




**CITY OF HAMILTON**  
**PUBLIC WORKS DEPARTMENT**  
**Energy, Fleet and Facilities Management Division**

<b>TO:</b>	Chair and Members Public Works Committee
<b>COMMITTEE DATE:</b>	February 19, 2021
<b>SUBJECT/REPORT NO:</b>	Corporate Energy and Sustainability Policy (PW14050(a)) (City Wide)
<b>WARD(S) AFFECTED:</b>	City Wide
<b>PREPARED BY:</b>	Tom Chessman (905) 546-2424 Ext. 2494
<b>SUBMITTED BY:</b>	Rom D'Angelo, C.E.T.; CFM Director, Energy, Fleet and Facilities Management Public Works Department
<b>SIGNATURE:</b>	

**RECOMMENDATION**

- (a) That the City of Hamilton adopt the revised Corporate Energy and Sustainability Policy attached as Appendix "A" to Report PW14050(a);
- (b) That all Boards and Agencies be encouraged to adopt the policy and actively participate towards the stated reporting, targets and goals; and
- (c) That staff provide annual corporate-wide energy updates to the Public Works Committee reporting on energy results and progress.

**EXECUTIVE SUMMARY**

The City of Hamilton's (City) first Corporate Energy Policy (Report PW07127) was created and adopted by Council in 2007. The original policy was further updated in 2014 (PW14050). This revision, now the Corporate Energy and Sustainability Policy, calls for greenhouse gas (GHG) emission reduction targets of net zero or 100% (was 80%) by 2050. The previous interim target of 50% GHG reduction by 2030 remains unchanged.

The Corporate Energy and Sustainability Policy (CESP) has several enhancements from the previous versions. The Climate Change Emergency declaration by City council in March 2019 reiterated the need to focus on GHG emission reductions. Our current data shows 92% of the City's corporate emissions are represented by Fleet (49%), Corporate Buildings (31%) and Water/wastewater (12%) based on 2018 emission inventory data. This clearly establishes our focus on these portfolios and to that end the policy language and targets remain critical. The addition of the word Sustainability is important since the energy policy has always had direct impact on emissions. Lower energy use delivers lower emissions. The policy has a broader impact than just energy, so this new title more accurately describes the scope of the targets, actions and deliverables.

The Corporate Energy and Sustainability Policy is designed to facilitate achievement of City-wide corporate energy and emission reduction targets, address legislated reporting requirements, define policies for capital investment related to energy conservation and demand management along with policies related to energy procurement and address regulations concerning greenhouse gases and other targeted emission reductions.

Specifically, policy actions include:

- Base Building Standards;
- Project Approval Processes;
- Incentive/ Funding Programs, Life Cycle Analysis;
- GHG Emissions, Reporting and Protocol;
- Fuel Reduction Targets;
- Hamilton Water Energy Reporting;
- Energy Reserve;
- Energy Efficient Lighting;
- Building Automation Systems;
- Sustainable Building;
- Energy Efficient Equipment;
- Generation, Cogeneration, District Energy and Renewable Energy;
- Emergency Generators and Back-Up Power Systems;
- Monitoring and Verification;
- Building Labelling;
- Energy Procurement;
- Renewable Energy.

Key portfolios can take policy guidelines and develop their own implementation plans. For example, Transit will be able to address their emissions with a vehicle purchasing strategy that includes low emission electric or hydrogen fuel cell options plus an emission reduction plan for the compressed natural gas fleet. Fleet is finalizing a Green Fleet strategy that will speak to low emission vehicle options. Hamilton Water is focused

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on energy and emissions from specific language in this policy plus playing a major role in the renewable energy portfolio. Corporate buildings will continually be assessed for energy efficiency and emission reduction strategies and these options will be brought forward to council for consideration. Adoption of the CESP will encourage consistency in reporting on results and setting of operational and efficiency guidelines to support the overall corporate and city-wide targets.

Key targets are outlined in Table 1 which show the 2030 and 2050 milestones. It should be noted that the original targets that were established in 2007 indicated targets for 2020, 2030 and 2050.

Table 1: Corporate Energy Intensity and GHG Emission Reduction Targets

Year	Energy Intensity	GHG Emissions
2030	45%	50%
2050	60%	100%

The current targets align with adjacent communities and our local efforts. One key local initiative is the development of a Community Energy and Emission Plan to address targets and actions across all City-wide sectors including residential, commercial and industrial. Led by Planning and Economic Development and working with representative stakeholders from each sector along with the retained consultant, the Community Energy and Emission Plan is expected to be completed and brought to council in 2021.

**Alternatives for Consideration – N/A**

**FINANCIAL – STAFFING – LEGAL IMPLICATIONS**

**Financial:** Policy targets for energy efficiency and emission reduction through consistent management aim to control costs through efficiency gains and operational changes. Projects are directed to be reviewed on a case by case basis for life cycle costing, allowing the City to best decide which project option will deliver the lowest ongoing costs and targeted reduction. Awareness of key performance indicators like energy intensity guides optimized use within Corporate buildings. Without policy and efforts by staff, the City could end up paying higher operational costs.

