



The Corporation of the Town of Milton Green
Innovation Plan

-
2018 Community Energy Plan





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Section I Milton's Commitment to Responsible Energy Management and Green Innovation

Introduction and Intent of the Plan

The Town of Milton is one of the fastest growing municipalities in Canada, well positioned for an expanding population and substantial economic growth. To continue to serve this community, the Town of Milton must grow alongside it, supporting economic development while ensuring that Milton remains a healthy and vibrant place to live and work. Now more than ever, we are aware of the impacts of our energy consumption, and the importance of ensuring responsible development and operation. By investing now in understanding our energy uses and emissions, there are incredible opportunities for Milton to plan for healthy future and emerge as a leader in this growing field. Now is the time to take advantage of those opportunities.

The Milton Green Innovation Plan is the flagship program for the Town's commitment to responsible energy management and development. As part of this program, the Town will create a baseline review of energy usage and emissions from the community of Milton, and develop an action plan to ensure their responsible management. This document, the Community Energy Plan, will look at the energy use and management programs in place across the community, while the Corporation Energy Plan examines in detail the energy use of Town assets. These documents should be understood to function together to achieve the goals of the Milton Green Innovation Plan.

This Plan will provide an overview of current energy usage, GHG emissions and conservation programs in place across the Milton community, the roles of the Town and its partners and community stakeholders in managing emissions, and an action plan for creating a culture of conservation and responsible energy management across our community. The action plan will review the baseline data, establish our objectives, and identify a number of high priority and near-term actions to be undertaken in order to further that objective.

Milton is a place for happy and healthy growth and development, and with this Plan we hope to ensure that it will remain so for many years into the future.



Vision and Goals

Our vision for Milton is a strong and prosperous community that has laid the foundations of its development by focusing on the triple bottom line; **Economy, Society and Environment.**

As one of the fastest growing municipalities in Canada with significant potential for continuing development, it is crucial that the Milton Green Innovation Plan address both the economic opportunities and challenges facing us. Energy conservation and responsible management have the potential to provide significant economic benefits to the town and its residents through managing energy costs and mitigating future expenses. However, the opportunity costs and budgetary planning requirements can be significant challenges. The development of our Corporate and Community Energy Plans, outlining where we are today and the opportunities that are ahead of us, is an important part in overcoming those challenges.

Supporting a happy, healthy and prosperous community by providing access to exceptional public facilities has always been one of our most important duties. As Milton's community continues to grow, this creates added pressure on our existing public facilities and community centres, and the drive to expand to keep pace with our town's growth. Managing this intensification of use and expansion will be a critical challenge, however, to the goal of controlling and reducing GHGs. Understanding the sources of emissions, separating areas of improvement from operational requirements, and directing new development will play an ever-increasing role in continuing to provide the services the community of Milton has come to expect and deserve.





To ensure our community remains a vibrant and healthy place to develop, now and in the future, we understand the importance of responsible energy management in all facets of our community.

The Milton Green Innovation Plan is framed around several key goals;

1. Update the Corporation Conservation and Demand Management Plan created in 2012, reflecting an up to date baseline for legacy buildings, proactively planning for new corporate buildings, and expanding to categories such as transportation and corporate fleets.
2. Create a Community Plan including regional, commercial, residential and institutional energy analysis.
3. Engage a wide stakeholder group to develop and advance the Community Plan, with effective engagement led through a Steering Committee, Advisory Groups and public engagement.
4. Explore the potential for Deep Green approaches to exciting new developments such as the Milton Education Village.
5. Maintain sustaining governance and effective implementation of the Plan through the Steering Committee and Advisory Groups.

To achieve these goals, our Corporation and Community Energy Plans have been developed under the Milton Green Innovation Plan.

Balancing Sustainable Economics

It is important in setting our goals that we recognize what is realistic and attainable within the time and scope of the plan. Objectives and actions will be weighed to advance the Town's competitive advantage, and to pass that competitive advantage forward to our community stakeholders. Actions will proceed based on a positive business case. The plan will also weigh the comparative advantages of energy efficiency increases against energy costs and GHG emissions reductions, evaluating the economic tradeoff, to ensure that the recommendations are practicable and beneficial for all parties.

