



Office of the City Auditor

Environmental Stewardship Strategies Audit

Audit Unit: Environment & Energy

Date of Audit: May – October 2023

Auditor: Maciej Jurczyk, City Auditor

Distributed To: City of Burlington Audit Committee

Allan Magi, Executive Director, EICS
Lynn Robichaud, Manager, Environmental Sustainability
Tom Pedlar, Supervisor, Energy & Emissions
Fleur Storace-Hogan, Coordinator, Sustainability Projects

cc: Tim Commisso, City Manager
Blake Hurley, Executive Director, Legal Services &
Corporate Counsel
Ken Pirhonen, Manager, Facility Assets

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EXECUTIVE SUMMARY

BACKGROUND

In accordance with the 2023 Audit Plan, the City Auditor performed a review of the City's environmental stewardship strategies. The purpose of this audit was to assess the performance of the implementation plans of Council's approved '*Corporate Energy and Emissions Management Plan*', '*Climate Action Plan*', and '*Climate Resilient Burlington*'. Audit evaluation of the City's performance measurement approach, funding/resourcing and communication tools was also conducted.

The Burlington City Council has approved three high profile environmental stewardship strategies during the last term of Council following the declaration of a 'climate emergency' in 2019, 'Corporate Energy and Emissions Management Plan' in 2019, 'Climate Action Plan' in 2020, and 'Climate Resilient Burlington' in 2022. Environmental stewardship is featured prominently in the City's Strategic Plan (Vision 2040) and Council's Vision to Focus Roadmap which includes a key strategic goal of being "*Net carbon neutral for City Operations by 2040*". Further, the City has joined multiple national and international organizations including the 'Global Covenant of Mayors for Climate & Energy', 'Carbon Disclosure Project' and 'Partners for Climate Protection'. Under these agreements, the City has committed to reporting publically on its environmental stewardship initiatives and adopted goals to reduce greenhouse gas emissions (GHG).

SCOPE AND OBJECTIVES

The objectives of this internal audit were:

- Determine that the implementation workplans to support the City's environmental stewardship strategies are performing as intended and are positioned to be effective
- Determine that performance measures (KPIs) accurately reflect the performance of the strategies
- Evaluate the efficacy of communications tools to support the City's environmental stewardship strategies
- Determine that program funding is secure and adequate
- To provide recommendations to the City's Environment & Energy service area if opportunities for improvement emerge

The scope of the audit did not include the following:

- The execution of environmental stewardship programs within the respective environmental stewardship strategies (i.e. installation of solar panels, home energy retrofit program)
- Other 'green' projects/programs the City is leading or supporting that are not explicitly identified in the three Council approved environmental stewardship strategies

The approach that formed the scope-of-work included:

- Interviews with EICS staff to understand in detail Council's environmental stewardship objectives, approved strategies and associated implementation plans
- Assessing the effectiveness of communications back to Council, residents and other stakeholders

- Analyzing the accuracy and effectiveness of KPI's reflecting the performance of these strategies
- Evaluating the adequacy of funding/resourcing for the implementation plans associated with these strategies

INTERNAL AUDIT FINDINGS

Overall, the City has a robust series of environmental stewardship strategies approved by City Council, however operational improvements are required to implement the programs/actions associated with those strategies. No high-risk issues were identified during the audit. The following areas were deemed to be operating effectively:

- Reporting to Council and public stakeholders is comprehensive:
 - Reports written to Council are well written, well researched, and balance quantitative measures (i.e. GHG emissions performance) with qualitative updates of environmental related initiatives.
 - 'Climate Action Plan' and 'Climate Resilient Burlington' strategies included comprehensive consultation from a broad network of external stakeholders (i.e. Conservation Halton, Mohawk College) and internal staff departments.
- Integrations with other projects/initiatives/stakeholders is effective:
 - Environment & Energy staff heavily rely upon staff in other departments, Senior Management support and other community stakeholders to deliver environmental related programs. These integrations appear to be strong and effective.
 - There appears to be a strong working culture between the Environment & Energy service area and their network of partners/stakeholders.
- Communications with the public are extensive and effective.
 - The City employs multiple communication tactics to frequently disseminate information to the public including press releases, social media, information sharing at local and regional tables/committees and a dedicated blog called 'Take Action Burlington'
 - Public engagement including surveys were deployed during the development of these strategies.
- The City is compliant with Provincial regulations for energy conservation and demand management plans.
 - The City has met the requirements of provincial regulation 25/23 under the Electricity Act.
 - The 'Corporate Energy and Emissions Management Plan' exceeds the requirements of the regulation by setting specific goals and targets to be net carbon neutral by 2040; which is also consistent with the aspirational goal within City Council's Vision 2040

