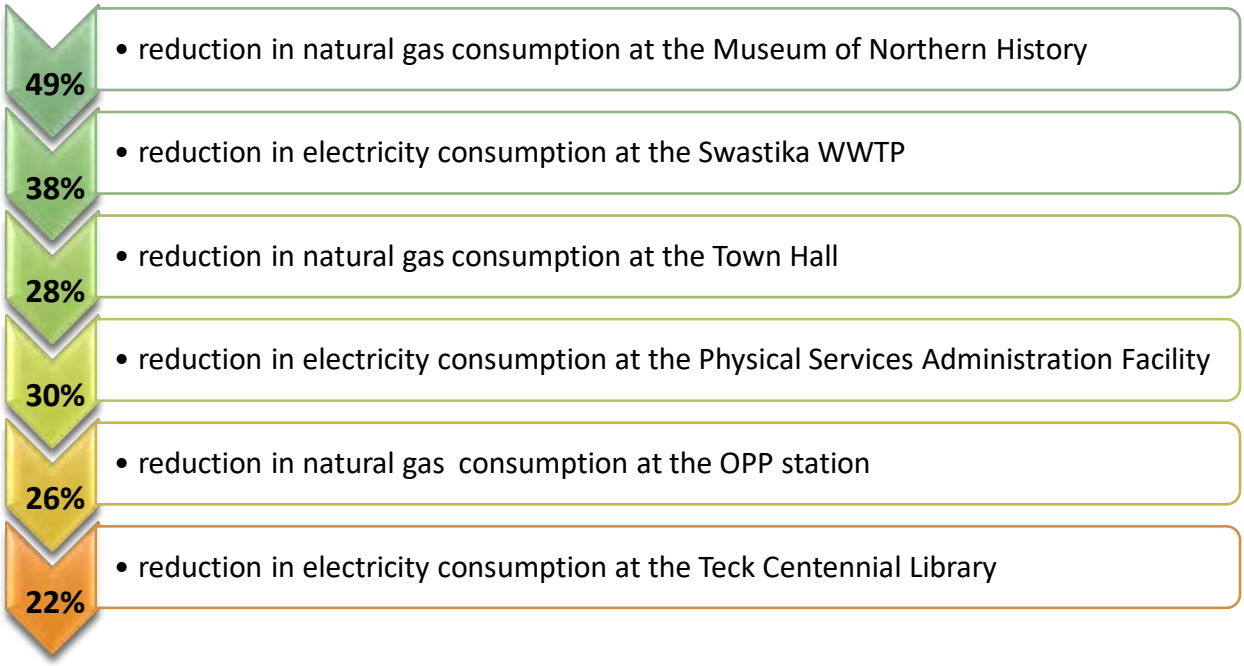
The Town of Kirkland Lake is committed to the promotion of responsible energy management, through the implementation of economically viable energy efficiencies and environmental care throughout all facilities, plants and equipment in a fiscally responsible manner. The Municipality will take reasonable efforts to minimize impacts to the environment when allocating resources, while recognizing the needs of our residents and visitors.

The Town of Kirkland Lake will exercise stewardship in the use of finite resources to demonstrate leadership, optimize our delivery of services, and enhance the overall quality of life in the community. We will strive to continually reduce our total energy consumption and associated carbon footprint through wise and efficient use of energy and resources, while still maintaining an efficient level of service for our clients and the general public.

In 2014, the Town of Kirkland Lake pledged to:



From 2014 to 2019, variable factors such as weather as well as the addition or expansion of physical assets limited the achievement of these goals. Nevertheless, significant reductions achieved included:



Overall electricity consumption and overall natural gas consumption across all municipal buildings reported on increased by 8% and 1% respectively by 2018 compared to the 2014 baseline.

The Town of Kirkland Lake has taken significant steps in reducing the amount of energy consumption throughout municipal facilities and equipment. While the Town is still working to meet its conservation objectives from the 2014 plan, we recognize measures can take place to ensure savings continue to grow and that new conservation measures are identified and acted upon.

The Town of Kirkland Lake will thus strive to ***reduce our overall energy consumption by 5% in municipal operations by 2025 from the 2018 baseline***. This Energy Reduction Target will apply to all departments and facilities owned by the Municipality. Included herein are the measures that will be undertaken to support the achievement of that goal.

Introduction

In 2014, the Town of Kirkland Lake developed a five year Conservation and Demand Management (CDM) Plan for the Town in compliance with the requirements of *Ontario Regulation 397/11* under the *Green Energy Act*, 2009 (Broader Public Sector: Energy Reporting and Conservation and Demand Management Plans). This regulation was revoked on January 1, 2019 and replaced with *Ontario Regulation 507/18* under the *Electricity Act*, 1998.

Under *Ontario Regulation 507/18,* the requirements for broader public sector energy planning and reporting are identical to those under the former *Ontario Regulation 397/11*.

Under *Ontario Regulation 507/18*, all BPS organizations, including municipalities and townships, are required to report annually on energy use and greenhouse gas (GHG) emissions. The organizations are also required to develop a five year CDM plan and update it every five years, with the first update due July 1, 2019.

The Town of Kirkland Lake retained the Ontario Clean Water Agency (OCWA) to update the Town's 2014 CDM Plan by incorporating the experience gained in energy conservation over the last five years. This updated CDM plan was developed as per the regulation and guidelines provided by Ministry of Energy, Northern Development and Mines and covers the period from 2020 to 2024. The plan was presented to Council and approved on June 18, 2019.

The baseline GHG emissions and energy consumption report reflects data gathered and submitted to the Ontario Ministry of Energy, Northern Development and Mines on July 1, 2013 for the year 2011, as required by *O. Reg. 397/11*. In order to review the results and accomplishments of the 2014 to 2019 CDM plan targets and objectives and to determine the present state of energy management in the Town of Kirkland Lake, we have summarized the energy and GHG reports for 2014 to 2018. Additionally, this plan incorporates historical data of energy use and actions and steps already taken with the intention of realizing energy savings.

The plan describes our Town's:

- New energy conservation goals and objectives;
- Current and proposed energy conservation measures;
- Results from the first CDM plan; and
- Changes made from the previous plan to help achieve the new goals and objectives.

In addition to energy conservation, the updated CDM plan supports our future capital and other corporate development plans as may be approved by Council. This CDM Plan is intended to serve as a guide for staff and Council during the capital planning and budgeting process.

The Town of Kirkland Lake is faced with increasing infrastructure costs for roads, bridges, sewer, water and distribution as well as increasing energy costs affecting all of its facilities. As such, the Town of Kirkland Lake must explore all avenues for cost savings, including energy efficiency projects. In that sense, ***this plan represents an important financial tool for the Town of Kirkland Lake.***

Hard copies of the plan are available at the Town Hall located at 3 Kirkland Street in Kirkland Lake.

Municipal Energy Background

Increased economic activity in Ontario results in a rise of GHG emissions and presents a challenge to fulfilling the provincial environmental objectives expressed in the government's Made-in-Ontario Environment Plan.

Optimizing energy consumption will be essential if we are to meet future energy needs and witness a global transition to sustainable energy sources. The Town must implement changes in the way we use energy to meet our needs (energy conservation) and use the most efficient equipment and measures (energy efficiency) to reduce consumption and costs.

Energy consumption and costs are relatively high in Ontario. The figure below shows the significant increase in electricity costs over the last decade, taxing municipal reserves.

In 2014, the primary source of energy for municipal operations (facilities, social housing, and street lighting) in Ontario was electricity (63%) and natural gas (35%), with minor use of other fuels including hot water and steam from district heating, chilled water from district cooling, propane, and fuel oils. Municipalities spent an estimated $917 million on electricity and $105 million on natural gas in 2014[1].