Sustainable Direction

For the Milton Green Innovation Plan to produce meaningful results, we recognize that the planning process is only our first step towards sustained, long term support of Green Innovation across our community. We will continue to support the recommendations of the plan, including ongoing measurement and verification, progress tracking, and updates to the plan itself. While the creation of the plan is a step forward, we recognize that committing to a sustainable future is not an event, but a journey.



Milestone Framework

The Milton Community Plan will be following the milestone framework established by the Partners for Climate Protection. Using this framework will align us with other community energy plans in our region, and provide access to their experiences and challenges. The milestones are;

Milestone 1: Create a greenhouse gas emissions inventory and forecast

Milestone 2: Set an emissions reduction target

Milestone 3: Develop a local action plan

Milestone 4: Implement the local action plan or a set of activities

Milestone 5: Monitor progress and report results

This first iteration of the Community Energy Plan will address milestone 1 – 3, establishing our energy and emissions baseline, setting an emissions reduction target, and developing a local action plan to achieve that target. It will also clearly identify data gaps and areas that are beyond the scope of this current iteration of the plan. As part of the Town's ongoing commitment to responsible energy management, this plan will continue to be developed to resolve those gaps, track the progress of our goals, and report on their results.

Principals and Guidance

Responsibly managing energy usage while ensuring economic growth is a challenge, yet it is one that the Town of Milton feels confident in facing. Developing and implementing an effective plan will require the collaboration and partnership of key stakeholders across the community. The Town has worked hard to build positive relationships with those stakeholders, and will be taking on a leadership role in bringing them together. This section will break down the roles and responsibilities of the principal partners and guiding principles of this plan.

The Town of Milton

The role of the Town of Milton in energy leadership is discussed more fully in the Corporation Energy Plan. In the Community context, in addition to the preparation and ongoing updates of this plan, the Town is providing support through continued governance and facilitation of the community's major energy and conservation stakeholders. The Town will also be providing planning support through its municipal services, including the Strategy, Economic Development, Land Use Planning, and Transportation divisions. By committing to the targets and action plan laid out in the Corporate Plan, the Town will also be providing leadership in action, setting for itself the same optimistic and challenging targets that it will recommend for the larger community.



Milton Hydro

As one of the principal partners of the Green Innovation Plan, Milton Hydro has provided continued support throughout the development of this plan, including contributing to the energy data baseline and facilitation of the planning process. Milton Hydro will continue to provide energy leadership within the community through the implementation of its Conservation Demand Management Plan (2016-2020), detailed in Section III below. In addition, Milton Energy Generation Solutions will provide complete energy solutions commercially and allow access to many significant energy and cost saving initiatives, as recommended through the action plan.

Union Gas

In addition to acting in partnership with Milton Hydro, Milton Energy Generation Solutions, and others to offer innovative energy solutions, Union Gas has committed to energy management through its Demand Supply Management plan, detailed further in Section III. Union Gas has also provided support and contributions to developing the town's energy data baseline.

Stakeholders Across the Community

We have engaged with a number of key stakeholders representing commercial interests, schools, institutions and conservation groups active within our community. In bringing together these key stakeholders, not only can we better understand the way energy is used across Milton, we can also provide an opportunity for our stakeholders share their energy management successes and challenges, gain valuable insight into best practices across the community, and take advantage of opportunities for improvement that may arise. As this plan evolves, future iterations will be able to incorporate the energy plans of our stakeholders and showcase innovation within our community.

The Green Energy Act

The Province of Ontario has developed the Green Energy Act (GEA) as “a mechanism to expand renewable energy generation, encourage energy conservation and promote the creation of clean energy jobs” (Ministry of Energy, 2012). The GEA requires public agencies, including municipalities, to:

- Report annually on energy use and GHG emissions and post that information online; and
- Develop five-year energy conservation plans and post those plans online.

The Town of Milton has reported its energy use and GHG emissions as required under the GEA, and the Community Energy Plan in conjunction with the Corporation Energy plan and regular reporting shall serve as the five-year conservation plan.



Section II Understanding Energy and Emissions

The energy we use in the every-day operation of our buildings and facilities is one of the most significant sources of GHG emissions that we produce. In Ontario, our energy principally comes in two sources, electricity and natural gas. By tracking our energy use, and understanding how it can be reduced or made more efficient, we can best manage and control our GHG emissions.

Emissions Conversion Factors

An equivalent greenhouse gas emissions conversion factor is used to convert various fuels consumed into an equivalent amount of GHG's emitted. The two main fuels focused on are electricity and natural gas.

