DECISION/DIRECTION NOTE

Title: Corporate Climate Plan

Date Prepared: April 27, 2020

Report To: Committee of the Whole

Councillor and Role: Councillor Ian Froude, Transportation and Regulatory Services & Sustainability

Ward: Ward 4

Decision/Direction Required:

For council to adopt the St. John's Corporate Climate Plan and approve the medium and long-term targets to reduce corporate greenhouse gas (GHG) emissions.

Discussion – Background and Current Status:

The climate science from the Intergovernmental Panel on Climate Change's (IPCC) The Special Report on Global Warming of 1.5°C is clear: allowing global temperature rise to exceed 1.5°C will disrupt global social, economic and ecological systems, with severe consequences for the most vulnerable populations1. The report states that temperatures are likely to reach 1.5°C between 2030 and 2052 if greenhouse gas emissions (GHG) continue to increase at current global rates.

Analysis compiled as part of St. John's Climate Profile and engagements with the Stakeholder Sustinability Team indicates that our community would experience various impacts. We have already observed temperature increases of about 0.8°C since 1942, warming of sea surface temperatures, an increase of intensity and duration of some storms, and a long-term sea level rise of about 1.9 mm/year since the 1940's. It is projected that without action temperatures will have increased by 2.7°C by 2050s, leading to other significant changes in precipitation, winter conditions, and sea level rise. This would exacerbate existing risks for vulnerable residents, disrupt infrastructure systems, and lead to economic impacts.

The City of St. John's strives to be sustainable today and for future generations. This is a vision expressed in the City of St. John's Strategic Plan. Through various commitments, the City of St. John's Council has re-enforced its ongoing commitment to act and reduce the GHGs emissions, while preparing the City to deal with the challenges and capitalize on opportunities

[1] https://www.ipcc.ch/sr15/

that climate change is presenting. These committments include the two components responding to the Climate Emergency Declaration on November 4, 2019:

1) **Corporate Climate Plan** (presented today)**,** which presents a framework for the Corporate City of St. John's to improve energy efficiency and reduce its GHG emissions from its operations and services.
2) **Resilient St. John's Community Climate Plan** (in-development). This plan will present the environmental and economic plan and analysis for our community to adopt a low carbon pathway that realizes the economic opportunities of a low carbon future. Additionally, it will set climate change risk management priorities and proposed strategies to adapt to the expected changes in climate.

The Corporate Climate Plan

The purpose of the Corporate Climate Plan ("Plan") is to provide a comprehensive framework ("Framework") to reducing greenhouse gas (GHG) emissions from the corporate operations of the City of St. John's. In 2018 (the baseline year), the Corporate City of St. John's consumed 365 thousand GJ of energy, emitted 12,458 tonnes of carbon dioxide equivalents, and spent over $12 million in energy expenses.

Table 1 Energy Consumption and GHG emissions by Energy Source (2018)

Energy	tCO2e	GJ	Cost ($M)
Fuel Oil	3,180	42,281.5	$0.9
Electricity	2,454	219,322.6	$8.6
Diesel	5,184	73,403.4	$1.7
Gasoline	1,255	18,769.4	$0.5
Waste	336.3	-	-
Propane	45.5	755.6	$0.02
Biogas	2.7	11,092.1	-
Total	**12,458**	**365,624.6**	**$12**

The framework presented by the Climate Plan does not prescribe how the City will achieve its GHG targets at the site level; rather, it describes the strategies that will support staff and St. John's City Council to identify, quantify, prioritize, and balance climate actions among other City priorities. The goal is for the implementation of this framework to result in a fundamental change in City of St. John's capital program, and operating costs across the organization. This would ensure that the City is capitalizing on the opportunities that the energy transition brings to its operations.

The next five to ten years are critical to setting St. John's on the path to meet Newfoundland and Labrador's GHG emissions reduction targets and to support national and global efforts. The Plan identifies priority strategies and tasks for the short (1-2 yrs), medium (3-5 yrs) and long (>5 yrs) term that can be embedded into the City operations to set St. John's on the path to meet the proposed corporate targets.

The framework is composed of three components:

1) Proposed Corporate Targets
2) Governance and Implementation Approach
3) Strategies to achieve GHG reductions in line with the 2030 target and be well prepared to reach the 2050 target

Proposed Corporate Targets

Climate scientists agree that fast rising global temperatures have created a worldwide climate crisis. The IPCC released The Special Report on Global Warming of 1.5°C providing scientific evidence for the need to limit global warming to 1.5°C. The IPCC states that this is possible but "would require rapid, far-reaching and unprecedented changes in all aspects of society". The remaining GHG emissions that can be emitted to prevent the globe from exceeding 1.5 C have been estimated by the international scientific community. Internationally, the goal is to achieve net-zero emissions by mid-century or sooner to avoid many of the worst climate impacts.

The Government of Canada committed to reaching net-zero GHG emissions nation-wide by 2050 and established legally binding legislation to meet a rolling 5-year emission reduction targets, starting with Canada's target of reaching 40 per cent below 2005 level by 2030[2]. Newfoundland and Labrador also committed to reaching net-zero. Net zero means striking a balance between GHG emissions produced and GHGs eliminated or taken out of the atmosphere.