[1] Ontario Municipal Energy Profile, ICF, 2018

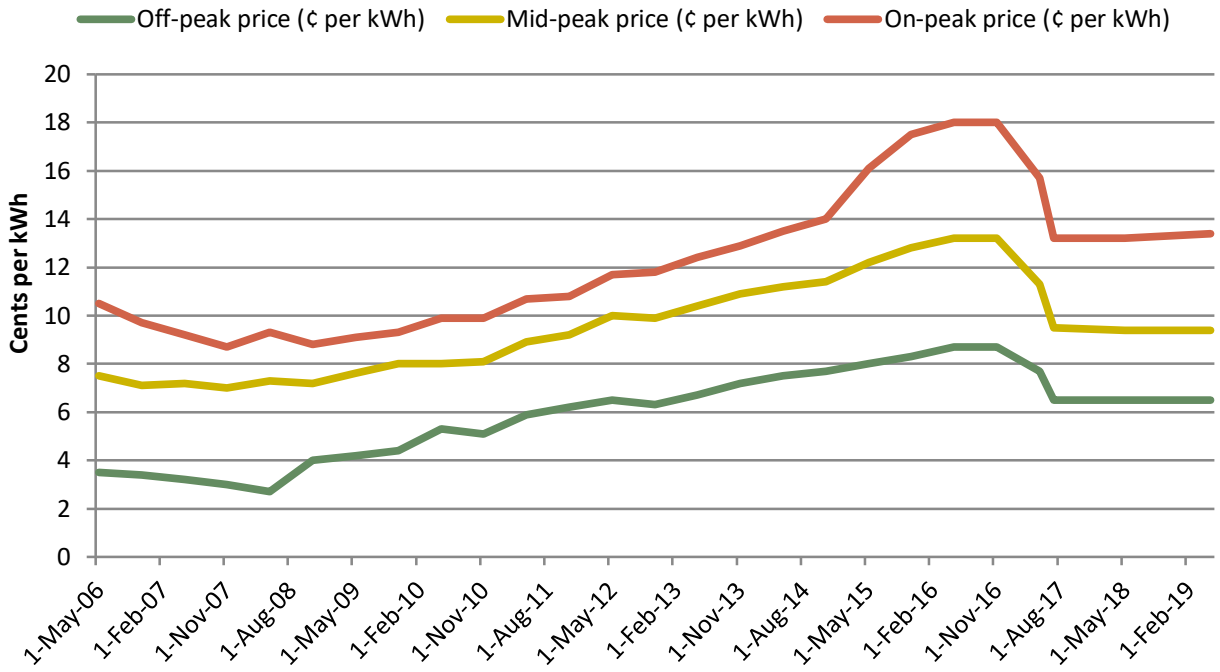


Figure 1: Historical TOU Electricity Rates[2]

The Ontario water and wastewater treatment sectors are the largest municipal electricity consumers, representing more than a third of annual electricity consumption. In 2011, water and wastewater systems used about 1,815 gigawatt-hours (GWh) of electricity (enough to power about 200,000 homes) and 40 million m^3 of natural gas (enough to heat approximately 15,000 homes). This energy use may rise due to ever-more stringent treatment requirements, but these systems also have many opportunities to become more energy efficient, and even to generate renewable energy.[4]

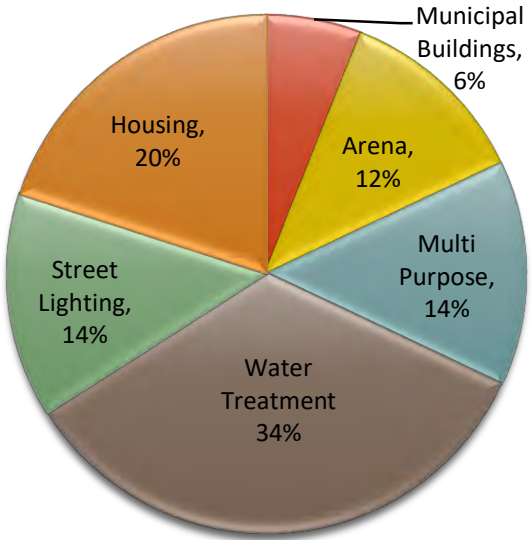


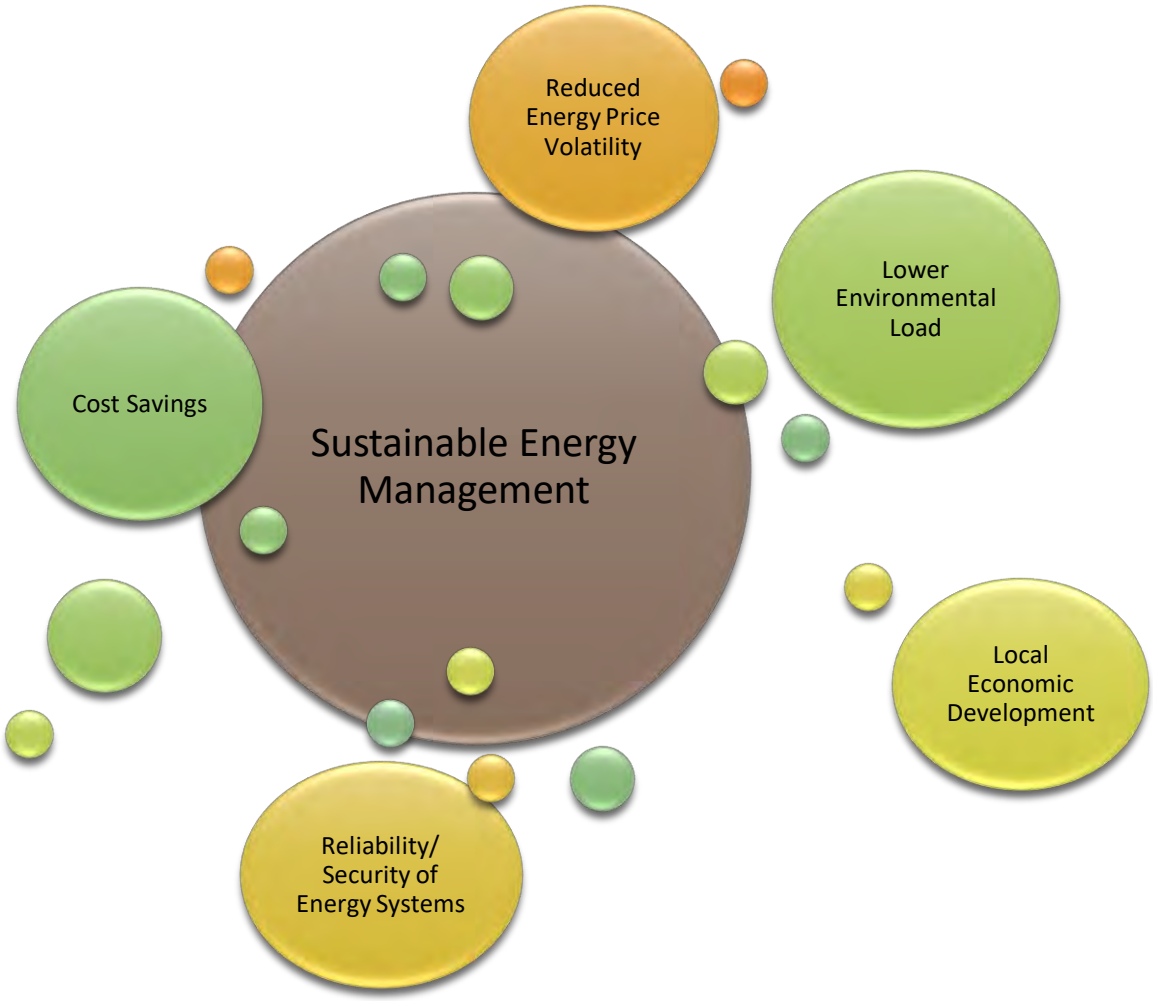
Figure 2: Municipal Energy Use by Sector in Ontario[3]

[2] Ontario Energy Board, 2019

[3] Study Report: Market Characterization & Conservation Potential for Ontario's Drinking Water & Wastewater Treatment Plants (Dec. 2018), IESO, Posterity Group, 113.