Natural Gas

Natural gas conversion factors for converting m³ to GHGe (in metric tons of CO₂) is a fairly consistent value and is shown below (1.899 kg CO₂e / m³).

Fuel	Emission Factor
Stationary sources	
Electricity	0.043 kg CO ₂ e / kWh
Natural gas	1.899 kg CO ₂ e / m ³
Propane	1.548 kg CO ₂ e / L
Heating oil	2.755 kg CO ₂ e / L
Mobile sources	
Diesel	2.754 kg CO ₂ e / L
Gasoline	2.462 kg CO ₂ e / L

Figure 1: SOURCE: Municipal GHG Challenge Fund Program Guide (from the CCAP)

Electricity

Electricity GHGe factors have been variable in history and rely heavily on how the electricity is generated. In the past, Ontario used coal-fired generation to generate electricity, which contributed immensely to GHG emissions. More recently, coal has been phased out, and the only generation that contributes to GHGs is the natural gas peaking plants used to add power to the grid during peak demand times (typically 2pm – 9pm on the hottest or coldest days of the year). The following chart shows historical conversion factors used for both electricity and gas. Notice that gas has remained unchanged, but electricity has fluctuations.



Converting each fuel type to equivalent Greenhouse Gas Emissions (in kg CO ₂ e)						
	2012	2013	2014	2015	2016	2017
Electricity (kWh)	0.1034	0.0847	0.0500	0.0430	0.0430	0.0430
Natural Gas (m ³)	1.8906	1.8994	1.8994	1.8994	1.8994	1.8994

Electricity Generation 2012 - 2014

The GHGe conversion numbers steadily decreased from 2012 to 2014 due to Ontario phasing out coal generation from the grid. GHG emissions were cut in half in 2 years by removing coal generation. The exact coal removal phases are explained below.

Total coal-fired capacity at year end

The coal-fired capacity in Ontario was reduced to zero in 2014.

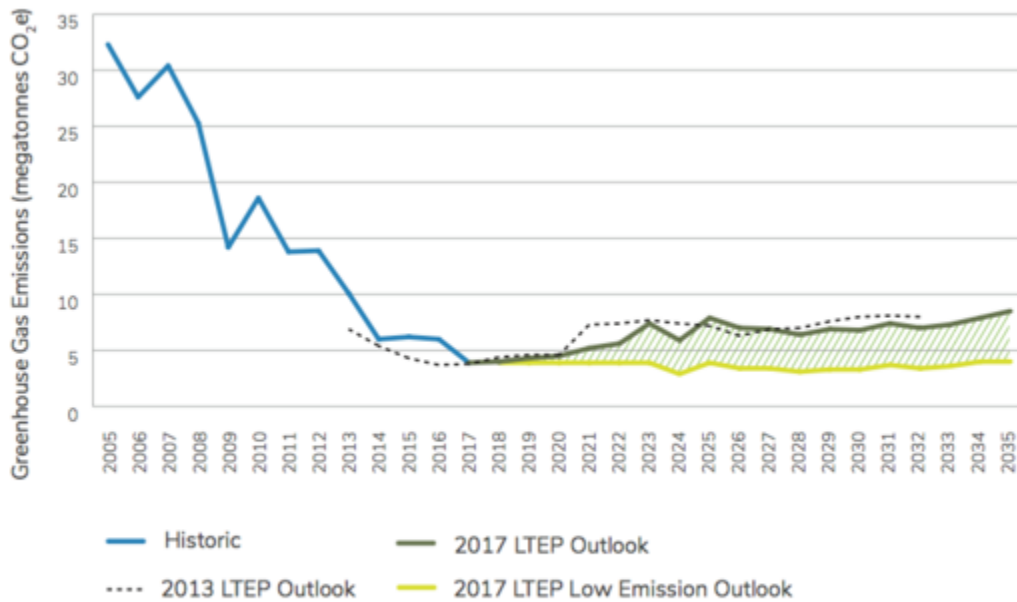
Year	2003	2005	2010	2011	2012	2013	2014
Megawatts (MW)	7587	6437	4487	3507	3296	306	0

Figure 2: SOURCE: <https://www.ontario.ca/page/end-coal>

Electricity Generation 2014 – 2023 and Beyond

The figure below provides the outlook over the next 20 years.