The following is a summary of findings for areas of improvement:

1. Dedicated workplans should be developed: **Medium Risk**
2. Key Performance Indicators should be improved: **Medium Risk**
3. Financial resources are not aligned to environmental stewardship programs: **Medium Risk**

The City Auditor appreciates the assistance and co-operation from the Environment & Energy team during the course of this audit.

DETAILED OBSERVATIONS AND RECOMMENDATIONS

On April 23, 2019 Burlington City Council approved a motion that declared “a *climate emergency for the purposes of deepening our commitment to protecting our economy, environment and community from climate change*”. Subsequently Council approved the ‘[Burlington Climate Action Plan](#)’ (BCAP) in March 2020 which committed the City to “*become a net zero carbon community by 2050*” and the ‘[Climate Resilient Burlington](#)’ (CRB) strategy in July 2022 which is a plan for “*adapting to our warmer, wetter and wilder weather*”. The BCAP has a multi-year community-wide plan containing seven recommended programs related to renewable energy, electric mobility, home energy retro-fits etc. The primary goal of the BCAP is to provide a pathway to become a net carbon neutral community by 2050. The CRB is also a multi-year plan that focusses on 32 actions for adapting the City’s assets and infrastructure to extreme weather fluctuations resulting from climate change to manage risk and reduce vulnerabilities.

The City is also obligated by Ontario Regulation 25/23 (previously 507/18) under the Electricity Act to prepare an “*energy conservation and demand management plan*” as well as annually report the City’s energy usage to a provincial reporting system. The City’s ‘[Corporate Energy and Emissions Management Plan](#)’ (CEEMP) meets and exceeds this provincial requirement and the City has annually complied with these regulations. This report, approved by Council in July 2019 and supported by 65 distinct actions, set a target of “*having the City’s operations become net carbon neutral by 2040*”.

These three strategies are led by a team of professionals within the Environment and Energy service area within the broader Environment, Infrastructure and Community Services service group (EICS). Four dedicated full-time professionals and one contract staff are responsible for executing the implementation of these strategies, however there is a high degree of integration with other City departments and external stakeholders for environmental related projects/initiatives. For example:

1. Program #1 within the BCAP (Burlington Low Carbon New Building Guideline) relies upon the Community Planning service area to take a lead
2. Action #1-1 within the CRB (Expand natural asset data and include priority natural assets into Burlington’s Asset Management Plan) relies upon Engineering Services to be the lead
3. Action #6 of the CEEMP (Gradually phase out purchase of gasoline light duty vehicles and begin to investigate phase out of medium duty vehicles) relies upon the Fleet Management service area to be the lead

The City has multiple agreements and formal relationships with external organizations including:

1. Bay Area Climate Change Council (a collaboration between the Cities of Burlington, Hamilton & Mohawk College)
2. Conservation Halton
3. Burlington Hydro Inc.
4. Halton Municipal Climate Team (includes Oakville, Milton, Halton Hills, Halton Region)

The principal risk associated with this internal audit is reputational impairment should the City not successfully achieve its stated goals within the three Council approved environmental

stewardship strategies, particularly since this is a major strategic City initiative. Other identified risks included: lack of capital funding to retrofit City assets, changing Council priorities, lack of execution within environmental strategies, and financial/operational exposures to the City from climate related weather disruptions. This was rated as a 'Medium' risk from an inherent perspective at the beginning of the audit. Through the completion of audit fieldwork and having evaluated the efficacy of the City's workplans, the residual risk rating is also 'Medium'. Given that these are long-term strategies with multi-year workplans, it is possible that the residual risk rating can change, particularly if the City's environmental programs are successfully implemented.