Calculating our municipality's fair share of the remaining global carbon budget was completed through guidance from the Science-Based Targets initiative. It proposes that an absolute reduction in emissions of 4.2% per year results in alignment to the ambition to prevent warming from exceeding 1.5 ^{0} C. This means that the City of St. John's has an approximate Carbon budget of aproximately 142.1 kilotonnes between 2022 and 2045. Following this reduction pathway year over year, the Corporate City of St. John's could achieve net-zero emissions by 2045.

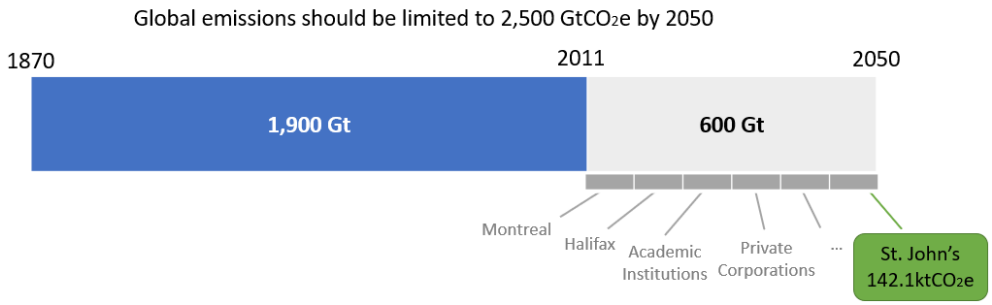

Figure 1 St. John's corporate fair share of GHGs by 2050

[2] Bill C-12: An Act respecting transparency and accountability in Canada's efforts to achieve net-zero greenhouse gas emissions by the year 2050. First Reading, November 18, 2020. https://parl.ca/DocumentViewer/en/43-2/bill/C-12/first-reading

Therefore, it is proposed that St. John's Commits to the following targets:

- 40% reduction by 2030 and stretch target of 50% by 2030 from 2018 emissions.
- Net-zero by 2050 at the latest.

Plan Development

The Framework was developed over the course of 2020 and 2021. Staff that were consulted and provided information, review and insight include:

- City Buildings Staff
- Water Treatment Staff
- Wastewater Staff
- Fleet Staff
- Capital Works Staff
- Waste Management Staff
- Roads Staff
- Parks and Open Spaces Staff
- Organization Performance and Strategy Staff
- Housing Staff
- Regional Fire
- Metrobus and SJSE

The process began by creating a shared understanding of the baseline energy use and emission through the 2018 Energy and GHG Corporate Inventory and the modeling of potential future energy use for the year near 2030. Following this, information gathering meetings and additional data gathering were used to inform the proposed corporate targets, actions, and implementation considerations captured in this report. Additional information on potential benefits were obtained from experience in the City and ASHRAE Level 1 audits of the most energy intensive facilities in the City's portfolio. The draft framework was reviewed by staff and brought forward to the Environmental and Sustainability Expert Panel for comment.

The version presented to Council addresses all comments from the Environmental and Sustainability Expert Panel.

Governance and Implementation

The City of St. John's Corporate Climate Plan and the framework proposed will be implemented through a whole-city approach, including clearly defined roles and responsibilities.

