



# Uxbridge Township's 2024 to 2029 Energy Conservation Demand Management Plan



June 7, 2024

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## **1. Introduction**

The Township of Uxbridge, hereinafter referred to as either Uxbridge or the Township, is a municipality located in northern Region of Durham, situated on the northern slope of the Oak Ridges Moraine. The Township contains the Town of Uxbridge as well as number of surrounding hamlets. The municipality is generally suburban with rural greenspaces and agricultural areas. Uxbridge is home to approximately 23,000 residents.

## **2. Purpose**

Energy management requires a corporate commitment to reduce consumption across all services and facilities through an integration of energy efficient practices that is embedded into the overall conduct of the organization. Regular review and monitoring of energy performance is required to track progress and costs associated with wasted energy to determine where energy retrofits and enhancements are needed. Successful energy management requires a holistic and organized commitment across the corporation to continually improve energy performance.

## **3. Background**

In 2009, the Ministry of Energy and Infrastructure enacted Ontario Regulation 397/11 - the Green Energy Act to help public agencies manage and reduce their energy consumption. As part of this Act, these agencies are required to report and publicly post on their website, their annual energy consumption and greenhouse gas (GHG) emissions.

In 2018, Ontario Regulation 397/11 was revised to Ontario Regulation 507/18 - the Electricity Act, then updated to Ontario Regulation 25/23. Municipalities are required to report their goals and objectives for conserving and reducing their energy consumption while managing their future demand for energy. They are also required to develop and implement an Energy Conservation and Demand Management (CDM) Plan, to be reviewed and updated every 5 years. The previous Township of Uxbridge's Energy CDM Plan covered 2019 to 2023. This report will outline key initiatives implemented, identify future plans for energy conservation, and associated reductions in GHG emissions, as well as forecast current and proposed actions for 2024 to 2029. This CDM Plan must be approved by Council resolution, posted to the Township of Uxbridge website, and submitted to the Ministry of Energy, Northern Development, and Mines by July 1st, 2024.

## **4. Corporate Directives**

As the Township prepares for future growth and development, it becomes crucial to plan for the delivery of municipal services and infrastructure in a manner that aligns with a Corporate vision for sustainability. While energy efficiency and climate mitigation have been a Township priority for many years, significant steps to address climate change, sustainability, and

energy efficiency has been made through the continued alignment of various municipal strategies, as noted below.

#### 4.1 Strategic Plan

The Township of Uxbridge's [2023-2026 Uxbridge Strategic Plan](#) identifies key priorities and programs, services, and initiatives based on the needs, values, and aspirations of the Community and Council. The Strategic Plan provides a vision, mission, and values set within five strategic priorities. It speaks to good governance, and integrating accessibility, sustainability, safety, and inclusivity into decision making and project implementation at all levels. Specifically relevant objectives include:

- Objective: operating responsibly and ethically to create a sustainable future
  - Strategic Action: seek means to reduce our carbon footprint and find energy efficiencies;
- Develop climate resiliency through infrastructure planning
  - Collaboration with Regional partners to incorporate climate adaptation strategies into infrastructure management plans
  - Support programs and educational opportunities about climate adaptation strategies for local property owners and residents.

#### 4.2 Asset Management

The Township of Uxbridge's 2022 Asset Management Plan is a living document that provides an overview of the Township's asset conditions and financial preparedness in order to meet the service expectations of the community. It includes a roadmap for required action to maintain and improve assets into the future. The plan includes an assessment of all current municipal assets, their level of service, maintenance strategies, long-term capital needs, and future strategy scenarios so that assets continue to be maintained at a level required for service delivery in the most cost-effective manner.

The Asset Management Plan has identified the total full life cycle costs of each asset. In addition, the cost forecast includes potential expansion related to growth and infrastructure capacity throughout the asset's life. Specifically Section 4 c) includes the integration of climate change into the Asset Management Plan. Recognizing that the impacts of climate change are already being experienced, Uxbridge has identified that planning for future climates is required in order to maintain key municipal infrastructure to ensure the delivery of municipal services. The Township is taking steps to integrate climate change mitigation and adaptation planning into their asset management planning framework moving

forward. This direction is in compliance with Ontario Regulation 588/17 s3(5), which requires that municipalities must include a commitment in their asset management plan to address the vulnerabilities of climate change with respect to operations, levels of service, and lifecycle management. The Township adopted its first [Strategic Asset Management Policy](#) in May 2019 and committed to integrating climate change as part of its asset management planning.

#### 4.3 Integrated Community Sustainability Plan

After receiving funding from the Federation of Canadian Municipalities' Green Municipal Fund, the Township of Uxbridge, in conjunction with the Township of Scugog and the Township of Brock, developed an [Integrated Community Sustainability Plan](#) (ICSP) in 2010. Following the ICLEI Partner's for Climate Protection (PCP) 5 step framework, the Township completed all 5 Milestones for both corporate and community.

As part of Milestone 2, corporation GHG reduction targets were established for the 2008 baseline year of:

- 28 per cent reduction by 2015;
- 65 per cent reduction by 2030; and
- 96 per cent reduction by 2060.

Note that these corporate targets are based on total corporate emissions from energy consumption from buildings and streetlights, vehicle fleet, and corporate waste. For the purpose of the CDM Plan, since the Township started reporting their energy consumption in 2011 and included associated GHG emissions in a consistent format starting in 2012, we will use this data as the baseline to trend and track targets against. Refer to Section 6 for Energy reporting versus the 2012 baseline data.