The following are the observations from the audit along with recommendations and Management's Action Plans to address these issues. See Appendix I for further information regarding Internal Audit Standards and Audit Severity Scale.

Observation #1 – Dedicated workplans should be developed

Risk Ranking

MEDIUM

Each of the three environmental stewardship strategies have programs or actions that were recommended within those reports, to be executed over multiple years, as follows:

- Burlington Climate Action Plan (BCAP) – 7 programs
- Climate Resilient Burlington (CRB) – 32 actions
- Corporate Energy & Emissions Management Plan (CEEMP) – 65 actions

A dedicated workplan or implementation schedule containing objectives, specific actions/tactics, accountable individuals, and deadlines for each of the strategies was not developed:

1. BCAP - one overall table, spreadsheet, or workplan does not exist for the BCAP aside from a tactical working list prepared for Program #2 Deep Retrofit Program
2. CRB – one overall workplan or implementation schedule does not exist; although accountable City service areas have been defined for each action
3. CEEMP – there is no workplan for the 65 actions

Although staff have provided diligently researched and well written reports to provide annual updates to Council; those reports did not identify a definitive status update of each action (example: 'Complete', 'In-Progress', 'Delayed', 'Not Started' OR Red/Yellow/Green status reporting).

1. BCAP - The status of each program was not included in annual reporting back to Council.
2. CRB – The first annual report provided a comprehensive table of updates for most of the 32 actions; however the status of each action was missing (i.e. not started or in-progress).
3. CEEMP – The status of all 65 actions was not included in annual reporting back to Council. Some actions in the CEEMP have not been subsequently addressed and are incomplete (i.e. Action #49-Consider certifying to ISO 50001) in the annual updates back to Council.

Other observations related to the recommended implementation actions included:

1. BCAP – Some programs in the BCAP have limited progress due to a lack of control or influence that the City can exert in those areas including: Program #3 Renewable Energy Cooperative, Program #6 Waste Reduction and Program #7 Industrial Innovation
2. CEEMP - Multiple actions were written in a passive way or lacked specificity (i.e. Action #8 - *Consider starting a bike sharing program...*; Action #49 - *Consider certifying to ISO 50001...*; see also Actions #23, 39 & 56)
3. CEEMP - The number and scale of recommended actions in the CEEMP likely exceeded the capacity of staff and resources, resulting in some actions being incomplete

Implication

1. A lack of a dedicated workplan or implementation schedule for comprehensive strategies may result in ineffective organization, uncoordinated projects/initiatives and ultimately not achieving the goals of the respective strategy.
2. Annual reporting without status updates may result with neither Council (nor other report readers) knowing whether key actions or programs were successfully completed.

Recommendations

1. A dedicated workplan or implementation schedule should be created for each strategy containing all specific actions/programs, objectives, owner/accountable individuals, expected deadlines and current status. These workplans should be updated continuously by Environment & Energy staff.
2. Annual reporting back to Council should have a tracking system (i.e. table) of all recommended actions and their respective status (i.e. complete, in progress, not started, delayed etc.). Alternatively, a red-yellow-green approach may be used to demonstrate status/progress.
3. For the next CEEMP (due to Council in June/July 2024) and BCAP (due to Council in mid-2025); the number and scale of implementation actions recommended by consultants and accepted by staff should be reduced to a feasible scope of work. In addition, only actions that the City can influence or exert control should be recommended to Council unless there is a documented commitment from an external stakeholder. Lastly, workplan actions should be written in an action-orientated way with specific, measurable, achievable, relevant, and time-bound targets.
4. The Environment and Energy Team should seek consulting assistance from the staff within the Corporate Strategy Team for developing workplans for the BCAP and CRB. Consulting advice from the Corporate Strategy Team should be sought prior to the approval of the next iteration of the CEEMP in mid-2024.