[4] Every Drop Counts, ECO, 2017

Managing municipal energy consumption efficiently means providing the same services with less energy. Energy conservation measures are often the lowest cost options for providing many other environmental, economic and social benefits. This also results in cost savings, lower environmental load by avoiding GHG and local air, water and land emissions associated with energy production and consumption, local economic development opportunities and associated new jobs, enhanced reliability of energy systems, and reduced price volatility, and improved energy supply security.

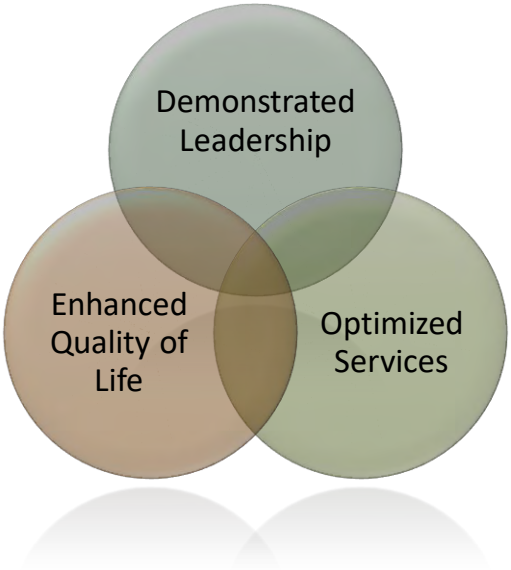


Commitment

The Town of Kirkland Lake is committed to the promotion of responsible energy management, through the implementation of economically viable energy efficiencies and environmental care throughout all facilities, plants and equipment. The Municipality will take reasonable efforts to minimize impacts to the environment when allocating resources, while recognizing the fiscal realities of the Corporation and the needs of our residents and visitors.

Vision

The Town of Kirkland Lake will exercise stewardship in the use of finite resources to demonstrate leadership, optimize our delivery of services, and enhance the overall quality of life in the community. We will strive to continually reduce our total energy consumption and associated carbon footprint through wise and efficient use of energy and resources, while remaining fiscally responsible and still maintaining an efficient level of service for our clients and the general public.



Goals

The Town of Kirkland Lake's Energy Conservation and Demand Management Plan was completed to help achieve the following goals:

- Improve the energy efficiency of our facilities by utilizing best practices to reduce our operating costs, energy consumption and greenhouse gas emissions;
- Maximize fiscal resources and avoid cost increases through direct and indirect energy savings;
- Reduce the environmental impact of the municipality's operations;
- Improve the reliability of the municipality's equipment and reduce maintenance costs;
- Create a culture of conservation within the municipality by integrating the energy conservation plan with the capital plan, capital asset policy and financial plan;
- Adopt standard processes that incorporate a culture of conservation and innovation within all levels of the decision-making process.

2014-2019 Energy Targets and Consumption

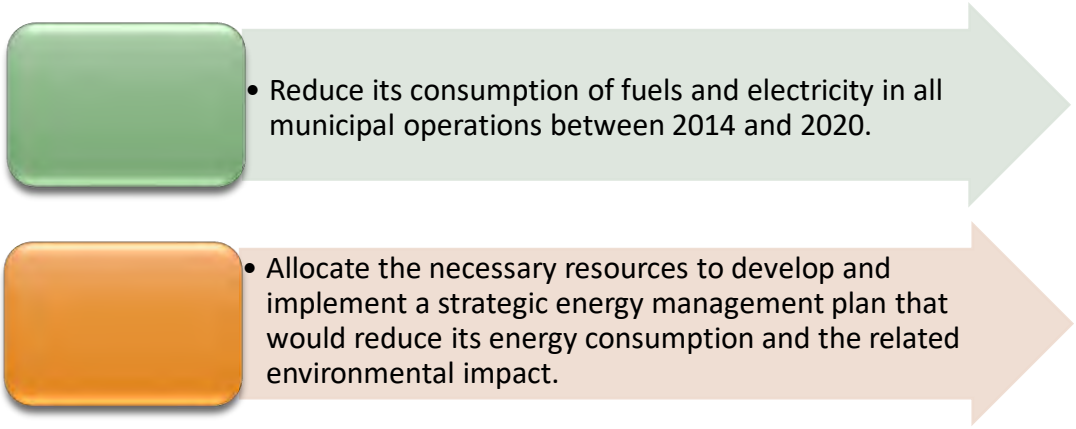
Tracking Energy Consumption and Savings

Annual energy reporting is required under the regulation and allows our Town to understand how energy is used in our buildings, identify potential energy conservation opportunities and track progress on energy conservation efforts. In addition to including the municipality's 2017 annual energy report as required under the regulation, we have also included and considered our 2018 annual energy consumption information, which helped us to report on our achievements and inform the development of new measures (see Schedule 1).

Overall electricity consumption and overall natural gas consumption across all municipal buildings reported on ***increased by 8% and 1% respectively*** by 2018 compared to the 2014 baseline.

2014-2019 Energy Reduction Targets

In 2014, the Town of Kirkland Lake pledged to:

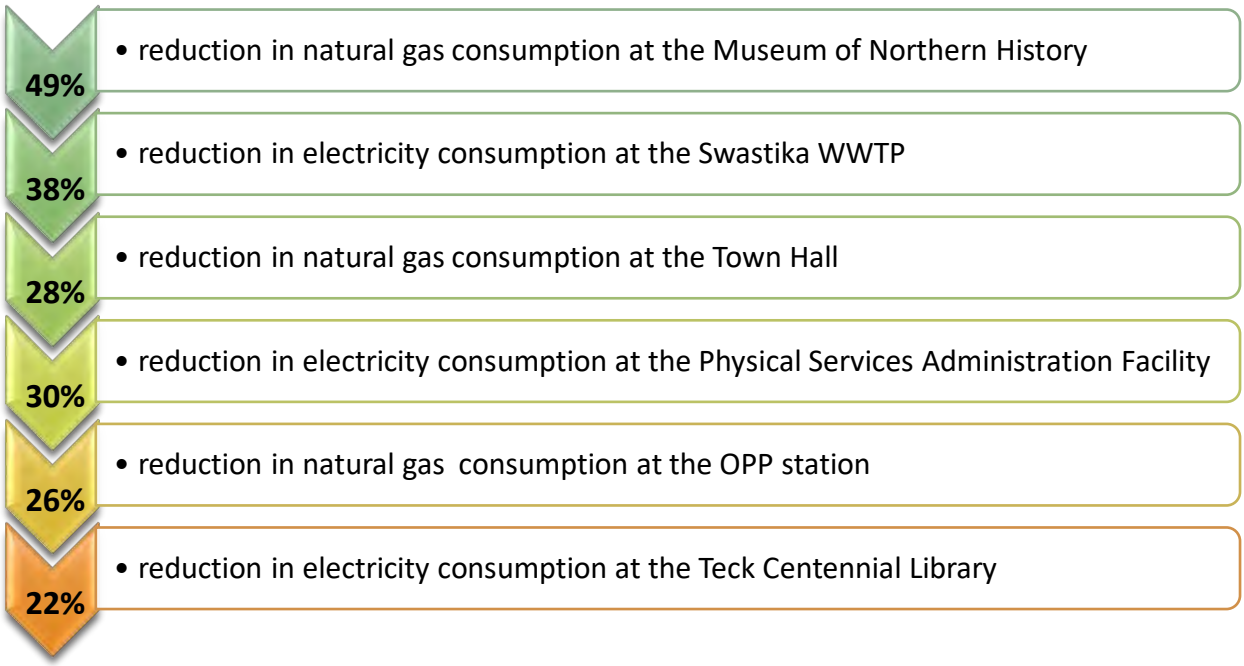


The Town of Kirkland Lake has taken significant steps in reducing the amount of energy consumption throughout municipal facilities and equipment. The Town monitors on a monthly and yearly basis the hydro usage of each municipally-owned building. The hydro usage data is analyzed and used for targeting possible cost/energy efficiency measures.