#### 4.4 Launch of a Climate Adaptation and Transition Committee

Formed in 2020, the Climate Adaptation and Transition Committee provides a community perspective on the impact of climate change and helps steer the Township's response to climate change, provides advice to Council and staff as it relates to implementing the strategies and goals outlined in the Township of Uxbridge's 2019-2023 Conservation and Demand Management Plan, the Durham Community Climate Adaption Plan, and Seizing the Opportunity: The Clean Energy in Durham Plan. The Committee also provides advice, support, and guidance to Council regarding climate change adaptation, clean energy transitions, energy conservation, and other areas of local concern as it relates to climate change.

### 5. Overview of Energy Consuming Assets

Services provided by the Township of Uxbridge include administration, public works, fire and emergency services, parks and recreation, culture and heritage, animal services, sports

fields, and streetlights. Approximately 23 facilities plus other services are required to support the delivery of these services. Energy used in the operation of these facilities and delivery of services include Hydro One Networks and Elexicon Energy (formerly Whitby Hydro and Veridian Connections which merged effective April 1, 2019). Natural gas is supplied by Enbridge Gas Distribution. Propane, heating oil, on fuel is provided by various vendors.

As outlined in Figure 1, the following key facility assets fall within the scope of the 2024 to 2029 CDM Plan. A number of smaller and miscellaneous energy consumers have not been listed below, but still contribute to the total annual energy consumption.

**Figure 1:** List of the Township's Energy Consuming Buildings and Assets by Portfolio

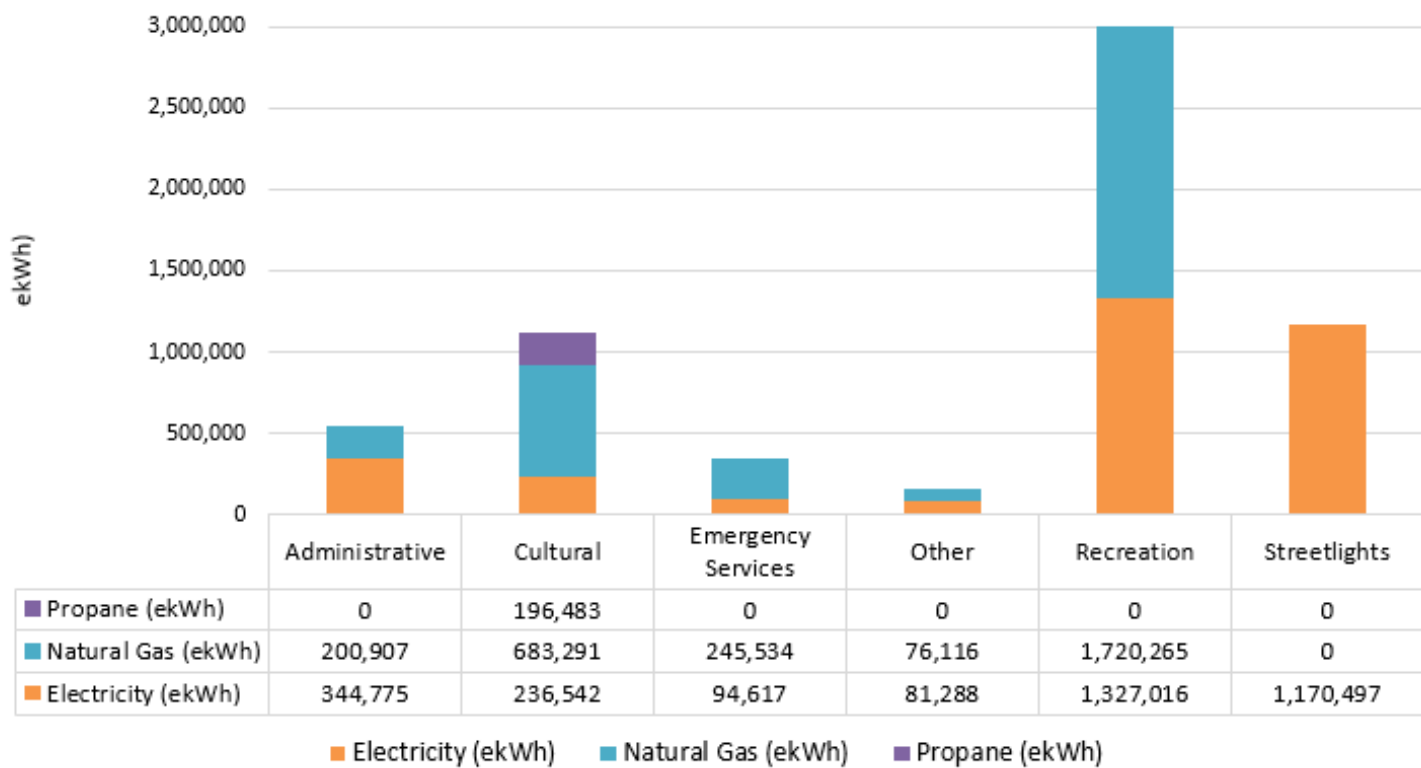
Operational Area		Description
Administrative	Town Halls	<ul style="list-style-type: none"> <li>Uxbridge Town Hall</li> </ul>
	Seniors Centre	<ul style="list-style-type: none"> <li>Uxbridge Seniors Centre</li> </ul>
	Community Buildings	<ul style="list-style-type: none"> <li>Goodwood Community Centre</li> <li>Sandford Community Centre</li> <li>Train Station</li> <li>Thomas Foster Memorial</li> <li>Uxbridge Arena Community Centre</li> <li>Zephyr Community Centre</li> </ul>
Cultural	Libraries	<ul style="list-style-type: none"> <li>Zephyr Library</li> <li>Uxbridge Library</li> </ul>
	Music Hall	<ul style="list-style-type: none"> <li>Uxbridge Music Hall</li> </ul>
	Historical Buildings	<ul style="list-style-type: none"> <li>Uxbridge Historical Centre</li> </ul>
Emergency Services	Fire Halls	<ul style="list-style-type: none"> <li>Uxbridge Fire Hall Old Building &amp; New Building</li> </ul>
Other	Public Works Yards	<ul style="list-style-type: none"> <li>1 Public Works Yard, 129 Main St. North</li> <li>Public Works Depot, 519 Durham Rd South</li> </ul>
	Commercial Building	<ul style="list-style-type: none"> <li>Coffee Time Building – is it leased?</li> </ul>
	Animal Shelter	<ul style="list-style-type: none"> <li>Uxbridge-Scugog Animal Shelter</li> </ul>
	Pumping Station	<ul style="list-style-type: none"> <li>Goodwood stormwater Pumping Station</li> </ul>
Recreation	Arenas	<ul style="list-style-type: none"> <li>Uxbridge Arena – twin pad arena</li> </ul>
	Parks Buildings	<ul style="list-style-type: none"> <li>Elgin Park Building plus public washrooms</li> </ul>
	Pool	<ul style="list-style-type: none"> <li>Uxpool and public washrooms</li> </ul>
Streetlights	Sports Field Lighting	<ul style="list-style-type: none"> <li>Lighting for ball diamonds and sports field</li> </ul>
	Streetlights	<ul style="list-style-type: none"> <li>Streetlights, Parking Lot lighting</li> </ul>