Electricity Sector GHG Emissions Outlook



Source: IESO, Environment Canada and Climate Change

Figure 3: SOURCE: Climate Change Action Plan page 109



From 2018 to 2020 electricity generation will stay fairly consistent, with only marginal increases in GHG emission from electricity generation. This marginal increase may be from the overall Ontario demand increasing, which will cause for more peaking plants to be running.

In 2020, a large increase in GHG emissions from electricity generation is expected. This can mainly be attributed to the expected Pickering nuclear station shut down. When the station shuts down, more natural gas fired generation plants are assumed to be required to make up for the loss in power generation. The increase is essentially double the GHG emissions from 2018 to 2023. After 2023, the higher GHG emissions are expected to stay where they are for the next 10 years.

Uncertainty in Grid

The figure below shows the “uncertainty” in our future grid. The green lines show expiring contracts, which mean the generation source needs to renew the contract, or a different generation technology/strategy will need to make up for the shortage in supply. The uncertainty in future electricity supply also contributes to uncertainty in GHG emissions from electricity generation because we don’t know for sure how the electricity will be generated.

Figure 12: Outlook for Installed Capacity to 2035

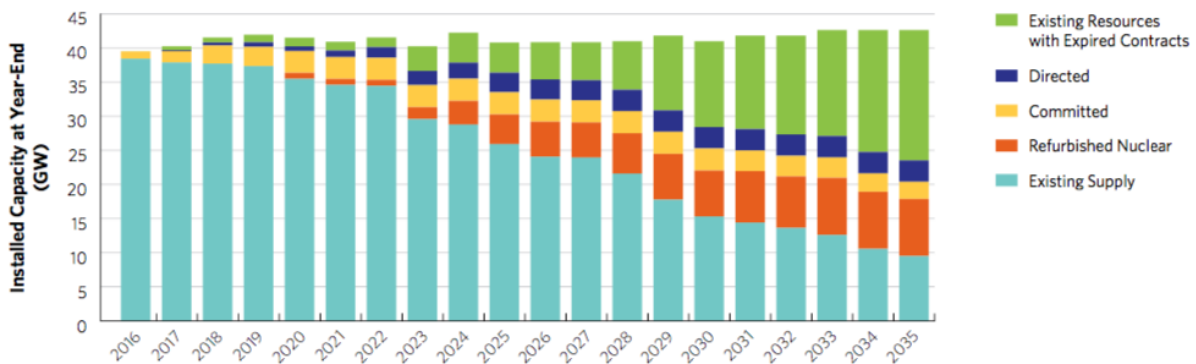


Figure 1: SOURCE: IESO Ontario Planning Outlook Page 9



Section III Community Energy Baseline

The first step to building a responsible energy and emissions management plan for our community is understanding how energy is being used across Milton. Constructing an energy baseline allows us to better understand our overall GHG emissions, identify areas of potential concern, ensure that our conservation efforts are focused to produce efficient and measurable results.

Milton's energy baseline is constructed using the utility data from Milton Hydro and Union Gas to provide residential and non-residential usage totals, and the total retail gasoline and diesel sold within Milton to estimate transportation emissions. This data set allows us to capture a substantial portion of the community's energy use and emissions from which to construct a baseline for this initial iteration of the Community Plan, while allowing for growth into the future as more specific subsets of information become available.

Energy and GHG Baselines

Energy Source	2015	2016	2017
Electricity - Milton Hydro			
Residential kWh	309,189,823	321,031,879	300,010,790
<i>Residential customers (average for year)</i>	32,673	33,462	34,382
Non-Residential kWh	568,138,334	578,094,482	578,092,715
<i>Non-Residential customers (average per year)</i>	3,053	3,093	3,166
Generation kWh	11,709,674	13,823,938	13,326,287
<i>Generation customers (average for year)</i>	266	317	343
Total Electricity kWh	865,618,483	885,302,423	864,777,218
Natural Gas - Union Gas			
Residential m ³		59,028,054	62,748,446
Non-Residential m ³		35,073,303	38,719,585
Total Natural Gas m³		94,101,357	101,468,031
Retail Gasoline			
Litres	102,190,615	102,417,139	110,124,665
Retail Diesel			
Litres	7,625,226	8,364,054	9,038,887