**Staffing:** N/A

**Legal:** Supply contracts and other energy related agreements will continue to be vetted by legal services. Energy producers, suppliers and related contracts will continue to follow the commodity policy language as per this policy.

## **HISTORICAL BACKGROUND**

In 2005 Hamilton City Council approved the concept of an energy office (formerly, the Office of Energy Initiatives) now Public Works, Energy Initiatives section in Energy, Fleet and Facilities Management, to be created to formalize and centralize responsibility for energy management in the City by focusing on how and where the City was spending money on energy and to look for ways to save and reduce energy consumption.

The original Corporate Energy Policy from 2007 outlined many areas for energy efficiency and optimization. Building on the original policy and its update in 2014, coupled with defined targets, the City has been able to identify and bring forward various business cases that support the policy, reduce operating costs and achieve reduction in GHG's.

Since 2005 (the base year), the policy and staff assigned to manage the policy actions has evolved. There have been several milestones and enhancements that contribute to the ongoing efforts and actions that lead the City towards development of policy and achieving targets.

- In 2006, The Office of Energy Initiatives (OEI) was formed. The duties established for the OEI included focus on energy cost and consumption, and ways to reduce both. The major responsibilities were:
  - Corporate Energy Policy (including commodity procurement);
  - Operations of renewable generation;
  - Utility rate management;
  - Utility billing errors and adjustments;
  - Energy monitoring, verification, benchmarking and analysis;
  - Metering, sub-metering and customer utility billing;
  - Energy conservation and demand management;
  - Regulatory Compliance and Reporting;
  - Environmental Emission Reductions;
  - Stewardship and Education.
- In November 2007, the City's first Corporate Energy Policy (PW07127) was approved. This policy document called for a review after five years.
- In 2008, the City's first corporate Energy Commodity Policy (PW08144/FCS08114) was approved. This document outlined the policy around

commodity purchasing, supplier qualifications, hedging protocols, reporting and risk management for energy commodity purchasing for city assets.

- In August 2009, at the Committee of the Whole, an Information Report titled Corporate Energy Report- Year End 2008 (PW09069) was received by Council. The report outlined the annual corporate energy savings and avoided cost savings as of the year end 2008. This was the first annual report for corporate energy results.
- In 2013, Council approved the Board of Health (BOH) Climate Change Actions 2012 Report (BOH13024) recommendation of 80% reduction in Green House Gas (GHG) emissions by 2050.
- In May, 2014 Public Works Committee, the updated Corporate Energy Policy (CEP) was approved (PW14050). This report outlined updated energy intensity targets for 2030 and 2050. In addition, the 2014 policy included the emissions reduction target established by the BOH, along with an interim target for 2030. And, the Energy Commodity Policy was combined with the 2014 CEP.

Each year the Corporate Annual Energy report is created to report on the results for key performance indicators established in the CEP and to communicate ongoing efforts around energy project activities, rates optimization, commodity purchasing and bill recoveries. Details in the annual report include specific utility costs, savings, avoided costs, incentives received, and other project updates. As of 2018, the annual report also includes a Greenhouse Gas (GHG) emissions inventory for city-owned assets. These reports are posted online at [www.hamilton.ca/energy](http://www.hamilton.ca/energy).

Staff in the Energy Initiatives section remain responsible for the duties established when the energy office was formed. Energy efficiency project activity and utilities management are the basis for the office. However, as the energy industry has evolved, so have the policies and initiatives required to ensure we meet our targets. The Climate Change Emergency declaration has placed emphasis on the reduction of GHG emissions. Advancements in technology, climate regulations, sustainable building, and renewable energy are necessary considerations when making energy-related decisions. Corporate-wide adoption of the CESP encourages consultants and project managers to evaluate energy efficient and low emission alternatives properly, so that diligent life cycle analysis is performed to make informed decisions and to ensure that staff conform to policy while maximizing available incentives. The Energy Initiatives section is poised to act as a resource for these considerations and the CESP is a guideline for achieving the target results.

## **POLICY IMPLICATIONS AND LEGISLATED REQUIREMENTS**

The Corporate Energy and Sustainability Policy provides overall targets and operational standards and requirements but allows room for individual portfolios to adapt plans and policies within their respective areas to support the achievement of those overall targets and goals. Some policy actions within the CESP, particularly around projects, building and lighting standards, procurement etc. outline specific actions that may be utilized in all areas where applicable. However, it is expected that achievement of the targets may require individualized policies to support those efforts. For example, updates to Fleet and Transit policies would include specific measures for vehicle optimization which would have a positive impact on greenhouse gas emissions within our community. Decisions that include but are not limited to adopting new fuel sources (i.e. electric, hydrogen fuel cell, compressed natural gas or biofuels), enhancing driving habits, or modifying vehicles all impact and relate to the Green Fleet Strategy being updated throughout 2020.