## 6. Energy Trends

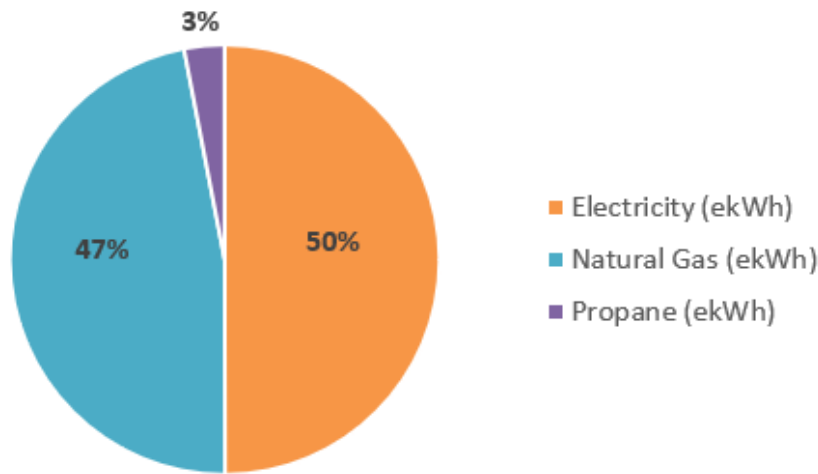
Since 2011, the Township has created and submitted to the Ministry of Energy, Northern Development, and Mines their annual energy use reports that presents energy consumption and GHG emissions by facility and meter.

Energy consumption for 2023 is illustrated in Figure 2. The Zephyr Community Centre is the last remaining facility heated with fuel oil whereas the Sandford Community Centre and Foster Memorial are the remaining two facilities using propane for heating purposes. All other facilities are heated with natural gas or electricity.