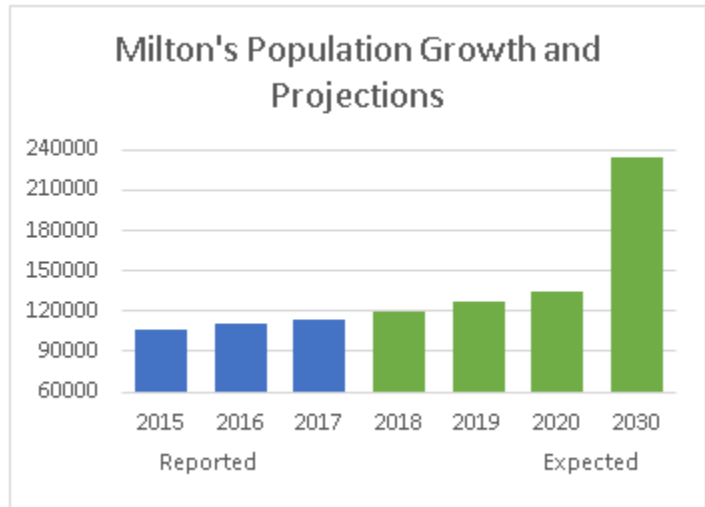
This portfolio provides a broad overview of the energy usage over the short period over which community-wide energy data is available. Continued energy tracking and updates to this portfolio will be an important part of subsequent iterations of the Community Plan, as additional annual data will allow for statistically meaningful trends to be identified. However, the existing data is sufficient to provide a baseline for energy usage within Milton. Using the energy conversion factors described earlier, this portfolio allows us to construct a community GHG emissions baseline.

GHG Emissions (kg CO ₂ e per year)			
	2015	2016	2017
Residential			
Electricity	13,295,162	13,804,370	12,900,463
Natural Gas		112,094,274	119,159,298
Total Residential		125,898,645	132,059,762
Percentage of Total		24%	24%
Non-Residential			
Electricity	24,429,948	24,858,062	24,857,986
Natural Gas		66,604,202	73,528,491
Total Non-Residential		91,462,265	98,386,478
Percentage of Total		18%	18%
Transportation			
Gasoline	275,812,469	276,423,858	297,226,470
Diesel	24,438,849	26,806,793	28,969,632
Total Transportation	300,251,319	303,230,651	326,196,103
Percentage of Total		58%	59%

This baseline view of GHG emissions across the community reveals that residential, non-residential and transportation emissions all increased from 2016 to 2017. Fluctuations between electricity and natural gas usage on a given year were largely balanced out, as both residential and non-residential emissions maintained a steady portion of the total emissions. Transportation emissions comprise a very large percentage of the total GHG across the community, and though this is not surprising given Milton's location and economy it identifies a potential area of significant improvement.



The net increase in GHG emissions from 2016 to 2017 is troubling, yet it shows clearly the challenges facing our community and the urgent need for commitment to action. However, we must also understand our emissions within the context and realities of our Town. Milton’s population is expanding at a rate much higher than the provincial average. Older infrastructure, facilities, and community spaces, designed to fit the needs of the time, are being used more intensively, while the demand for new development is high. We are also attempting to catch up with many of our larger neighbours in developing and implementing a community-wide understanding of our energy uses and emissions. Our total emissions should be considered within the context of these challenges as we develop our action plan.



GHG Emissions Growth		
	2016	2017
Total GHG (kg CO2e per year)	520,591,562	556,642,345
% Change from 2016		+7%
GHG per capita (kg CO2e/population)	4727	4917
% Change from 2016		+4%

This provides a baseline for GHG emissions generation across Milton, taking into account some of the unique challenges inherent to our community. As the plan grows and develops, it is expected that further information will be integrated to provide increased accuracy, large sample sizes to generate trends, and a more granular energy accounting. However, this data provides a sufficient baseline from which we can develop our action plan.

Information Gaps

While our dataset is sufficient to provide a baseline to begin this Community Plan, there are a number of information gaps that will be addressed in subsequent iterations. Some areas, such as town street lighting, have already been substantial reductions in emissions through conservation, while other factors such as off-grid solar generation and urban forest conservation are simply not known at this time. These information gaps will be addressed and incorporated into this plan as they become available.