In addition to the reports to Council on annual results of energy reductions, commodities and emissions inventory, the CESP recognizes that there are currently provincial regulatory reporting requirements for corporate site energy and emission data. The data is and will continue to be provided to the province annually as per the legislation. There is also a Conservation and Demand Management (CDM) plan reporting requirement that calls for reports every 5 years. The last report was submitted in 2019 and continues to be monitored. Reporting will be updated as required, should legislation change in the future.

## **RELEVANT CONSULTATION**

Review, consultation and feedback was solicited internally from management and front-line staff including Transit, Facilities, Fleet, Hamilton Water, Environmental Services, Healthy and Safe Communities, Planning and Economic Development and Finance. Input was also acquired from other sources including actions and priorities outlined in the activities resulting in the City confirming the Climate Change Emergency. This led to formation of a Climate Change Task Force which is staffed by representatives across the City. There has also been activity led by Planning and Economic Development to develop a Community Energy Plan which has provided input to this policy through community wide stakeholder sessions which overlap with the Corporate areas of focus such as energy efficiency and emission reduction.

## **ANALYSIS AND RATIONALE FOR RECOMMENDATION**

Corporate policies around managing energy, efficiency and addressing climate change is integral to the City meeting its council approved mandates. With legislative pressures for communities to reduce their energy usage and GHG emissions, the revised

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Corporate Energy and Sustainability Policy builds upon the success of prior policies and guide decisions and investment in energy efficiency to address rising utility costs and an aging infrastructure.

Previous versions of the policy have led to excellent business cases for efficiency investments by conducting prudent life cycle analysis and considering operational efficiencies and incentive opportunities in project upgrades and infrastructure investment. Incremental costs for energy efficient upgrades often pay for themselves in lower utility costs and contribute to the energy intensity and emission reduction targets. As of 2019, the energy intensity target for corporate buildings is a reduction of 25% compared to the base year of 2005.

Table 2: Energy Intensity Comparison in Equivalent kilowatt hours per Square Foot (ekWh/sqft)

Energy Intensity	2005	2018	2019	2019 vs 2005	2019 vs 2018.
City Total (ekWh/sqft)	45.69	34.13	34.34	-25%	0.6%

The 2018 GHG emissions inventory for corporate assets is a reduction of 42% compared to the base year.

The revised Corporate Energy and Sustainability Policy is intended to further build on prior successes, and update and revise specific policy actions to adapt to changes in the energy industry and evolving regulatory environment, including development of greener technologies, renewable resources and climate actions. Using the policy as a guideline, those making decisions for upgrades to corporate assets (i.e. in buildings, fleet and operations) will have a strategic plan to make all necessary considerations that help the City to meet overall targets and goals.

The policy also outlines specific actions relating to the management of commodities, utilities usage and costs data and reporting. There continues to be energy cost pressures, therefore tracking utility data including regulatory impacts and the effects of efficiency activities is key to measuring success and identifying areas of focus.

Managing commodity costs through wholesale supply agreements and procurement and hedging strategies has been successful in the past. Hedging agreements can offer price certainty by mitigating volatility which is paramount when managing budgets. The policy continues to specify rules governing supply arrangements and reporting for commodities. Details on commodities actions and results are presented annually in a report to council.

Utilities management policy actions (including rates optimization, bill recoveries and reporting on key performance indicators) are measured and reported by Energy Initiatives staff. This includes GHG emissions from energy use. Overall this data, and impacts from efficiency projects, forms the foundation for reporting on results against the baseline year in the annual energy report.

Overall, the City needs to prioritize the following to deliver the desired results with all remaining and unavoidable costs:

- Using less energy (through efficiency efforts);
- Considering renewable energy options, including the possibility of renewable energy credits;
- Operational and process improvements;
- Promoting energy and cost awareness; and
- Supply management strategies

Establishing clearly defined energy targets along with a heightened focus on energy management are integral to the City meeting its goals 60% energy intensity reduction and 100% emission reductions by 2050.

## **ALTERNATIVES FOR CONSIDERATION**

N/A

## **ALIGNMENT TO THE 2016 – 2025 STRATEGIC PLAN**

### **Clean and Green**

Hamilton is environmentally sustainable with a healthy balance of natural and urban spaces.

### **Built Environment and Infrastructure**

Hamilton is supported by state-of-the-art infrastructure, transportation options, buildings and public spaces that create a dynamic City.

### **Our People and Performance**

Hamiltonians have a high level of trust and confidence in their City government.

## **APPENDICES AND SCHEDULES ATTACHED**

Appendix “A” to report PW14050(a)) - Corporate Energy and Sustainability Policy