Our staff by teamwork, communication and commitment will be able to find more efficient and effective ways to reduce consumption of energy during the delivery of municipal services to the citizens of Kirkland Lake.

2014-2019 Energy Consumption Summary

From 2014 to 2019, the greatest reductions achieved at the Town of Kirkland Lake were:



The following are major projects that have contributed to reducing energy consumption in Town-owned facilities:

Year	Facility	Project	Status
2014	Teck Pioneer Residence	HVAC Upgrade	
2014	Daycare	Furnace Upgrade	Complete
2014	Heritage North	LED Lights Upgrade	Complete
2015	Physical Services Garage/Admin	Boiler & Renovations	Complete
2015	Heritage North	Heating Upgrade	Complete
2015	Town Hall	Rooftop Furnace Replacement	Complete
2015	Street Lights	LED Streetlight Replacement	Complete
2015	Joe Mavrinac Complex	Arena LED Light Replacement	Complete
2016	Street Lights	King George Street Lighting	Complete
2016	Civic Service Stadium	Civic Service Stadium Upgrade	Complete
16/17	Water Treatment Plant	Replacement of 4 high lift pumps	Complete
2017	Library	Furnace Replacement	Complete
2017	Physical Services Garage/Admin	LED Lighting Upgrade	In Progress
2018	Kirkland Lake WWTP	SCADA upgrades	Complete
2018	Library	Roof Replacement	Complete

2018	Joe Mavrinac Complex	Elevator Modernization	Complete
2018	General	Solar Panels Project	In Progress
2019	Kirkland Lake WWTP	Aeration blower/ filters repairs	Complete

In addition to the municipality benefitting from reducing its energy use, residents and local businesses also benefit from more efficient use of tax payer dollars and better maintained/operated public buildings and facilities.

Please see Schedule 1 for a detailed analysis of the Town's energy consumption from 2014 to 2018.

Updates on 2014 CDM Plan

The 2014 conservation objectives were established to help guide the Town in its capital and operational planning. Those objectives were not necessarily met, as variables such as unexpected inclement weather affected seasonal energy usage, while the addition of new assets such as the Aquatic Centre changed the Town's energy footprint. The municipality recognizes that it must continue to explore and implement creative conservation measures. Our key changes to ensure that this happens include monitoring best practices in other municipalities, working with the utility companies to identify and take advantage of cost saving opportunities, establishing a CDM Team to coordinate corporate efforts and ensuring staff are trained on energy conservation.

The CDM plan will be reviewed by our CDM Team on an annual basis to review the results of the proposed measures and determine if adjustments to the plan are required. Initiatives may be added to the plan as new opportunities arise. Updates to the plan will be posted on the municipality's website.

Looking forward: 2020-2024

Concerns over ever-increasing energy prices and the negative impact of fossil fuels on the environment have raised interest in energy conservation, sustainability, and predictable energy rates.

The Town of Kirkland Lake will thus strive to ***reduce our overall energy consumption by 5% in municipal operations by 2025 from the 2018 baseline***. This Energy Reduction Target will apply to all departments and facilities owned by the Municipality.

The Town commits to the following objectives for the 2020-2024 period:

1

- Improve the municipality's understanding of energy consumption through integrating this as part of our operational planning.

2

- Increase staff awareness and motivate staff to use energy more efficiently.

3

- Improve awareness of climate change and greenhouse gas emissions through promoting public awareness.

4

- Report energy performance changes and improvements annually.

5

- Improve the efficiency of energy use through low–cost opportunities by implementing the following:
  - Integrating energy efficiency as part of our capital and operational planning;
  - Implementing applicable operating and maintenance practices;
  - Employee training, and staff awareness;
  - Developing and implementing an applicable monitoring and tracking system; and Energy Demand Management program.

Proposed Energy Conservation Measures

Energy conservation projects can be categorized as technical (switching outdoor lighting from high pressure sodium to LED), behavioural (running a daylight harvesting campaign, where lights are turned off on sunny days), or organizational (establishing a green team).

Potential energy conservation projects were identified by comparing building-level energy benchmarks to the median energy benchmark for that building type. The following is a list of energy conservation measures that will be further investigated for implementation by the Town of Kirkland Lake from 2020-2024.

Proposed Measures

Technical Measures

Efficiency Measure	Status
Install variable frequency drive on raw sewage pump	In progress
Replace old boilers with new high efficiency boilers of proper size	As replacement occurs
Reduce AC operating hours, turn off reheats and stop controlling humidity levels during the cooling season	In progress
Use open windows and passive cooling when mechanical air conditioning is not needed	In progress
Maximize night, weekend and holiday temperature setbacks	In progress
Replace old motors, pumps, and air handling units with high efficiency ones with variable speed drives (VSDs) on motors	As replacement occurs
Explore additional heat recovery systems and improvements for applicable assets (ie aquatic centre)	To be investigated 2021
Switch to direct digital control energy management systems	Being explored as applicable
Require white/off-white wall paint for maximum light reflectivity	Ongoing as opportunities arise
Decommissioning of Swastika WWTP and pumping to KL WWTP	In development

Behavioural Measures

Efficiency Measure	Status
Place poster near kitchen/bathroom sinks reminding users to limit water usage where appropriate	To be implemented 2020
Place poster/sticker near light switch in rooms reminding users to turn off lights when no one is in the room	To be implemented 2020
Continue to ensure the temperature of facilities meets the needs of the users	Ongoing
Harvest day light where possible by opening blinds instead of	Ongoing

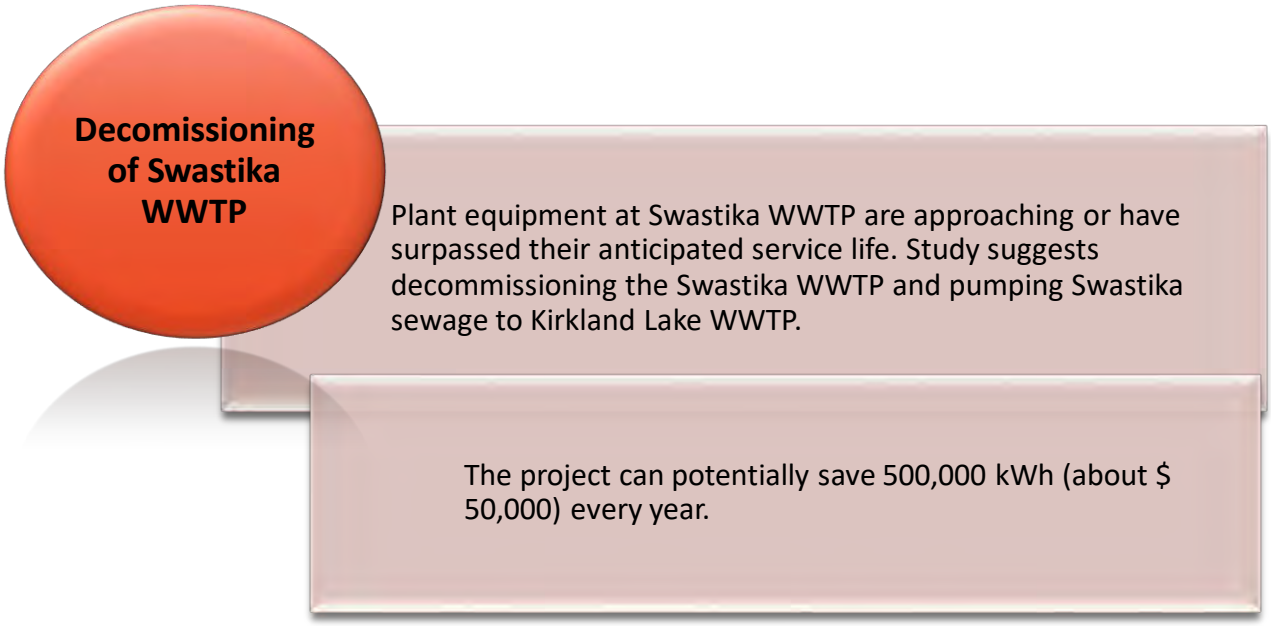
using electric lighting	
Close windows when air conditioning is in operation	Ongoing

Organizational Measures

Efficiency Measure	Status
Creation of a CDM Team	To be completed 2020

Renewable Energy Projects

Efficiency Measure	Status
Investigate options for solar energy	Pending



Plan Implementation

Ontario Regulation 507/18 requires increased municipal energy management and engagement. Development of an energy conservation strategy as part of an overall sustainability plan is a complex process. The main driver for a local municipality to change the way energy is used, relates to fiscal benefits and financial incentives. Energy is a manageable input to the business process, much like any other resource cost. The Town of Kirkland Lake is maintaining and developing current and planned services that continue to be affordable to taxpayers.