**Figure 2: 2023 Energy Consumption by Facility Portfolio**



**Figure 3: 2023 Energy Use by Energy Type (ekWh)**



**Figure 4: Total Energy Consumption from 2016 to 2023**

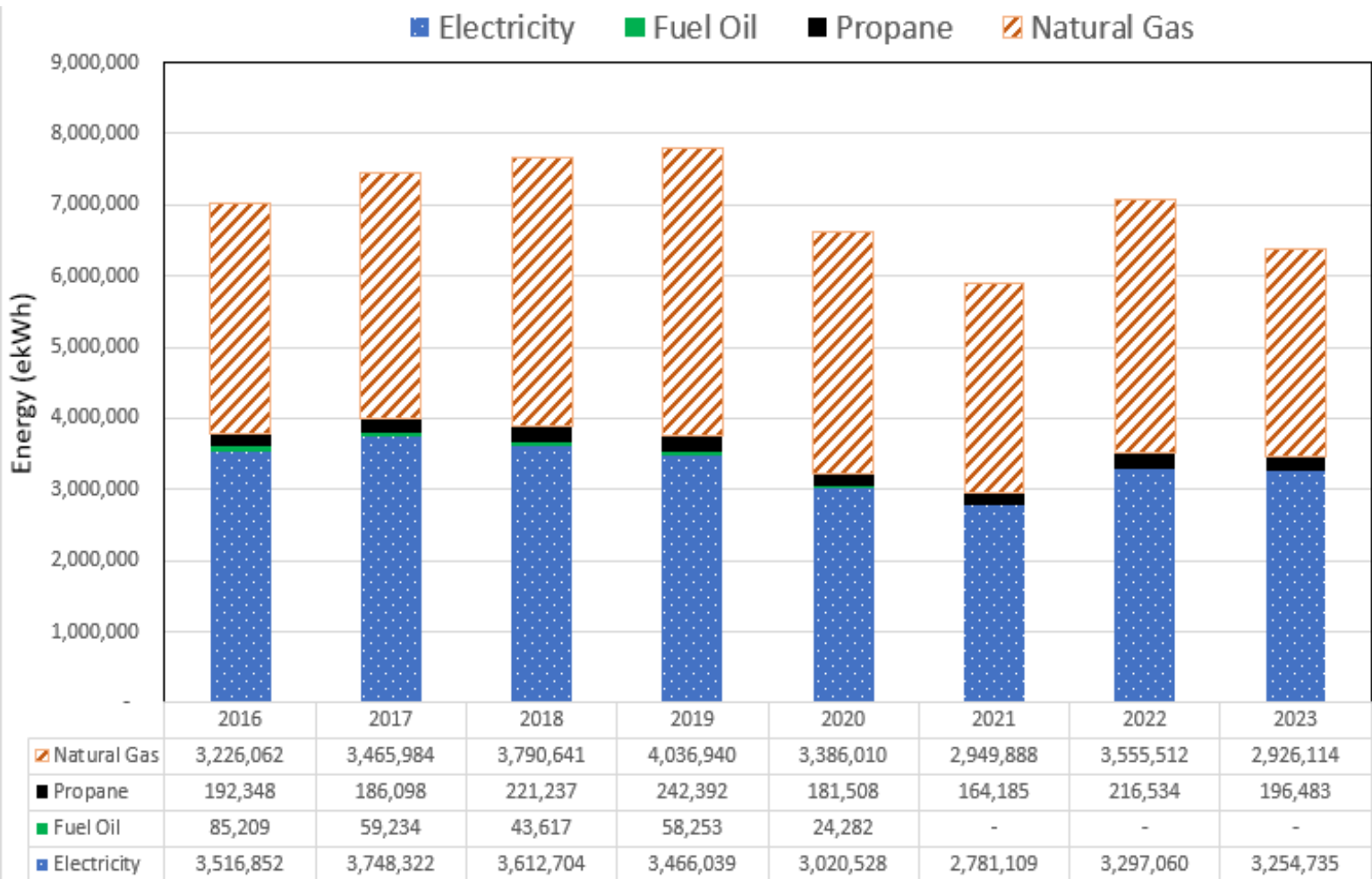
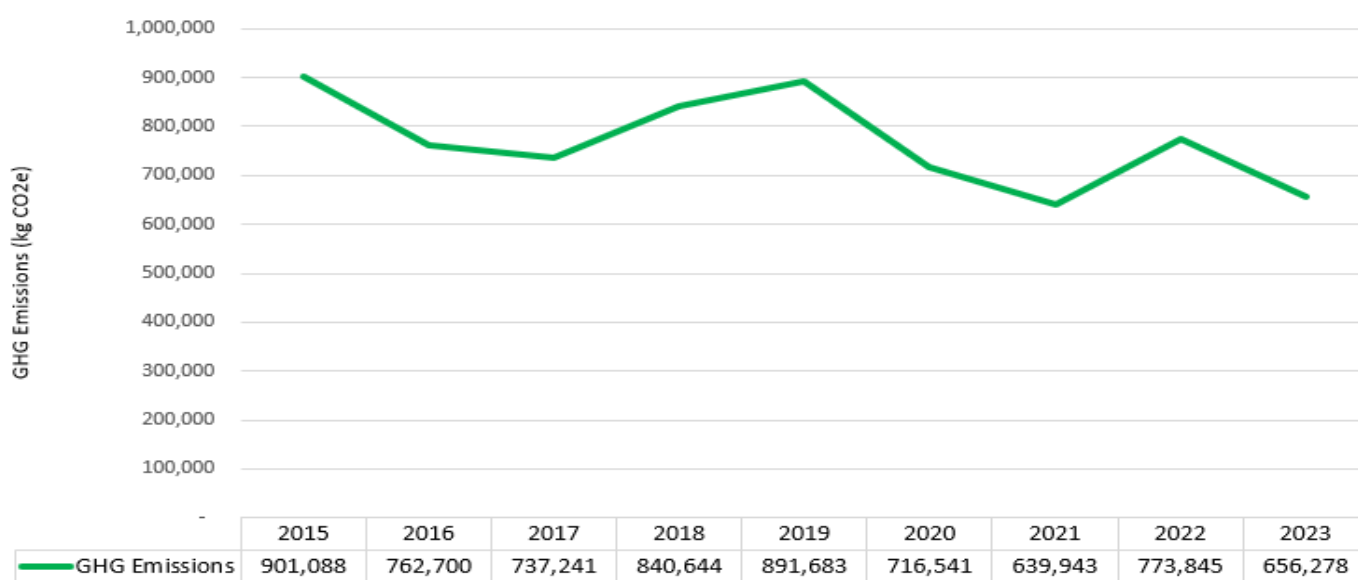




Figure 4 provides the trend of energy consumption from 2016 to 2023. One of the significant impacts which will be noted in the GHG emissions is the phasing out of fuel oil as a heating source in a number of facilities with just the Zephyr Community Centre remaining. Natural gas has also been reduced over time. Another very noticeable trend is the impacts of COVID-19 that drastically reduced the energy consumption and associated GHG reductions on facilities that were closed and those that faced unusual operating hours and use. With the closure of many municipal facilities or the modification of work environments, the 2020 and 2021 data cannot be used to trend any facility impacts. This is also reflected in Figure 5 being the GHG emission from 2016 to 2023.