Management Action Plans

Person(s) Responsible	Manager, Environmental Sustainability Coordinator, Sustainability Projects Supervisor, Energy & Emissions	Completion Date	<ol style="list-style-type: none"> 1. Q2 2024 2. Q2 2024 3. Q2 2025 4. Q1 2024
<ol style="list-style-type: none"> 1. E&E staff will create detailed workplans/implementation schedules for each of the three plans. Specifically a workplan will be created for new Corporate Energy and Emissions Management Plan (CEEMP) to be completed in 2024. For Climate Resilient Burlington, staff will use the Action table in the plan to create a more detailed implementation workplan. A workplan will be created for the Climate Action Plan (BCAP) for the seven program areas, noting the specific actions that are being implemented to support the plan. 			

2. A system to track and report on progress of climate plan actions will be developed for each plan to present in annual reports.
3. Updated CEEMP and BCAP will be more concise with a focus on actions that the City has direct control and/or authority. The CEEMP will be updated in 2024 and the BCAP will be updated in 2025.
4. E&E staff will ask the Corporate Strategy Team for advice and guidance on the development of the workplans for the each of the three plans.

Observation #2 – Key Performance Indicators should be improved	
Risk Ranking	MEDIUM
<p>Within each of the three respective environmental stewardship strategies, a comprehensive set of key performance indicators (KPI's) were identified with a commitment to report annually to Council. The objective of these KPI's was to demonstrate progress to Council and the broader community against the three respective strategies. Opportunities for improvement were observed in the following:</p> <p>Burlington Climate Action Plan (BCAP):</p> <ol style="list-style-type: none"> 1. Annual update of indicators to track effectiveness was not provided to Council in 2021 or 2022. However, a high-level summary of community-wide greenhouse gas emissions was included. 2. Some performance indicators may not be feasible to collect and analyze data as it would be extremely time consuming to perform annually (i.e. percentage of non-residential floorspace within 400m of a transit stop etc.). 3. There are too many performance indicators (16) and implementation milestones (20) to reasonably collect data for and report upon annually. 4. Some implementation milestones are not feasible to collect and analyze data as there are no centralized and/or reliable data sources (i.e. total dwellings retrofit, meters squared of commercial floorspace served by heat pumps etc.). <p>Climate Resilient Burlington (CRB):</p> <ol style="list-style-type: none"> 1. The first annual update report to Council did not include any performance indicators. 2. Some KPI targets remain "TBD" as they are awaiting confirmation from an inter-connected report (i.e. Biodiversity Plan, Parks Master Plan). 3. Some KPI targets lack specificity (i.e. dollars spent on green infrastructure; target: increase). <p>Corporate Energy & Emissions Management Plan (CEEMP):</p> <ol style="list-style-type: none"> 1. While the collection, analysis and reporting of CEEMP key performance indicators was highly effective between years 2019-2023, reporting to Council lacked an overall trending analysis or forecasting of progress against the 2019 CEEMP target of <i>"City's operations become net carbon neutral by 2040"</i>. Furthermore, since the City has expanded its corporate asset portfolio with four new facilities in 2022/2023, it is reasonably less likely that the City will reach its interim goal in 2024 or final goal in 2040 without significant investment in energy conservation or alternative tactics to decrease fuel/electricity consumption. 	
Implication	
<p>Key Performance Indicators (KPI's) are an effective and highly recommended tactic to monitor and evaluate the progress or effectiveness of the three environmental stewardship strategies. Lacking effective KPI's may make it more difficult for Council or other stakeholders to track or</p>	

understand the progress of the three respective strategies against their goals to be net carbon neutral.

Recommendations

1. Annual updates to Council should include some key performance indicators recommended within the BCAP and CRB.
2. Environment & Energy staff should re-evaluate the feasibility of the KPI's recommended by their consultant when the BCAP was prepared. KPI's to support the BCAP must demonstrate progress towards the overall BCAP goal of the "*community being net carbon neutral by 2050*" while not being administratively burdensome to collect, analyze and report on key data sets.
 - a. The quantity of KPI's should be rationalized to a manageable number.
 - b. Data sets to support KPI's should be accessible and not overly burdensome to collect, analyze and report upon.
3. KPI targets in the CRB should be updated once further information is received from inter-dependent City reports.
4. Future reporting to Council regarding the CEEMP should include KPI forecasting of progress against the 2019 CEEMP target of "*City's operations become net carbon neutral by 2040*". This forecast should include a detailed analysis which includes new City buildings added in 2022 (and beyond) and its impact on meeting the net carbon neutrality goal by 2040.
5. The Environment and Energy Team should seek consulting assistance from the staff within the Corporate Strategy and Data Analytics & Visualizations teams with developing and reporting upon KPI's.

Management Action Plans

Person(s) Responsible	Manager, Environmental Sustainability Coordinator, Sustainability Projects Supervisor, Energy & Emissions	Completion Date	<ol style="list-style-type: none"> 1. Q2 2024 2. Q2 2025 3. Annual review/Ongoing 4. Q2 2024 5. Q1 2024
<ol style="list-style-type: none"> 1. The Manager, Environmental Sustainability and the Supervisor, Energy & Emissions will assess relevant KPIs to report on, based on availability of data. 2. The Manager, Environmental Sustainability will re-evaluate the feasibility of KPIs in the BCAP when it is being renewed, due in 2025. Many of the indicators in the existing BCAP were based on a model by the plan consultant to show what it would take for Burlington to achieve being a net carbon neutral community by 2050 and do not necessarily reflect data that is available to the City to track. 3. The Coordinator, Sustainability Projects commits to an annual review of the indicators with the CRB Implementation Team to ensure they are consistent with other City reports and plans. 			

4. The updated CEEMP will include forecasted targets against the overall target of being net carbon neutral in the City's operation. The forecast and targets will include all known and assumed expansion of overall corporate square footage.
5. E&E staff have been working with the Corporate Strategy and Data Analytics & Visualizations teams to develop and report on KPIs in a new dashboard to support the 'From Vision to Focus' workplan.

Observation #3 – Financial resources are not aligned to environmental stewardship programs

Risk Ranking

MEDIUM

The Environment and Energy Team has an approved net operating budget of \$605,000 in 2023; which is comprised of \$761,000 of expenditures offset by \$156,000 of revenues and recoveries. The largest non-labour operating expenditure is a \$56,000 annual contribution to a local organization approved by Council. In 2023, Council approved a financial expenditure in the amount of \$121,000 for a one-year pilot program to develop and deploy a Home Energy Retrofit Program (Program #2 from the BCAP). The City also has a dedicated reserve fund for 'Energy Initiatives' established by Council in 2015 with a balance of \$185,697 (as of Dec 31, 2022 which was committed to the Home Energy Retrofit Program). The CEEMP also relies heavily upon the Council approved capital budget to address key actions such as upgrading lighting and ventilation at City facilities.

The Environment and Energy service area has historically relied upon grant funding from other governments or external organizations to conduct studies or develop environmental stewardship strategies (example: the City received \$100,000 from the Federation of Canadian Municipalities to complete the feasibility study for a home energy efficiency retrofit program). There is a limited operating budget to support the implementation of environmental programs or actions recommended in the three respective strategies. However, the Environment & Energy service area has historically (2021, 2022 or 2023 YTD) not spent the entirety of their respective operating budget allotment. This can be partially explained by corporate prioritization for the COVID-19 pandemic over other strategic projects (including environmental initiatives) and the fact that both the BCAP and CRB are relatively new strategies (effective 2020 and 2022 respectively) and therefore had a limited number of actionable programs to execute within each strategy. As a result of this, requesting net new operating budget to support environmental programs may be met with skepticism when there is an existing modest budget that has not fully exercised in the past two years.

Lastly, the three environmental stewardship strategies did not identify specific financial operating costs or capital requirements to execute their respective actions (although there was a high level estimate in the CRB); this factor likely contributed to the fact that there was no immediate funding to support the execution of those actions/programs after approval by Council. This appears to be a typical approach for City staff, where staff seek Council approval of a strategy in principle, then work through the annual operating and capital budget process to obtain financial support to execute the respective projects/programs. A review of the 10-year capital forecast which is included in Council's annual budget process revealed approximately \$33M of preliminary energy conservation measures for various City facilities. In addition, the Green Fleet Strategy presented to Council on October 5, 2023 as report #RPF-24-23 projected an addition \$70M of "greening the fleet" expenditures over and above the traditional vehicle replacement lifecycle (between 2024-2040). The likelihood of the City achieving its target of being net carbon neutral by 2040 is unlikely without detailed workplans with costed projects/programs supported by Council funding (through approval of the annual operating/capital budgets).

Implication

The lack of internal operating budget and capital capacity to support environmental actions/programs within the three environmental stewardship strategies may result in a delay to meeting the Council approved goals of “*having the City’s operations become net carbon neutral by 2040*” and “*net zero carbon community by 2050*”.

Recommendation

1. The number of actions and programs in the three environmental stewardship strategies should be reduced to within a manageable workplan feasible for the current staffing envelope of four professional staff. Request new operating funding to execute actions/programs in the environmental stewardship strategies through the annual budget process with a business case once workplans have been updated.
2. The next CEEMP and BCAP should have more accurate financial costing of actions and programs. Those actions should be forecasted into the Finance multi-year operating and capital budget presented to Council for approval.
3. Review the City’s environmental partnerships with external organizations to measure the benefit provided to the City of Burlington. Under this review, evaluate whether financial support provided to these organizations can be better utilized to implement actions/programs within the City’s environmental strategies.

Management Action Plan

Person(s) Responsible	Manager, Environmental Sustainability Coordinator, Sustainability Projects Supervisor, Energy & Emissions	Completion Date	1. Q2 2024 2. Q2 2025 3. Q2 2024
<ol style="list-style-type: none">1. As the CEEMP and BCAP are updated, recommended actions will be focused to ensure resources are available to implement the plans. As noted above, workplans will be created to identify associated funding requirements for specific actions. Business cases (change forms) will be submitted to support actions through the annual budget review process. Note that many climate actions identified in the plans are led by other departments.2. The Manager, Environmental Sustainability and for the Supervisor, Energy & Emissions will review financial costing of actions and programs to forecast multi-year budgets. This work may be tied to the updating of the current plans in 2024 and 2025 respectively.3. A review of partnerships with external environmental organizations and community stakeholders is in progress. Further consultation is required with council, staff and key external stakeholders to assess how to strategically support local organizations to deliver effective community climate action initiatives.			

APPENDIX I – INTERNAL AUDIT STANDARDS & FINDING SEVERITY SCALE

Rating	Definition
HIGH (Red)	<ul style="list-style-type: none">• Residual risk is very high or high• Key control does not exist, is poorly designed or is not operating as intended• Serious non-compliance to policy or regulation• May result in immediate or material loss/misuse of assets, legal/regulatory action, material financial statement misstatements, etc.• Indicates a serious control weakness/deficiency requiring immediate action by Senior Management
MEDIUM (Orange)	<ul style="list-style-type: none">• Residual risk is medium• Key controls are partially in place and/or are operating only somewhat effectively• Some non-compliance to policy or regulation• May negatively affect the efficiency and effectiveness of operations and/or financial reporting accuracy• Indicates a control concern requiring near-term action be taken by Management
LOW (Green)	<ul style="list-style-type: none">• Residual risk is low to very low• Key controls are in place, but procedures and/or operations could be enhanced• Minor non-compliance to policy or procedures• May result in minor impact to operations or operational inconvenience to staff and management• Indicates a control improvement opportunity for which longer-term action may be acceptable

AUDIT METHODOLOGY

The City Auditor relied upon interviews with and observation of key personnel, examination of information, data, and other documentary evidence. On-site audit fieldwork did not occur for this audit.

AUDIT CONCLUSIONS

The conclusions reached in this report are based upon information available at the time. The overall conclusion is only applicable to the function/area of this audit. It reflects the professional judgment of the Office of the City Auditor based on a comparison of situations as they existed at the time against audit criteria as identified in the scope of the audit.

REASONABLE ASSURANCE

This conclusion is intended to provide reasonable assurance regarding internal controls. There are inherent limitations in any controls, including the possibility of human error and the circumvention or overriding of controls. Accordingly, even effective controls may provide only reasonable assurance with respect to City operations.