Current practices must be enhanced and new approaches must be developed. To meet these needs, the Town of Kirkland Lake will consider designing a comprehensive program for

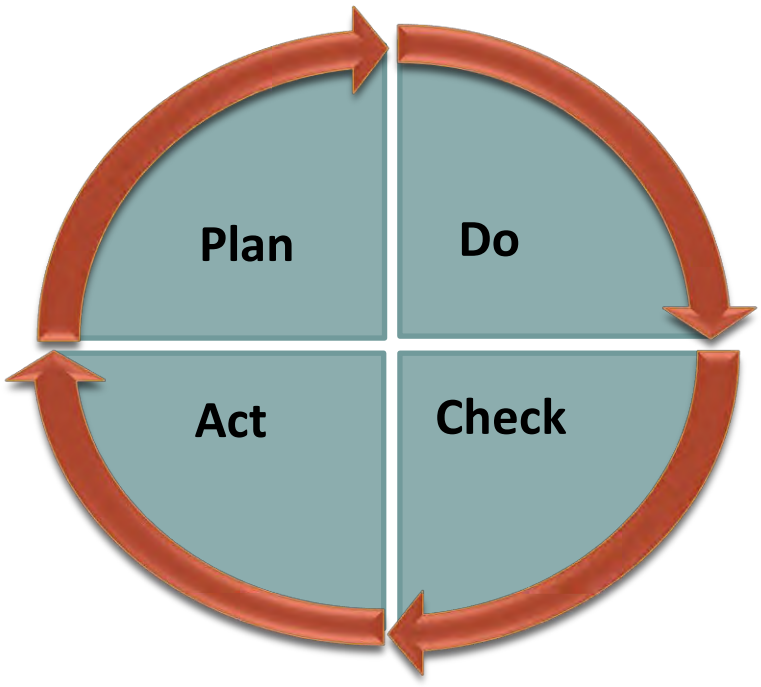
collecting and analyzing monthly energy billing information, and ensuring that staff is informed about energy consumption. The resulting energy costs and consumption database will be used to monitor excessive variations, targeting facility follow-up assessments, and determining areas that could be candidates for improved conservation. These monitoring enhancements will improve the Town's understanding of the bottom line impact of energy management.

In order to establish a baseline for managing energy costs, the Town has captured information critical to energy management planning. This formalizes the process involved in understanding the relative magnitude of energy costs, the possible ways to reduce energy use, energy targets that are likely to be achievable, and other associated activities that need to occur.

This CDM Plan provides the "big picture" view as an ongoing framework for optimizing overall energy use and achieving success.

CDM Planning is intended to be a process of "continuous improvement." The Town of Kirkland Lake will aim to follow *ISO 50001*'s four step plan–do–check–act management methodology, used in business for the control and continuous improvement of processes.

Figure 3: ISO 50001 Plan-Do-Check-Act Project Planning Cycle



PLAN

Establish the energy conservation objectives and processes necessary to deliver results in accordance with the expected outputs: the energy conservation targets or goals. Start on a small scale to test possible effects and financial feasibility. Develop an Energy Conservation Demand Management Plan prioritizing budgets, resources, and timelines.

DO

Implement the plan and collect data for analysis in the following "CHECK" and "ACT" steps. Develop projects' design and execution, preparing status reports, and implementing the communication strategy.

CHECK

Study the actual results (measured and collected in "DO" above) and compare against the expected results (targets or goals from the "PLAN") to ascertain any differences. Evaluate any deviations in implementation from the plan and also evaluate the appropriateness and completeness of the plan to enable the execution, i.e., "Do".

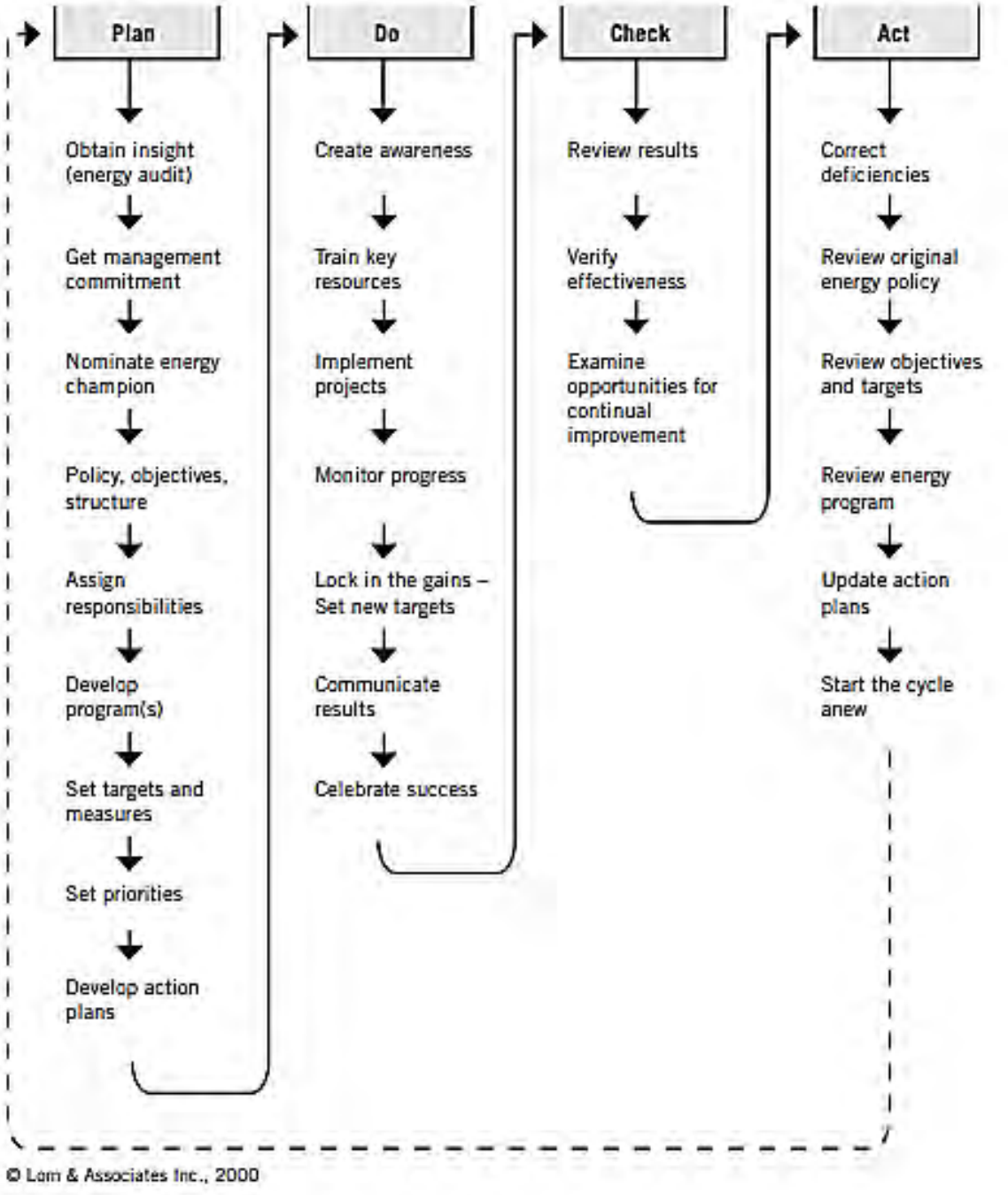
ACT

Recommend improvements and adjustments to the initial plan; determine the course of corrections and modifications to the plan.