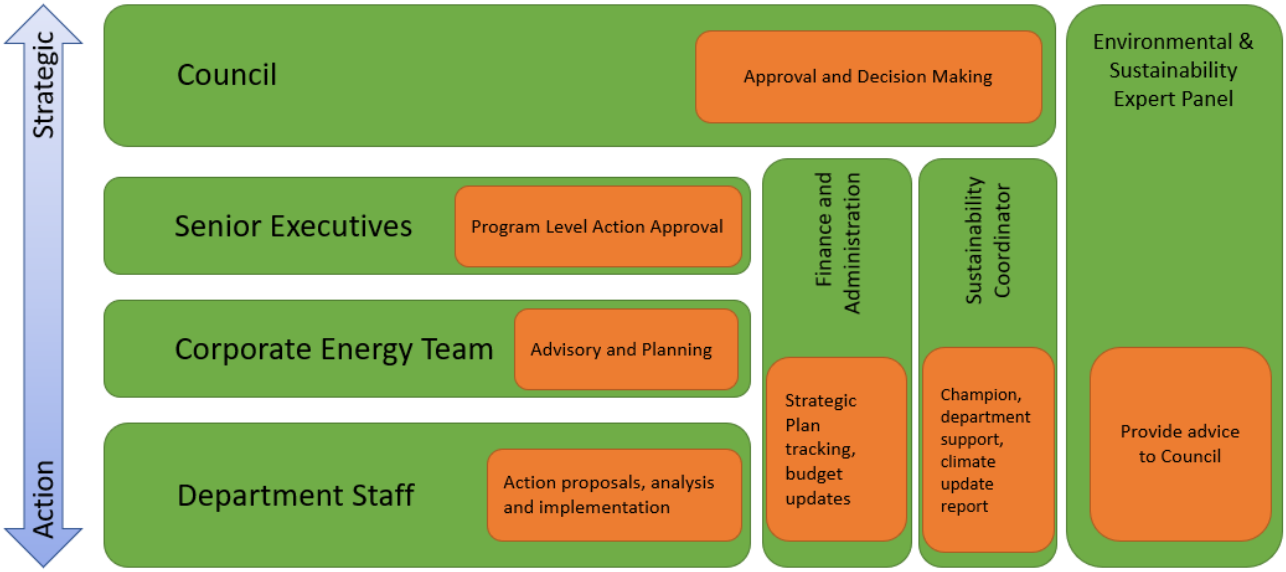

Figure 2 Key Roles

Table 2 Key Roles and Responsibilities

Group	Role	Responsibility
St. John's City Council	Review and approve proposed actions and the City Budget	
Environmental & Sustainability Expert Panel	Sustainability Community Lead	Provide advice to Mayor and Council with respect to the City's response to the climate emergency and other environmental issues
Sustainability Coordinator	Internal Sustainability Champion	Central hub for climate action, leadership, convening and coordinating, reporting, and analyzing.
Senior Executives	Department Lead	Integrate climate considerations into business plans and budget.
Corporate Energy Team	Sustainability Lead	Cross-departmental venue to support action planning and senior decision-makers.
Department Staff	Action Planning & Implementation	GHG reduction options development, analysis, incorporation in projects/programs and budgets.
Finance and Administration	Strategic Plan tracking and City Budget	Evaluate the financial implications at the corporate level, alignment with financial framework.

Monitoring and Reporting

To ensure the City remains flexible in its approach this framework is a living document which provides a roadmap for the Corporation and builds on the internal capacity and knowledge base to increase energy efficiency and eliminate energy waste.

The Corporate Energy and GHG Management Framework Annual Update will be presented to Council along with proposed future energy budgets each year prior to commencing budget deliberations.

Funding

The are no immediate financial implications to the City for this plan, budget requests will be presented to City Council each year as part of the budgeting process and as funding opportunities arise. Staff will ongoingly investigate sources of funding to pay for these projects, specially for the incremental up-front capital costs needed to reach the proposed targets. This may be in the form of grant funding, financing, or other dedicated energy efficiency funds (e.g., FCM Green Municipal Fund, Canada's Low-Carbon Economy Fund, Infrastructure Canada's Investing in Canada Infrastructure Program, NRCAN's Zero-Emission Vehicle Infrastructure Program).

Staff will explore the feasibility of establishing a revolving fund where seed funding would be allocated to fund incremental upfront costs of implementating GHG reduction measures in asset replacement projects as an internal loan. The internal loan would be repaid from operational saving (e.g., utility costs) and could become an ongoing source of funding that would grow further and drive momentum.

Estimates of Costs to Implement The Plan

At this stage there is no detailed net costs estimated for each strategy, as there are many ways through which this plan can be implemented (e.g., grants to cover incremental up front costs, energy performance contracts, and some strategies are known to have short paybacks or be cost-neutral when taking a life-cycle cost approach). Some high level cost metrics indicate that:

- Incremental up-front capital costs for new construction to achieve net-zero can range from 4% to 15% depending on the building design.
- Retrofitting all buildings in the municipality burning fossil fuels to net-zero can be estimated to cost between $25 and $40 million, based on high level estimated cost per square metre metrics and the total floor area needed energy retrofirts.
- Electrification of the City's fleet is expected to be minimal if planned accordingly, as light-duty electric vehicles are projected to be at cost parity by 2030. Similarly, the price of heavy-duty vehicles is also declining.

The true cost to the municipality is not represented by the estimates above. Additional work is required to estimate net cost to the City (gross capital costs vs avoided costs), which is ultimately the real cost to the City.

Key Considerations/Implications:

1. Budget/Financial Implications: The are no immediate financial implications to the City for this plan, budget requests will be presented to City Council each year as part of the budgeting process

2. Partners or Other Stakeholders: Internal departments, utilities, and other levels of government

3. Alignment with Strategic Directions/Adopted Plans: Strategic Plan: A Sustainable City, An Effective City; Climate Emergency Declaration in November 2019, Commitment to the Partners for Climate Protection and the Global Covenant of Mayors for Climate and Energy.

4. Legal or Policy Implications: N/A

5. Privacy Implications: N/A

6. Engagement and Communications Considerations: The version presented to Council addresses all comments from the Environmental and Sustainabiliyt Expert Panel.

7. Human Resource Implications: N/A

8. Procurement Implications: N/A

9. Information Technology Implications: N/A

10. Other Implications: N/A

Recommendation:
That Council adopt the St. John's Corporate Climate Plan and the medium and long-term targets to reduce corporate greenhouse gas (GHG) emissions, namely: 40 percent by 2030 and a stretch target of 50 percent by 2030 from 2018 emissions; Net-zero by 2050 at the latest.

That Council direct staff to establish the Corporate Energy Team and report back on the implementation of the Plan as part of the annual budget process starting in the year 2022 process.

Prepared by: Edmundo Fausto, Sustainability Coordinator

Approved by: