SUBJECT: Update to the Corporate Energy and Sustainable Buildings Policy

TO: Committee of the Whole

FROM: Environment and Energy

Report Number: EICS-07-24

Wards Affected: All

Date to Committee: April 8, 2024

Date to Council: April 16, 2024

Recommendation:

Approve the updated Corporate Energy and Sustainable Buildings Policy attached as Appendix A to environment, infrastructure and community services report EICS-07-24.

PURPOSE:

Vision to Focus Alignment:

- Protecting and improving the natural environment and taking action on climate change.

The purpose of this report is to provide City Council with an updated Corporate Energy and Sustainable Buildings Policy for approval.

Background and Discussion:

This report presents a consolidated Corporate Energy and Sustainable Buildings Policy that applies to city operations. It combines the two separate policies for Energy Management and Sustainable Buildings (city owned facilities). A decision was made to combine them given the strong relationship between the two policies.

Previously, the standard for the sustainable building policy was to target the silver LEED certification from the Green Building Council for new facilities and major retrofits. However, this didn't necessarily mean that the facility would be energy efficient and support a corporate target for a zero or low carbon footprint. In updating the policy, the requirement has been changed to meet the most current version of the Canada Green

Building Council's zero carbon building standard, where the use of fossil fuels for the operation of new buildings should be avoided. This helps to support the target approved by Council in the Strategic Plan and the Corporate Energy & Emissions Management Plan for city operations to be net carbon neutral by 2040.

Also important, the policy speaks to the importance of considering the impacts of our changing climate, to plan and prepare for climate resiliency. Staff have noticed that the federal government is asking as part of funding applications how climate adaptation and resiliency planning and measures are incorporated into projects. It also supports Climate Resilient Burlington – A Plan for Adapting to Warmer, Wetter and Wilder Weather approved by Council in 2022.

The City of Burlington continues to face rising costs to maintain and repair aging infrastructure, deliver services to the community, obtain the necessary energy to power its facilities and fleet of vehicles, and adapt to a changing climate. The generation and use of energy from fossil fuel sources also contributes to climate change through greenhouse gas (GHG) emissions. In 2016, City Council approved Burlington's Strategic Plan 2015-2040 and committed to making the City's operations net carbon neutral by 2040. In 2019, Burlington City Council declared a climate emergency[1] and approved the Corporate Energy & Emissions Management Plan. The implementation of this plan ensures a comprehensive energy management approach for City facilities to reduce greenhouse gas emissions through energy conservation, energy efficiency measures and operational improvements.

The energy management program relies on completing energy retrofit studies for corporate facilities. The studies involve a technical review of a facility and its operations, the development and analysis of a baseline energy profile for the facility and a review of the building's financial capital and operating plan and the lifecycle of various facility systems. These studies provide a pathway toward converting our existing building portfolio to low carbon facilities.

Another essential component of the energy management program is the commissioning of City facilities. Over the life cycle of a facility, the mechanical building automation and distribution systems are adjusted from day to day to suit user room temperature

[1] The climate emergency was declared for the purposes of deepening our commitment to protecting our economy, environment and community from climate change. It also mandated that staff apply a climate lens to the plans and actions of the City of Burlington including the Council strategic workplan and future budgets.

requirements. Moreover, mechanical distribution or building control instrumentation is sometimes overlooked when renovations take place. Commissioning involves examining the original mechanical design and operating specifications, any building renovations that have taken place, and defining the facility's current operating requirements. Operational adjustments, tuning and calibration are performed to meet facility requirements. It also ensures that mechanical operating practices are current and appropriate to maximize building system efficiencies and consider what new systems should be implemented when taking on a deep energy retrofit at the facility to meet the carbon neutral target for City operations.

The use of renewable energy measures can also help reduce overall corporate greenhouse gas emissions by lessening our demand for fossil fuel-generated energy (oil, gas or coal). The investment for these types of measures can be significantly greater than conservation initiatives but are also important to achieve our corporate carbon reduction goals. These projects need to be carefully researched and engineered on a site-by-site basis to achieve the highest possible carbon reduction for the lowest cost. However, it is acknowledged that the use of technologies such as solar, geothermal, battery storage and heat pumps can show community leadership and help raise awareness of the benefits of utilizing resilient, low-carbon solutions.