The Town of Kirkland Lake implements tools to maintain and continually improve energy conservation and demand management. Benchmarking is the process that the Town has implemented for collecting, analyzing and relating energy performance data of comparable activities to evaluate and compare performance between or within entities.

The detailed energy conservation project planning process is visually illustrated below.

Energy Conservation Project Planning Process[5]

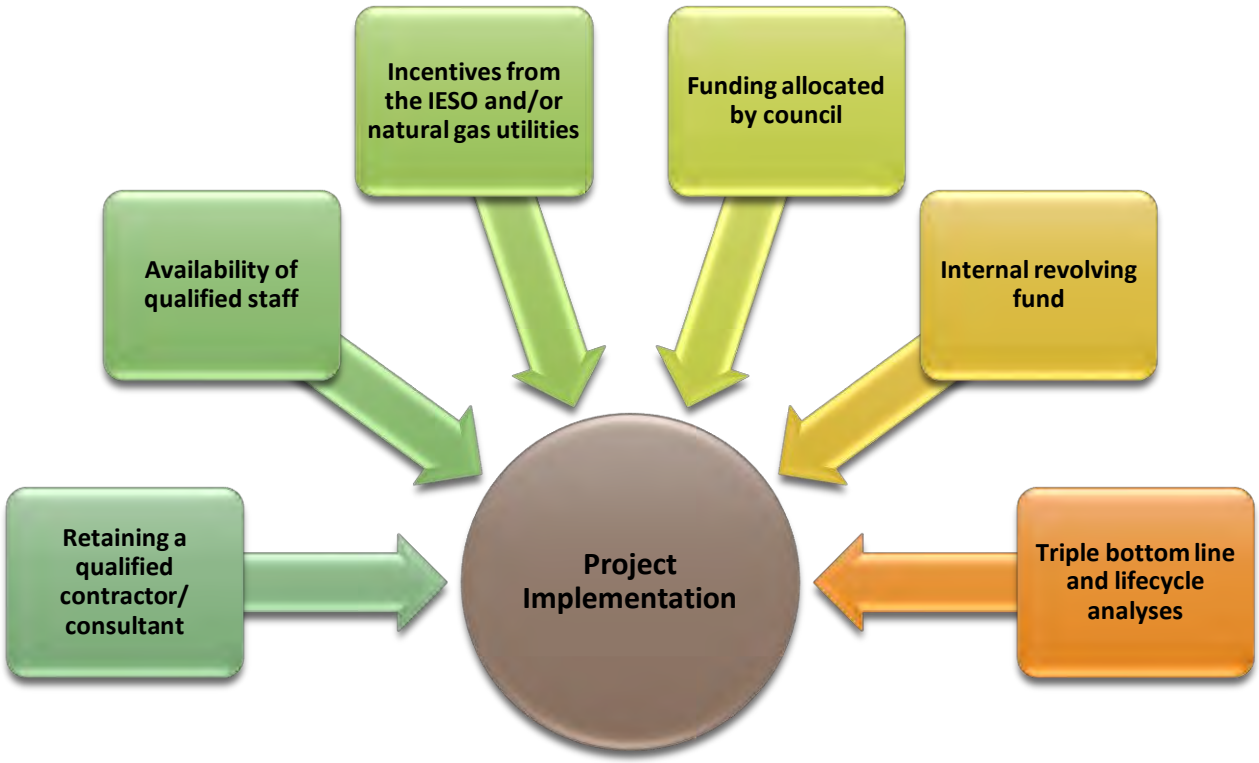


[5] Energy Efficiency Planning and Management Guide, CIPEC, 2002

Evaluation Metric Development

Energy conservation projects will be evaluated using an internal rate of return (the rate of interest the project could generate), along with simple payback (the number of years it would take to pay off the project from the savings). Hydro cost savings and life cycle analysis will be used to derive these parameters. In addition, more costly conservation projects will be bundled with more cost-effective ones to ensure their successful implementation.

Implementation of the proposed projects depends on:



Progress on projects will be monitored using the annual energy reports prepared under the regulation. A separate summary for each project will be prepared and archived.

Timelines

Timelines are assigned based on measures/facility prioritization. These timelines allow for flexibility during implementation, and will be dependent upon the costs/incentives and business decisions driven by the Town of Kirkland Lake. We will carry out the required development of business procedures and communication programs and implement them methodically according to the planned timelines within the resource constraints that apply.

Responsibilities

The Conservation and Demand Management (CDM) Team and Senior Staff are responsible for implementation of the conservation measures. Additionally, the Town of Kirkland Lake will establish guidelines, and/or use discretion to determine accountability for implementation.

We will use department and facility CDM team representatives to facilitate the implementation of facility-level business procedures and communication initiatives, including energy performance reporting.

Energy Leader

The Town directors will be responsible for coordinating capital projects within their respective departments that are energy efficient and align with this document's goals and objectives. The directors will be responsible for ensuring their staff become aware of their energy usage.

Energy Purchasing

Currently, all Town-owned hydro and natural gas accounts are enrolled with LAS to ensure continued energy and expenditure reductions and increased revenues.

Strategic Planning

This plan will become an integral component and be coordinated with the municipality's budget planning, strategic plan, purchasing policy, asset management plan, and the policy development process.

The Town of Kirkland Lake is fully committed to making available any information relating to municipal energy conservation initiatives in the community. The Town will work with other stakeholders, agencies and organizations to achieve energy consumption and greenhouse gas emissions reduction. Public dissemination of the CDM Goals and Objectives will encourage successful implementation of the Plan.

The role of implementation and progress monitoring will fall upon the CDM Team. The Team will ensure that both the capital projects and behavioural changes outlined in this Plan are maintained on a continuing basis seeing as ***managing energy consumption is important to both environmental and financial good stewardship.***

Monitoring and Evaluation

We will review and evaluate our energy plan, revising and updating it as necessary, on an annual basis within our corporate planning process.

Annual Energy and GHG Emissions Reporting and Five-Year Plan Update

Ontario Regulation 507/18 requires that the Town of Kirkland Lake report on the results of the CDM Plan at the end of the five-year planning period. As in this update, in the next update due in 2024, the Town of Kirkland Lake will provide an update to include any revisions to the 2020-2024 CDM Plan. The Town of Kirkland Lake has submitted and published all of its annual Energy and Greenhouse Emission Reports and will continue to do so annually until July 1, 2024. At that time, the revised Plan will provide:

- A description of current and proposed measures for conserving and otherwise reducing energy consumption and managing its demand for energy.
- A revised forecast of the expected results of the current and proposed measures.
- A report of the actual results achieved.
- A description of any proposed changes to be made to assist the public agency in reaching any targets it has established or forecasts it has made.
- Any additional initiatives geared at achieving or establishing new targets.