Conservation Programs

In addition to our energy and emissions baselines, there are a number of conservation programs already in place within our community that should be recognized as part of our energy baseline. Our principle partners, Milton Hydro and Union Gas, have both developed conservation plans as part of their ongoing operations, which will be details below. Subsequent iterations of this plan will expand to recognize the many conservation efforts of our Stakeholder Group and other key participants across our community.

Union Gas - Demand Side Management

Union Gas provides Demand Side Management (DSM) conservation programs which promote natural gas savings and GHG emissions reduction through financial incentives, education and other programs. Union Gas has filed DSM plans with the Ontario Energy Board since 1997.

In 2017, DSM programs accounted for an estimated 1,200,433 m³ of natural gas savings in Milton, with 93,691 m³ saved in the residential sector. There is significant room for further savings, particularly in the residential sector, and assisting Union Gas in bringing these opportunities to the community will be an important part of our action plan.

Milton Hydro - Conservation and Demand Management (2016-2020)

The Milton Hydro Conservation and Demand Management (CDM) plan invests in a wide range of programs designs to conserve energy, including retrofits, heating and cooling improvements, coupon programs, new construction and high performance new construction programs, home assistance programs, and audit funding programs. Working in concert with other utilities, the current plan will run through 2020 and produce over 40,000 MWh in persistent energy savings.



Section IV Action Plan

Targets and Goals

While the ultimate goal of the Town of Milton is to create a clean, sustainable and prosperous future for all of our community, we recognize the importance of setting targets and goals that are realizable within the scope of this action plan. Milton is committed to moving towards the emissions reduction targets established in the Ontario Climate Change Action Plan (OCCAP). These targets provide a measuring stick against which to weigh our performance, as well as a larger context to understanding our emissions reduction efforts. However, there are a great many challenges to meeting those targets. Our town and community are rapidly expanding, creating new sources of emissions and energy demand. As well, we are still in the early stages of implementing our Community Energy Plan, restricting our ability to create an energy baseline. Challenges particular to Milton's location and history, such as uncommonly high transportation emissions, are in need of innovative solutions.

In order to overcome these challenges and move towards the OCCAP targets, we have identified six crucial areas of focus around which to structure our action plan.

- 1. Creating a Community of Conservation**
- 2. Residential Energy Efficiency and GHG Reductions**
- 3. Commercial, Industrial and Institutional Energy Efficiency and GHG Reductions**
- 4. Transportation Energy Efficiency and GHG Reductions**
- 5. Energy Generation and Security**
- 6. Land Use and Growth**

For each of these focus areas, one or more objectives will be identified from the existing baseline data. High priority and near-term actions will then be identified for each objective, as well as the responsible parties and the target or metric against which progress can be determined.

The overall objective of these actions is to improve energy efficiency and reduce emissions across the Milton community, addressing the challenges facing us now, and moving us towards the OCCAP targets. They are not a prescriptive solution, but important first steps in creating the clean, sustainable and prosperous future that we are all working towards.

The targets established by the OCCAP are a challenge that will require the Town, its partner organizations, and the community's key stakeholders to work together, driving energy efficiency innovation and emissions reduction across our community. In order to meet that challenge, we must create a community of conservation, promoting co-operation, sharing economic and emissions reduction opportunities, and ensuring that we all have the chance to take ownership for our own conservation goals.

When compared against our 2016 energy baseline, the OCCAP targets an 8% GHG reduction by 2020. Our GHG emissions per capita between 2016-2017 rose from 4,727 kg to 4,917 kg, a 4% increase. This increase demonstrates the need for a community-wide action plan and widespread adoption in order to reach the 8% reduction prescribed for 2020. The 31% reduction target by 2030, and 78% by 2050 shows the urgent need to not only begin such action now, but ensure that it is maintained and developed upon moving into the future.

Objective

Increase community awareness and uptake of energy efficiency, and climate change or GHG emissions reduction programs.

High Priority and Near-term Actions

1. Facilitate information exchange through a Town facilitated non-residential User Group, while recognizing that some information is proprietary for competitive advantage.
Proponent: Town
Target/Metric: Quarterly User Group Meetings
2. Advance community wide awareness for residential opportunities (options, benefits, incentives, success stories) through Milton Hydro (CDM), Union Gas (DSM) and Town communications. Energy costs are the 3rd highest concern for home buyers after house size and location.
Proponent: Town
Target/Metric: Launch on Town website in Q3 2018, with monthly updates
3. Communicate new regulatory reporting requirements, for example, commercial buildings will need to start reporting in 2019-2020.
Proponent: Town
Target/Metric: Part of monthly updates
4. Align communications with other Town initiatives with linked approaches and actions – Strategic Plan, Economic Development Plan, Master Transportation Plan, Urban Forest Plan, Transit Plan.
Proponent: Town
Target/Metric: Part of monthly update.