**Figure 5: GHG Emissions from 2016 to 2023**



## 7. CDM Energy Reduction Target

The completion of the energy consumption projects from the Townships 2014 and the following 2019 Energy Conservation and Demand Management Plans have developed a foundation for successful energy management practices. Implementation of energy conservation measures in Township-owned infrastructure continue to promote successful conservation practices. The Township’s target is to reduce its energy consumption within its facilities by 1 to 5 per cent between each 5-year CDM Plan cycle.

As outlined in Figure 4, Uxbridge reduced their energy consumption by 18 per cent from 2019 to 2023 which is well beyond the 5 per cent energy reduction target. However, the impacts of COVID, return to a ‘new’ normal, and transitioning to hybrid work models, where possible, makes it difficult to associate this energy savings strictly to efficiencies or improvements. One significant accomplishment that needs to be recognized is the phasing out of fuel oil as a heating source in its facilities in 2020, which is a significant GHG reduction.

## 8. Commitment to Energy Conservation

Uxbridge Township is committed to energy conservation by embedding the culture and narrative across the corporation, striving to reduce energy consumption and its associated GHG emissions through efficient use of energy and resources, while still maintaining an efficient and effective level of service.

### 8.1 Energy Conservation and Demand Management: 2019 to 2023 Progress

Council approved the 2019 to 2023 Energy Conservation and Demand Management Plan in 2019. Since then, staff continue to implement technical measures and organizational improvements to enhance energy efficiency across facilities and program areas. The CDM Plan is intended to serve as a living, flexible Plan that is aligned with broader, overarching strategic plans, which is updated every five years to show progress and set future goals and objectives.

Energy efficiency and conservation can be enhanced through organizational initiatives such as policy and procedural standard, behavioural change influenced by education, awareness, and engagement, as well as and technological initiatives such as equipment, automation, and programming. The 2019 to 2023 CDM Plan identified high level goals and objectives aimed at reducing energy consumption and GHG emissions. Figure 7 outlines the progress made and specific initiatives implemented as they relate to various organizational, behavioural, and technological initiatives made in advancing energy efficiency.

**Figure 6:** Review of 2019 to 2023 CDM Goals and Objectives outlining Progress

Goal 1: To improve energy efficiency within the Township.	
<p><b>Objectives:</b></p> <p>To improve energy efficiency within Township facilities</p> <p>To reduce GHG emissions and energy consumption in day-to-day operations</p>	<p><b>Progress:</b></p> <ul style="list-style-type: none"> <li>• In 2019, accomplishments include:                             <ul style="list-style-type: none"> <li>○ Development of the Pump Park, in collaboration with multiple community groups and businesses, and with a \$150,000 grant from the provincial government;</li> <li>○ Significant renovations and improvements to the library building, making it more efficient to run;</li> <li>○ Reducing our environmental footprint by adding our first hybrid vehicle to our fleet.</li> </ul> </li> <li>• In 2020, renovations to:                             <ul style="list-style-type: none"> <li>○ Music Hall included new LED lights, new Wi-Fi thermostats;</li> </ul> </li> </ul>

<p>To extend the lifecycle of Township assets, where possible by 1-5%</p>	<ul style="list-style-type: none"><li>○ Goodwood Hall – new Wi-Fi thermostats, new security camera system</li><li>○ Sandford Hall – new Wi-Fi thermostats, new UV water treatment system</li><li>○ Zephyr Hall – new propane furnace, new security camera system</li><li>● In 2021, the Township contracted the Elexicon Group Inc. to conduct comprehensive data analytics for electricity, natural gas, and water consumption at the Uxbridge Arena and Recreation Centre.</li><li>● In 2022, the follow improvements occurred:<ul style="list-style-type: none"><li>○ New lighting installed at Elgin Park and path of inclusion;</li><li>○ New irrigation at FOU</li><li>○ New lighting installed at soccer field, Pump Park, and Skate park;</li><li>○ New computerized chemical distribution system installed at Uxpool;</li><li>○ Work at Elgin Park</li><li>○ Grant for FOU lighting</li><li>○ Fed Dev tourism grant for FOU improvements</li><li>○ Re-opening Fund for Heritage Organizations (Museum) grant</li><li>○ Partnership with USHS on a Fed Dev tourism grant for the Museum school house</li></ul></li><li>● In 2022, install of REALice water de-aeration system for sustainable ice flooding through Elexicon Group Inc.</li><li>● In 2023, weather stripping was installed at all exterior doors and doors leading to the ice, scheduled thermostat operation s for peaks hours and continual adjust of light timers.</li><li>● In 2023, an EV ice resurfacers replaced the end-of-life propane unit at the Uxbridge Arena.</li><li>● Consideration of energy conservation and GHG reductions in all capital projects, as applicable, with directions to consultants to show progress and present associated cost benefits during project design.</li><li>● Use a low carbon lens during the annual budgeting process with priority to reducing energy consumption and lowering GHG emissions – has this been done?</li><li>● Integrating the sustainability and climate lens into the decision-making, business planning, and budget processes.</li></ul>
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<b>Goal 2: To maximize fiscal resources.</b>	
<p><b>Objectives:</b></p> <p>To maximize fiscal resources through direct and indirect energy cost avoidance, including taking advantage of green energy grants.</p>	<p><b>Progress:</b></p> <ul style="list-style-type: none"> <li>• In 2020, completed a \$121,212 infrastructure improvement project at the Uxbridge Historical Centre to pave the parking areas and pathways, upgrade the security system and improve exterior lighting creating an accessible and safe site for staff and visitors;</li> <li>• In 2022, the following grants were received:             <ul style="list-style-type: none"> <li>○ \$747,750 CCRF grant was received for Elgin Park</li> <li>○ \$500,000 OTF Community Building Fund grant for FOU lighting</li> <li>○ \$500,000 Fed Dev tourism grant for FOU improvements</li> <li>○ \$17,566 Re-opening Fund for Heritage Organizations (Museum) grant</li> </ul> </li> <li>• In 2022, the following Partnership Grants were received:             <ul style="list-style-type: none"> <li>○ \$30,170 Tourism- 2022 Partnerships/ Sponsorships</li> <li>○ \$71,964 Partnership with USHS on a Fed Dev tourism grant for the Museum school house</li> </ul> </li> <li>• The Township implemented REALice technology in 2023 to save costs and reduce energy usage. As a result of this initiative, the Township of Uxbridge has received a Certificate of Achievement in Energy Efficiency from Enbridge Gas with a financial incentive of \$5,902.</li> <li>• Additional funding for 2019, 2021, and 2023 were not captured, nor is this funding list exhaustive.</li> <li>• Continue to work with the Region of Durham on collaborative funding opportunities, such as NRCan funding for EV Chargers.</li> <li>• Continue to work with the local area municipalities and the Region of Durham on procurement and piggyback off their procurement for better price points such as the Region’s EV charger Award.</li> <li>• Work with the local utility companies on energy efficiency.</li> <li>• Continue to engage in incentives and funding program such as offerings by Enbridge Gas.</li> </ul>