Incentive Funding

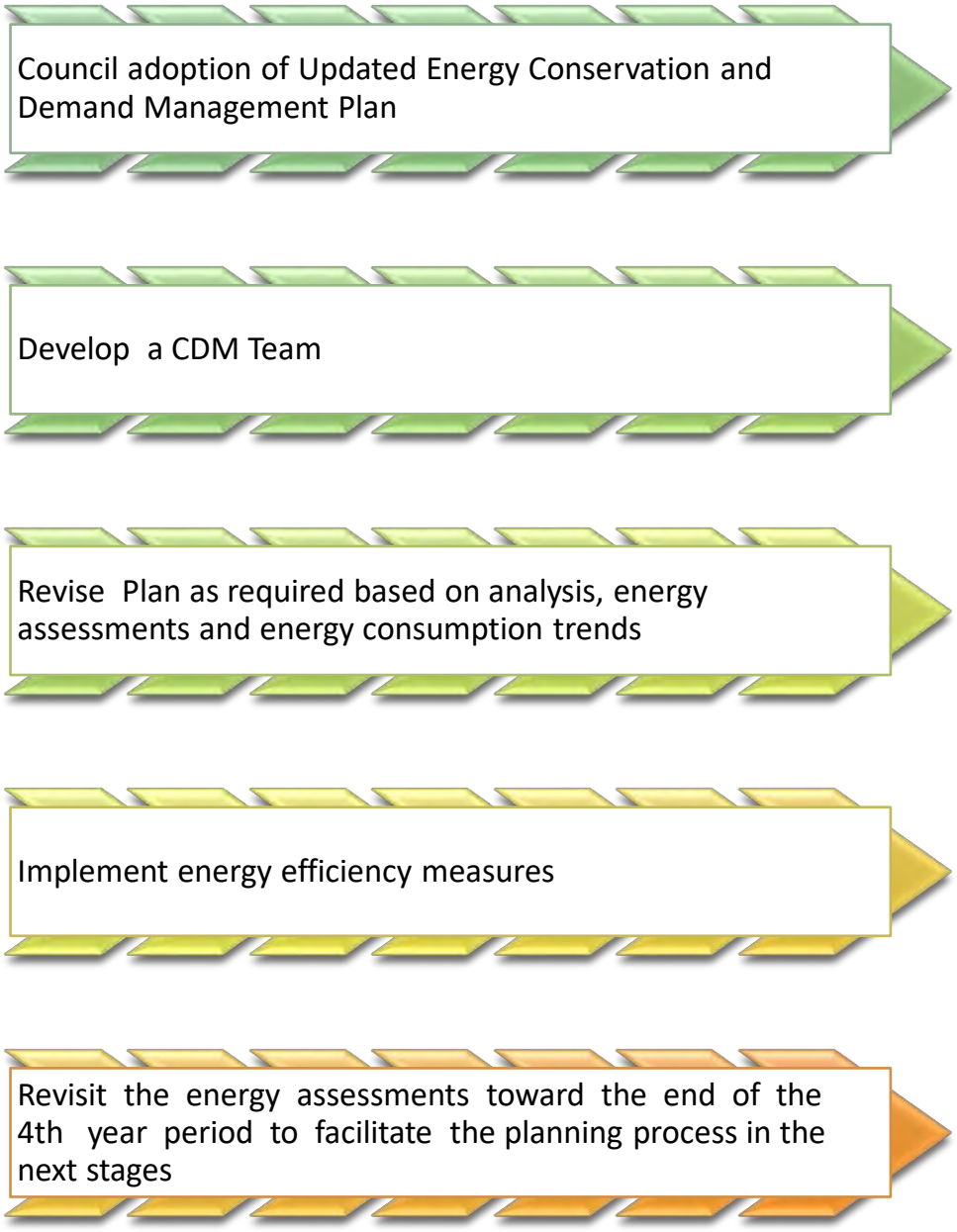
To ensure that the Town of Kirkland Lake will take advantage of all funding and grant opportunities related to energy efficient projects, the Town will liaise with representatives from local utility providers. Town staff and utility representatives are in a unique position to review current and future process improvements, program implementations and projects that can meet future funding requirements. As funding opportunities arise that are suitable for specific energy conservation projects, Town Staff will report to Council and clearly outline the cost savings associated with a successful application.

Conclusions and Recommendations

Conclusions

- ✓ The Town of Kirkland Lake is on its way to the implementation of a structured Conservation Program
- ✓ The Town of Kirkland Lake plans to further investigate investment decisions in technologies to reduce electricity expenditures and revise the current plan where appropriate
- ✓ Reasonable targets must be set based on analysis through the facility assessments
- ✓ A structured implementation framework has been set to secure the success of the CDM initiative

Recommendations



Schedule 1:
Actual 2014-2018 Energy Consumption

Electricity Consumption 2014-2018

As mentioned, a lot of changes have occurred to the Town of Kirkland Lake's facilities over the last five years. That said, even though a facility may have experienced an increase in electricity and natural gas consumption from 2014 to 2018, the increase in facility floorplan and/or services offered must also be taken into account when evaluating energy consumption.

For example, the Civic Service Stadium underwent a major redevelopment from 2015 to 2016, leading to additional services being offered to the public and, as a result, increased electricity consumption.

Table S-1: Change in Electricity Consumption 2014-2018

	Total Annual ELECTRICITY Consumption (kWh)		
Facility	**2014**	**2018**	**% change from 2014 baseline**
Airport Garage	19,929.00	23,845.64	+ 20%
Airport Terminal Building	27,638.00	33,625.99	+ 22%
Animal Shelter	6,464.00	12,160.92	+ 88%
Cemetery Office	21,542.00	16,316.36	-24%
Civic Service Stadium	3,529.00	47,160.00	+ 1,236%
Heritage North	157,112.00	198,061.09	+ 26%
Joe Mavrinac Community Complex	1,322,640.00	2,091,835.16	+ 58%
KL Daycare	41,798.00	Not available	N/A
KL OPP Station	119,247.00	100,611.53	-16%
KL WWTP	991,422.00	1,381,946.99	+ 39%
KL WTP	2,491,397.00	2,102,134.73	-16%
Museum of Northern History	41,890.00	60,633.51	+ 45%
Physical Services Administration	57,927.00	40,481.68	-30%
Physical Services Garage	128,153.73	125,351.04	-2%
Swastika Fire Hall	4,486.00	4,428.94	-1%
Swastika WWTP	703,315.00	434,939.13	-38%

Teck Centennial Library	56,106.00	43,545.52	-22%
Teck Pioneer Residence	772,826.00	734,270.00	-5%
Town Hall	81,244.00	141,195.15	+ 74%
W.G. (Bill) Taylor Fire Hall	31,183.00	24,718.65	-21%
TOWN TOTAL	**7,079,848.73**	**7,617,262.03**	**+ 8%**

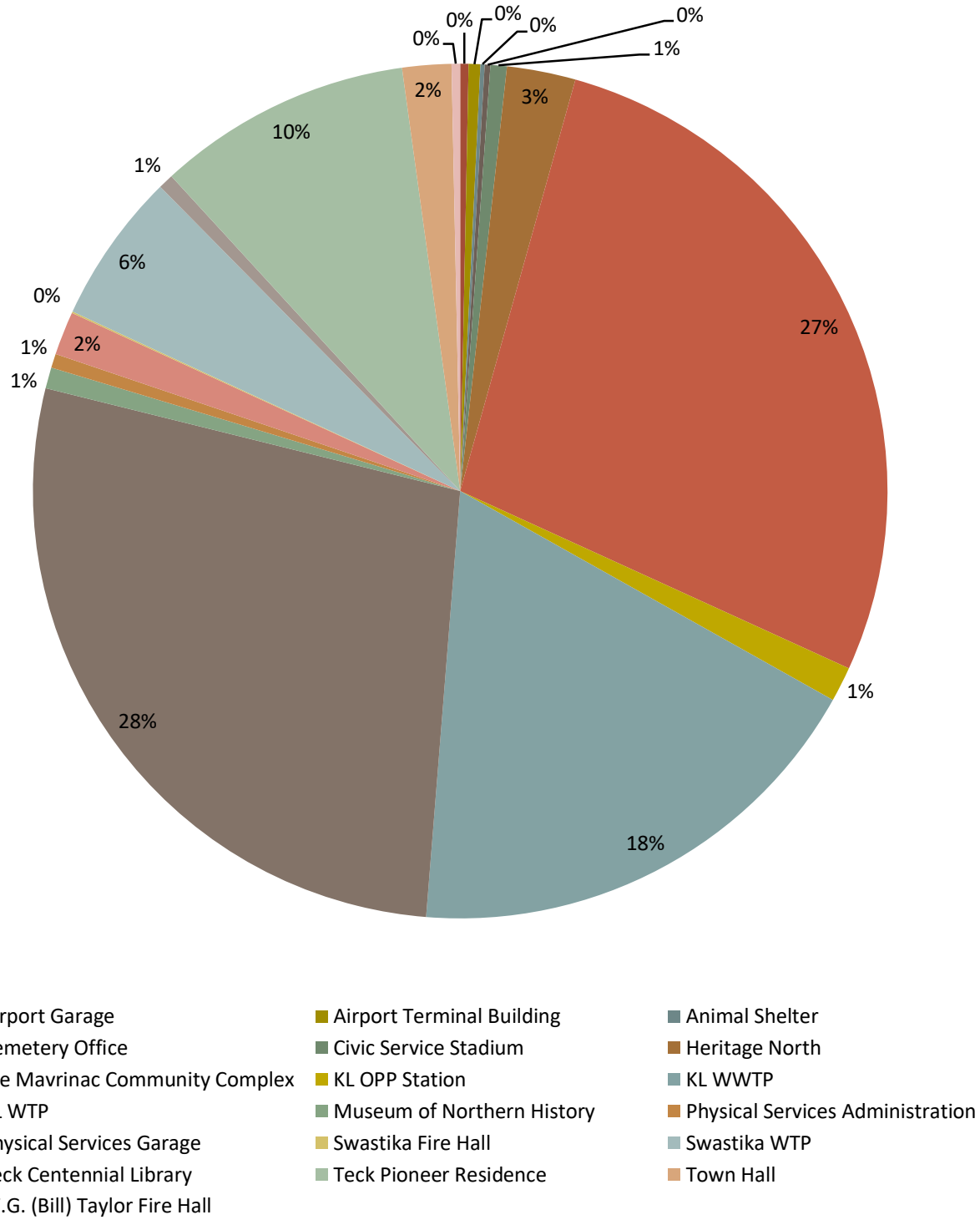
While the redevelopment at the Civic Service Stadium led to increased electricity consumption, it resulted in a significant decrease in natural gas consumption.