The success of the energy management program can only be determined through the measurement of savings. Burlington has adopted comprehensive systems for logging, tracking and modelling energy usage associated with facilities to help monitor progress, provide constant and consistent reports to ensure efficiencies in facility operations, identify successful retrofits that can be replicated in other facilities, highlight problem areas or facilities, as well as track and report on greenhouse gas emissions.

Energy conservation and demand management (reducing energy usage during peak demand) are essential measures to help safeguard against an already strained electricity transmission system and reduce reliance on natural gas-fueled peaking generating stations.

Strategy/Process/Risk

The process of updating the Corporate Energy and Sustainable Buildings policy involved engaging relevant staff, the Sustainable Development Committee, and the City’s leadership team.

If the City does not implement and follow the policy, it is at risk of not meeting its climate action objectives and targets. Implementing the policy can also assist in avoiding and/or managing the risks of increasing energy prices, as well as managing the risks of a changing climate by preparing and planning for warmer, wetter and wilder weather.

Options Considered

As noted above, the do nothing option will not help the City achieve its climate action objectives and targets.

Financial Matters:

Realistically, the cost of clean energy technologies is expected to decrease as they develop and become more commercially available. However, each City project will need to be assessed to determine the costs to achieve a net carbon zero and climate-resilient facility (or near net carbon zero). The goal is to reduce the use of fossil fuels through options that may require electrification – although equipment such as air source heat pumps are more efficient, they can also increase electricity consumption and cost. When incorporating measures like these, options to decrease electricity costs, such as solar PV and/or battery storage, should be considered. A full cost accounting must consider the environmental and social benefits of reducing the use of fossil fuels and becoming climate resilient, long-term operational savings, including increasing costs of carbon, and the 'City's commitment to achieve net carbon zero by 2040 and be climate resilient.

Total Financial Impact

Not Applicable

Source of Funding

City staff will monitor and apply to incentive programs administered by senior levels of government (or other external sources as identified) which support the goals and targets of this policy and related corporate sustainability/climate plans. It is important to note that federal funding programs are requiring information on how resiliency measures are considered in the design of projects.

The implementation of sustainable building and carbon reduction measures should not be dependent on external funding sources to achieve the City's carbon neutral climate resilient goals

Other Resource Impacts

To sustain a corporate culture of conservation, staff are engaged in an awareness and education program. Although facilities staff have the lead responsibility in ensuring City facilities operate efficiently, all City staff should be familiar with and utilize energy-efficient measures where possible.

Climate Implications:

The updated Corporate Energy and Sustainable Buildings Policy will assist the City in reducing its operational greenhouse gas emissions in its existing facilities, new facilities and major renovations and its corporate fleet. Ensuring that new buildings and major renovation projects follow the latest version of the Canada Green Building Council's Zero Carbon Building standard will ensure that fossil fuels will be avoided where possible. It will also ensure that embodied carbon is monitored and building envelope improvements will be prioritized to reduce energy use.

Engagement Matters:

In 2023, staff from Facilities and Buildings, Environment and Energy and Roads, Parks and Forestry were consulted. The policy was also presented to the Sustainable Development Committee for review and comment. The draft policy was presented to Burlington Leadership Team in January 2024.

The updated policy will be shared with staff through the appropriate channels.

Conclusion:

Approving the updated Corporate Energy and Sustainable Buildings Policy will assist the City in reaching its goal of being net carbon neutral in its operation by 2040 and achieve climate resilience by preparing for warmer, wetter and wilder weather.

Respectfully submitted,

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Appendices: (if none delete section)

A. Corporate Energy and Sustainable Buildings Policy

Report Approval:

All reports are reviewed and/or approved by Department Director, the Chief Financial Officer and the Executive Director of Legal Services & Corporation Counsel.