<p><b>Goal 3: To increase energy conservation knowledge and mindfulness.</b></p>	
<p><b>Objectives:</b></p> <p>To increase energy conservation knowledge and mindfulness among Township staff and Council through education and utilizing best practices</p>	<p><b>Progress:</b></p> <ul style="list-style-type: none"> <li>• Building a culture of energy reduction by increasing awareness and empowering staff to integrate best practices and new technology into Township operations and services.</li> <li>• In 2020, Durham Environmental Advisory Committee creates <a href="#">Climate Residency – a resident’s guide</a> which includes energy conservation, sustainability, resiliency, and more;</li> <li>• In 2021, completed Uxpool building audit.</li> <li>• In 2023, REALice was installed in both pads at the twin-pad arena as a technological advancement to save costs and reduce energy usage. REALice is projected to provide approximately \$34,000 in cost savings annually and an estimated reduction of 57 tonnes of CO2-equivalent emissions.</li> <li>• In 2023, Arena Staff completed CIT certifications &amp; REALice training;</li> <li>• Staff have engaged in various training and education sessions including Federation of Canadian Municipalities’ webinars, Energy Star Portfolio Management training, etc.</li> <li>• Arena staff completed certificate in CIT and training for REALice operations.</li> <li>• Uxbridge recognized as a municipal leader at the launch of the <a href="#">Durham Greener Building</a> event in Spring 2024.</li> </ul>

<p><b>Goal 4:</b> To demonstrate leadership and awareness within the Township of Uxbridge community.</p>	
<p><b>Objectives:</b></p> <p>To demonstrate leadership and awareness within the Township of Uxbridge community by creating a culture of conservation and sustainability and integrate desired energy outcomes into local Township planning</p>	<p><b>Progress:</b></p> <ul style="list-style-type: none"> <li>• In 2020, due to COVID-19, converted council and committees to new online technology, including live streaming which enable community members of watch live or recorded meetings.</li> <li>• Due to COVID-19, with complex closing and re-opening of community buildings in 2020/2021, experienced modified use and hours, launch of curbside service at the library, launch of the library patio renovation for outdoor service and access to Wi-Fi. This modification ensured community services, accommodated a safe environment to meet community’s needs.</li> <li>• The Uxbridge Arena received a certificate of achievement in Enbridge Efficiency from Enbridge.</li> <li>• In January 2024, the Township received a Durham Greener Building’s <a href="#">Energy Efficiency Achievement Award</a> for the re-ice re-surfacing program installed in the Uxbridge Arena in 2023.</li> </ul>
<p><b>Goal 5:</b> To increase energy literacy and leverage community capacity.</p>	
<p><b>Objectives:</b></p> <p>To Increase energy literacy and leverage community capacity through the creation of an Uxbridge Advisory Committee on Climate Change that was approved by Council in January 2020</p>	<p><b>Progress:</b></p> <ul style="list-style-type: none"> <li>• In 2020, Durham Environmental Advisory Committee creates <a href="#">Climate Residency – a resident’s guide</a> which includes energy conservation, sustainability, resiliency, and more;</li> <li>• In 2020, launched the community-based Environmental Advisory Committee;</li> <li>• <a href="#">CCATC provides first report to Council</a>, have formed community sub-committees, have helped Council with local actions for past year and a half.</li> <li>• CCATC working on developing a community GHG inventory.</li> </ul>