Table S-2: Change in Natural Gas Consumption 2014-2018

	Total Annual NATURAL GAS Consumption (m^3)		
Facility	**2014**	**2018**	**% change from 2014 baseline**
Airport Garage	No NG	No NG	N/A
Airport Terminal Building	No NG	No NG	N/A
Animal Shelter	2,678.00	2,571.86	-4%
Cemetery Office	No NG	No NG	N/A
Civic Service Stadium	4,704.00	2,325.38	-51%
Heritage North	32,185.00	29,715.12	-8%
Joe Mavrinac Community Complex	247,829.00	285,798.60	+15%
KL Daycare	5,457.00	6,083.78	+11%
KL OPP Station	21,140.00	15,689.31	-26%
KL WWTP	136,545.63	132,336.98	-3%
KL WTP	No NG	No NG	N/A
Museum of Northern History	25,226.00	12,960.37	-49%
Physical Services Administration Facility	62,101.00	55,355.31	-11%
Physical Services Garage	25,226.00	29,806.71	+18%
Swastika Fire Hall	6,642.00	6,634.39	0%

Swastika WWTP	No NG	No NG	N/A
Teck Centennial Library	14,864.00	14,476.45	-3%
Teck Pioneer Residence	204,082.20	209,988.21	+3%
Town Hall	15,503.00	11,138.30	-28%
W.G. (Bill) Taylor Fire Hall	20,424.00	21,074.87	+3%
TOWN TOTAL	**824,606.83**	**835,955.64**	**+1%**

The following pages show the electricity and natural gas consumption profile distributed amongst all of the Town of Kirkland Lake's reported on facilities.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27%
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28%
18%
Airport Garage
Airport Terminal Building
Animal Shelter
Cemetery Office
Civic Service Stadium
Heritage North
Joe Mavrinac Community Complex
KL OPP Station
KL WWTP
KL WTP
Museum of Northern History
Physical Services Administration
Physical Services Garage
Swastika Fire Hall
Swastika WTP
Teck Centennial Library
Teck Pioneer Residence
Town Hall
W.G. (Bill) Taylor Fire Hall

Figure S-1: Electricity Distribution across Municipal Buildings – 2018

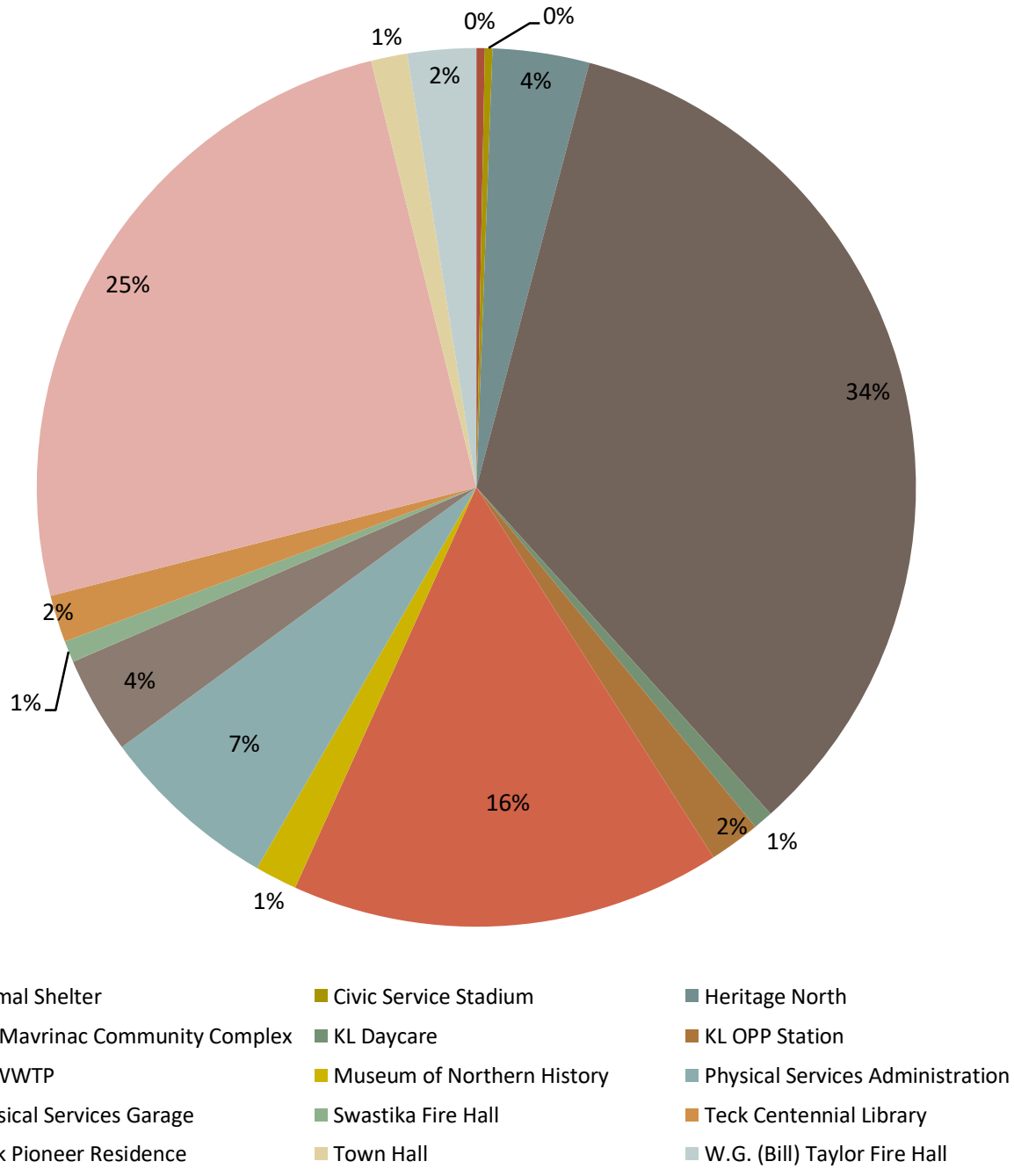

Figure S-2: Natural Gas Distribution across Municipal Buildings – 2018