24% of Milton's GHG emissions are from residential buildings. With the Town's population expected to double from 2017 to 2030, there is a significant opportunity to drive innovation in how new housing stock is built. The Building Code currently in use is from 2012, with a few minor alterations. Code updates are expected in 2019, 2024 and 2029, each with 5% efficiency gains. In addition, EnergyStar provides a 20% improvement over the current building code.

Objective

Improve energy efficiency and GHG emissions reduction in existing residential buildings through retrofits that are expected to yield at least 35% efficiency.

High Priority and Near-Term Actions

1. For multi-residential buildings, promote and deliver standard retrofit programs as incentivized by MECC and other government groups.

Proponent: MEGS

Target/Metric: 50+% of existing multi-residential structures will have retrofit by 2030.

2. For residential, promote and deliver standard retrofit packages – thermal, systems and appliances, conversation, aligned with incentive programs.

Proponent: MEGS

Target/Metric: 50+% of homes will be retrofitted by 2030.

Objective

Increase the percentage of new residential buildings that exceed building code standards through voluntary adoption or programs such as EnergyStar.

High Priority and Near-Term Actions

1. Promote EnergyStar and certification process for new builds, and at minimum track compliance with current building code.

Proponent: Town

Target/Metric: 80% of new builds exceed Ontario Building Code.

2. Investigate inclusion of zero carbon and other deep green housing in MEV secondary plan.

Proponent: Town/MEGS

Target/Metric: Planning contact awarded before end of 2018.



Commercial, Industrial and Institutional Energy Efficiency and GHG Reductions

18% of GHG emissions are from non-residential users, and growth in those areas is expected to track the population growth of the Town. Next to payroll, energy use is the next top issue for small and mid-sized businesses. While many of the large businesses and institutions have sophisticated energy management strategies in place, many within our community still do not.

Objective

Improve energy efficiency and GHG emissions for non-residential users through energy management and standard retrofits that are expected to yield at least 35% efficiency.

High Priority and Near-Term Actions

1. Performance-based Conservation Pilot for Commercial buildings – benchmarking, efficiency actions and tracking (as part of IESO Conservation First Fund approved project with TRCA, Halton Hills and Hydro One Brampton).
Proponent: Milton Hydro / MEGS
Target/Metric: As identified in CDM Plan 2016 to 2020.
2. Pilot CDM for small to medium-sized enterprises (SME's) in partnership with IESO.
Proponent: MEGS
Target/Metric: 30 pilot customers in 2018-2019. Minimum 20% efficiency.
3. For SME's, promote and deliver standard retrofit packages – thermal, systems and fixtures, conservation, aligned with incentive programs. Link with Milton Hydro proposed program 'New Small Business Direct Install Program.'
Proponent: MEGS
Target/Metric: S/T as identified in CDM Plan 2016-2020. 50% of SME's retrofitted by 2030.



Objective

For Class A organizations, improve their energy management practices, with a planning objective of 2% emissions reduction per year.

High Priority and Near-Term Actions

1. Assess, and provide solutions for Peak Management, Distributed Generation and Storage.

Proponent: MEGS

Target/Metric: Adoption % and M&V of energy and GHG results.

Objective

Increase the % of new non-residential buildings that exceed building code, are LEED and BOMA Best certified.

High Priority and Near-Term Actions

1. Permitting dependent on energy performance and modeling for new builds and major renovations.

Proponent: Town, MEGS

Target/Metric: % of new buildings with energy models.



Transportation remains the largest source of GHG emissions within Milton, and accounts for a significantly larger percentage than in other, comparable communities due to the location and economy of the town. This will be a significant challenge in reaching the OCCAP goals. However, it also presents an opportunity to invest in an area that could see significant reduction, and push innovative solutions forward.

Objective

Make Milton a leader in EV adoption, taking advantage of incentives and new technologies, to create new business cases that reduce energy usage, energy costs and GHG emissions. This objective is dependent upon outstanding grant applications.