<p><b>Goal 6:</b> To complete the implementation and progress report for the municipality's community-wide emissions reduction activities.</p>	
<p><b>Objectives:</b></p> <p>To complete the implementation and progress report for the municipality's community-wide emissions reduction activities, which constitute <b>Community Milestones 4 and 5</b> of the Partners for Climate Protection Program</p>	<p><b>Progress:</b></p> <ul style="list-style-type: none"> <li>• As noted in <a href="#">CCATC’s first report to Council</a>, they are working on developing a community GHG inventory.</li> <li>• With the Region of Durham developing the <a href="#">Durham Climate Dashboard</a>, provides an outlet to showcase community GHG emission reduction activities.</li> <li>• The Township joined <a href="#">Durham Greener Building</a> in 2023 and shared their energy consumption data to benchmark with other municipalities and like-facilities.</li> <li>• Encourage community facilities to join the <a href="#">Durham Greener Buildings</a> to share their energy consumption data as a benchmark for best practices.</li> </ul>
<p><b>Goal 7:</b> To support Ontario’s Long-Term Energy Plan.</p>	
<p><b>Objectives:</b></p> <p>To support Ontario’s Long-Term Energy Plan target of 30 TWh by 2032</p>	<p><b>Progress:</b></p> <ul style="list-style-type: none"> <li>• This is a high-level goal which is supported by reducing energy consumption despite growth.</li> </ul>
<p><b>Goal 8:</b> To support The Pan-Canadian Framework on Clean Growth and Climate Change</p>	
<p><b>Objectives:</b></p> <p>To support The Pan-Canadian Framework on Clean Growth and Climate Change.</p>	<p><b>Progress:</b></p> <ul style="list-style-type: none"> <li>• This is a high-level goal which is supported by reducing GHG emissions across the corporation, despite growth.</li> </ul>

Figure 7 provides a list of capital projects implemented between 2019 and 2023.

**Figure 7: 2019 to 2023 Implemented Project List – (Note list is not exhaustive of projects)**

Year	Facility	Description	Project Cost (\$'000)	Estimated Energy Reduction (%)	Energy Reduction (GJ/y)
2019	Uxbridge Library	Lighting upgrade	38	17%	170
		HVAC upgrade - heating and cooling coils	12		
	Streetlights	Change to LED's - replace 2%/year	50	2%	110
	<b>Total - 2019</b>			<b>100</b>	
2020	Arena	Condenser upgrade	100	3%	252
	Zephyr Community Centre	Replacement of furnace – U20-06	tbd	tbd	Tbd
	Streetlights	Installation and repairs – U20-09	tbd	tbd	Tbd
	Streetlights	Change to LED's - replace 2%/year	50	2%	110
	<b>Total - 2020</b>			<b>150</b>	
2021	Seniors Centre	Appliance replacement	12	1%	6
	Zephyr Hall	Appliance replacement	12	1%	3
	Streetlights	Change to LED's - replace 2%/year	50	2%	110
	<b>Total - 2021</b>			<b>62</b>	
2022	Arena	Refrigeration system upgrade	100	3%	252
	Streetlights	Change to LED's - replace 2%/year	50	2%	110
	<b>Total - 2022</b>			<b>150</b>	
2023	Arena	Humicon equipment upgrade	40	3%	252
	Streetlights	Change to LED's - replace 2%/year	50	2%	110
	<b>Total - 2023</b>			<b>90</b>	

## 8.2 Renewable Infrastructure

The Township does not current have any solar photovoltaic arrays, geothermal systems, or battery back-up systems. Future consideration of renewable energy is always an option.

## 8.3 Incentive Funding

The Township of Uxbridge will continue to take advantage of all funding and grant opportunities related to energy efficient projects. Refer to Figure 6, Goal 2 for the incentive funding objective and associate progress from 2019 to 2023.



### 8.4 Proposed Energy Conservation and Demand Management: 2024 to 2029

The previous CDM goals and objectives were reviewed and refined to reflect corporate progress, evolution, and future directives. The corporate goals and objectives continue to align with Council direction and approved corporate plans for improved energy efficiency and GHG reductions, as well as improving energy performance, greater conservation, and associated energy savings. Moving forward with the Township’s recent momentum are the Goals and Objectives developed for the 2024 to 2029 timeframe

**Figure 8:** Conservation Demand Management Goals and Objective for 2024 to 2029

Goals	Objectives
<p><b>Goal 1 – Governance and Leadership:</b> Formalize a corporate governance structure with clear lines of oversight and accountability for implementation of energy and GHG emissions reductions.</p>	<ul style="list-style-type: none"> <li>• Include energy consumption and GHG emission reduction conversations in senior management committee meetings.</li> <li>• Include energy consumption and GHG emission reduction conversations in operational staff meetings to discuss operational efficiencies and improvements.</li> <li>• Implement energy performance and GHG emissions reduction objectives through plan alignment with Asset Management Plan, Strategic Plan, Budget Process, including lifecycle planning, financial planning, and budget processes.</li> </ul>
<p><b>Goal 2 – Communication and Education:</b> Enhance corporate energy awareness, education, and information.</p>	<ul style="list-style-type: none"> <li>• Encourage staff to participate in training opportunities, seminars, committees, and capacity building opportunities for energy efficiency in their associated operational responsibilities.</li> <li>• Improve corporate communications and recognition of achievement through communicating energy strategies, successes, and sharing of information/knowledge throughout the corporation.</li> <li>• Share energy and water consumption data with facility operators and frontline staff to instill a behaviour of accountability while providing information and knowledge to reduce energy consumption and reduce GHG emissions.</li> <li>• Leverage available grant funding opportunities to support education and training opportunities.</li> </ul>