High Priority and Near-Term Actions

1. Implement large scale EV Grid Integration project.
Proponent: MEGS
Target/Metric: Achieve 3 sites with 60 EV's. Measuring combined GHG emissions reduction against three times the expected emissions reduction from simply adopting an EV.
2. Pilot EV Ice Resurfacers with financial backing from FCM.
Proponent: Town
Target/Metric: GHG reduction.
3. Pilot EV pickup trucks in Town and Milton Hydro fleets, with financial backing from FCM.
Proponent: MEGS, Milton Hydro
Target/Metric: GHG reduction.
4. Pilot EV buses in Milton Transit.
Proponent: MEGS
Target/Metric: GHG Reduction.
5. Pilot EV Transport Trucks.
Proponent: MEGS
Target/Metric: GHG reduction.

Objective

Reduce idling and improve traffic flow.

High Priority and Near-Term Actions

1. MIOVISION automation.
Proponent: Town
Target/Metric: 2018 Case Study results.

Renewable and alternate power generation has the potential to not only reduce our GHG emissions, but increase the resiliency and energy independence of the Town. Approximately 350 FIT Solar generation suppliers currently supply to the grid, producing 13 million kWh, approximately 1.5% of total electricity consumption. Rooftop solar has been approved by the Town. The LTEP identifies future distribution requirements between Mississauga and Milton. There is currently no district energy.

Objective

Implement District Energy and increasingly widespread solar generation to increase local energy generation and enhance supply security.

High Priority and Near-Term Actions

1. Develop a plan for District Energy, tied with MEV Deep Green Secondary Plan.
Proponent: MEGS
Target/Metric: 2018
2. Develop business plan for large scale rooftop solar deployment, including rooftop inventory.
Proponent: MEGS
Target/Metric: 2018

Land Use and Growth

Responsible land use management and conservation can have significant impacts on both emissions reduction and long-term management of climate adaptation and mitigation.

Objective

Ensure land use policies and plans enhance community energy efficiency, climate change adaptation and climate change mitigation, through linking land use to buildings and transportation.

High Priority and Near-Term Actions

1. Achieve carbon offsets through promotion of Urban Forest Management Strategy.
Proponent: Town
Target/Metric: Bi-annual progress updates from the Urban Forest Strategy.
2. Use MEV Secondary Plan as a pilot for Deep Green planning.
Proponent: Town/MEGs
Target/Metric: 2018

Oversight

The Milton Green Innovation Plan and the development of the Corporate and Community Energy Plans have been overseen by a Steering Committee comprised of representatives from the Town, energy utilities, and experts in the field. Oversight of the Plans once they have been developed will remain with the Town's Facilities Department and any additional partners as they are required.

Renewal Cycle and Reporting

GEA reporting requires an updated energy conservation plan be completed and publicly posted every five years, while energy use and GHG emissions data be submitted and made available every year. This plan should be updated quarterly to reflect the most recent energy use data and to update the action plan as recommended actions are undertaken and new initiatives are planned.

As part of Milton's GEA compliance strategy, this plan will need to be reviewed and updated after five years.

Monitoring and Measurement

As the five-year Milton Green Innovation Plan is implemented, accurate accounting of energy demand and consumption will be required to sustainably satisfy the annual GEA reporting regimen. In addition to satisfying reporting requirements, monitoring and measuring consumption will allow the town to communicate successes to staff and residents.

Annual updates of the plan will highlight the Measurement and Verification tracking of existing projects.

Resource Implications

Once the final plan is approved, resource implications will be calculated in concert with the Town.

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MILTON Appendix I: References and Credits

- Burlington Community Energy Plan 2014
- Town of Newmarket Community Energy Plan 2016
- Town of Milton Transportation Master Plan
- Town of Milton Urban Forest Management Strategy
- Town of Milton Education Village Secondary Plan – Work Plan
- Halton Catholic School Board Energy Conservation and Demand Management Plan
- Halton Public School Board Energy Conservation and Demand Management Plan
- Milton Economic Development Advisory Committee 2015 Annual Report
- Destiny Milton 3 – Town of Milton Strategic Action Plan 2015-2018
- Town of Milton Environment, Conservation and Demand Energy Management Plan 2011
- Union Gas Demand Supply Management Report
- Milton Hydro Conservation and Demand Management Report
- Milton Transit Services Plan
- Milton Retail Gasoline and Diesel Usage – Kent Analytics