<p><b>Goal 3 –</b>  <b>Measurement:</b> To continue to measure, monitor, and track energy consumption and GHG emissions across the corporation.</p>	<ul style="list-style-type: none"> <li>• To annually report corporate energy performance to Council, including changes, improvements, operational modifications, with the next three year’s plans for reduction.</li> <li>• To reduce the Township’s energy consumption by utilizing best practices to reduce our operating costs, energy consumption, and greenhouse gas emissions.</li> <li>• To build a culture of energy reduction by increasing awareness and empowering staff to integrate best practices and new technology into Township operations and services.</li> <li>• Install building automation systems (BAS) in all facilities as they are retrofitted or modified, where possible, providing a centralized, remote access to all facilities.</li> <li>• Ensure that the update of key strategic plans, including but not limited to, the Asset Management Plan, Official Plan, and Strategic Plan, embed energy conservation, climate mitigation, adaptation, and resilience into the document.</li> <li>• Continue to share annual energy consumption data with the Durham Greener Buildings program through Energy Star Portfolio Manager and showcase best practices.</li> </ul>
<p><b>Goal 4 – Maximize</b>  <b>Funding:</b> To maximize fiscal resources through direct and indirect energy savings as well as taking advantage of associated grants, rebates, and incentives.</p>	<ul style="list-style-type: none"> <li>• To maximize fiscal resources through direct and indirect energy savings, including taking advantage of external funding sources and incentives.</li> <li>• Collaborate with other municipalities and the Region on joint funding opportunities or training, where possible.</li> <li>• Improve corporate-wide awareness of available grants and funding opportunities to support energy, water, and GHG-related initiatives.</li> </ul>

Council will review the proposed energy conservation measures during annual budget discussions. These proposed measures may change as technology is improved, or the priorities of Council are reformed. To help inform the 2024 to 2029 project list outlined in Figure 9, the [Township’s 10-year Capital Investment Plan Years 2024 to 2033](#) was used.

**Figure 9: 2024 to 2029 Current and Future Project List**

Year	Facility	Description	Project Cost (\$'000)	Estimated Energy Reduction (%)	Energy Reduction (GJ/yr)
2024	Arena	Condenser to be replaced	115	tbd	tbd
	Library	Replace Exhaust Fan Units	10	tbd	tbd
	Uxpool	Changing 66% of lighting to LED; 33% was changed in 2018	10	tbd	tbd
	Streetlights	Convert to LED's replace 2%/yr	60	2%	110
	<b>Total – 2024</b>			195	tbd
2025	Arena	LED Ice Lights	115	tbd	tbd
	Music Hall	Restoration of upper windows	50	tbd	tbd
	Zephyr Hall	Library Addition	260	tbd	tbd
	Goodwood Hall	Replace Front Entrance	50	tbd	tbd
	Sandford Hall	Installation of gas line and convert furnace to natural gas	20	tbd	tbd
	Streetlights	Convert to LED's replace 2%/yr	65	2%	110
	<b>Total – 2025</b>			560	tbd
2026	Arena	Replace boiler and storage tank	70	tbd	tbd
	Library	Replace front/back doors	100	tbd	tbd
	Bonner Fields	New LED lighting fixtures	100	tbd	tbd
	Streetlights	Convert to LED's replace 2%/yr	60	2%	110
	<b>Total – 2026</b>			230	tbd
2027	Arena	Replace Ice Resurfacers with EV	121	tbd	tbd
	Goodwood Hall	Kitchen equipment upgrade	10	tbd	tbd
	Library	Chiller water & heating recirculation pumps	10	tbd	tbd
	Sandford Hall	Kitchen equipment upgrade	10	tbd	tbd
	Goodwood Park	Convert field lighting to LED	50	tbd	tbd
	Uxpool	Update electrical distribution equipment	32	tbd	tbd
	Streetlights	Convert to LED's replace 2%/yr	70	2%	110
	<b>Total – 2027</b>			303	tbd

Year	Facility	Description	Project Cost (\$'000)	Estimated Energy Reduction (%)	Energy Reduction (GJ/yr)
2028	Arena	Arena Equipment Upgrade	180	tbd	tbd
	Goodwood Hall	Replace furnace	25	tbd	tbd
	Uxpool	Emergency Lighting System upgrade	36	tbd	tbd
	Streetlights	Convert to LED's replace 2%/yr	150	2%	110
	<b>Total - 2028</b>			391	tbd
2029	Arena	Arena Equipment Upgrade	150	tbd	tbd
	Library	Chiller	125	tbd	tbd
	Goodwood Park	Convert north field lighting to LED	50	tbd	tbd
	Uxpool	Replace domestic hot water piping and pipe insulation	152	tbd	tbd
	Streetlights	Convert to LED's replace 2%/yr	100	2%	110
	<b>Total - 2029</b>			577	tbd
<b>Total</b>	<b>2024 to 2029</b>		2,256	tbd	tbd

## 9. Conclusion

The Township of Uxbridge is committed to reducing energy consumption and associated GHG emissions, as outlined in their CDM Plan. Future initiatives include creating a climate lens that will provide the oversight and directive to formally embed climate change considerations into the decision-making process including the annual budget. A climate lens will create more accountability for technology advancement, transparency, resiliency, and the operationalization of energy consumption and GHG reductions. With the adoption of this CDM Plan, staff will advance energy conservation and climate change planning into future corporate plans, strategies, and capital work plans on the pathway to meeting their energy and GHG reduction targets.