

COUNCIL REPORT

M&C No.	2022-118
Report Date	April 12, 2022
Meeting Date	April 19, 2022
Service Area	Utilities and Infrastructure Services

Her Worship Mayor Donna Noade Reardon and Members of Common Council

SUBJECT: City of Saint John Public Transit and Fleet Low Carbon Migration Strategy

AUTHORIZATION

Primary Author	Commissioner/Dept. Head	City Manager
<i>Samir Yammine, Ian Fogan</i>	<i>J. Brent McGovern, Michael Hugenholtz</i>	<i>John Collin</i>

RECOMMENDATION

It is recommended that Common Council approve the following items:

- 1) Adopt the City of Saint John Public Transit and Fleet Low Carbon Migration Strategy dated March 28, 2022 as appended to M&C 2022-118 subject to approved budgets, and
- 2) Direct staff to apply to the Federation of Canadian Municipalities (FCM) under the Green Municipal Fund (GMF) for the Fleet and Transit Pilot Project.

EXECUTIVE SUMMARY

City Staff along with Wood Environment & Infrastructure Solutions has prepared the City of Saint John Public Transit and Fleet Low Carbon Migration Strategy which includes a roadmap to help the City reach net zero by 2040. The Strategy also includes key milestones for updates and an overall examination of the potential cost and savings generated with implementation.

The report seeks Council's approval to adopt the Strategy, as well as to direct staff to apply for funding under the Green Municipal Fund (GMF) and identifies that the use of pilot projects for new technology can aid in transition. The Federation of Canadian Municipalities also has a funding opportunity for pilot projects.

Accompanying, this report will include presentation by Wood Environment & Infrastructure Solutions regarding the proposed Strategy.

PREVIOUS RESOLUTION

M&C 2021-268- Public Transit and Fleet Green Strategy- Consulting Services
M&C 2019-107- City of Saint John Climate Change Action Plan.

M&C 2017-012 – Fleet Policy

M&C 2019-129 – Greening Our Fleet Policy

REPORT

BACKGROUND

The City of Saint John has been an early adopter of implementing innovative measures, policies, strategies, plans, etc. to address climate change adaptation and mitigation on the City's infrastructure, community, as well as the transportation sector.

In 2019, Common Council has approved the following GHG emissions targets for the City of Saint John Corporate GHG and Energy Action Plan:

- 1) Corporate GHG Emission Target of 30% by 2025 below 2015 levels and,**
- 2) City of Saint John Corporate Operation to be Carbon Neutral by 2040.**

The corporate GHG and Energy Action Plan has identified high-level strategies to reduce GHG emissions in the transportation sector, as the transportation sector represents over 35% of total GHG emissions.

The following are a list of action items strategies, which were included in the Corporate plan to reduce GHG emissions in the transportation sector:

- Fleet Downsizing
- Idle-free strategy
- Public Transit and Fleet Low-Carbon Strategy
- Training & Education

Fleet and Public Transit Operation

In the past years, City staff have been working diligently to implement the action items and strategies listed in the Corporate plan. The objectives of these measures are to reduce GHG emissions and fuel costs as well as maximize the life expectancy of the various vehicles.

The following measures have been implemented:

- Fleet Utilization Projects: 1.0, 2.0, and 3.0
- Automatic Vehicle Locating (AVL) Systems Installations
- Fleet Pooling installations
- "Greening Our Fleet" Policy Adoption
- Idling, Long Hauling, Zone, and Speeding Weekly Reporting

The implementation of these measures has resulted in 36% GHG emissions reduction below 2015 for the Public Transit and Fleet emissions.

CITY OF SAINT JOHN PUBLIC TRANSIT AND FLEET LOW CARBON STRATEGY

Analysis

To develop a low carbon migration strategy for City of Saint John fleet and Saint John Transit fleet, the City has engaged Wood Environment & Infrastructure Solutions in October 2021 to complete the work. The funding of the strategy is fully funded by the Province of New Brunswick Environmental Trust Fund.

The goal of the Public Transit and Fleet Low-Carbon Migration Strategy is to identify and evaluate potential reductions in greenhouse gas (GHG) emissions from the City of Saint John fleet and Saint John Transit fleet operations.

The results from the evaluation have been incorporated into the Carbon Migration Strategy Roadmap, which outlines actions for the City to take in achieving its corporate emission reduction targets, presented below:

City of Saint John Public and Transit Fleet	2025 Emission Target 30% below 2015 levels	2040 Emission Target Carbon neutral
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The City of Saint John has assembled a working team to oversee the development of the strategy. The team consists of the following:

Saint John Working Committee

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|------------------|----------------------|
| • Samir Yammine | • City of Saint John |
| • Ian Fogan | • City of Saint John |
| • Kevin Loughery | • City of Saint John |
| • Marc Dionne | • City of Saint John |
| • Tom Cusack | • City of Saint John |
| • Charles Freake | • City of Saint John |
| • Dana Young | • Saint John Energy |
| • Todd Allen | • Saint John Energy |

Wood PLC Project Team

- | | |
|---------------------|------------|
| • Naeem Farooqi | • Wood PLC |
| • Norman Hendry | • Wood PLC |
| • Matthieu Goudreau | • Wood PLC |
| • Abhishek Raj | • Wood PLC |
| • Saravanan Kumar | • Wood PLC |
| • Jamal Nureddin | • Wood PLC |
| • Rick Baltzer | • Wood PLC |

Several webinars were held with the various city departments to provide their feedback on the proposed technologies and energy sources as well as the impacts on the day-to-day operation of the City of Saint John fleet and Saint John Transit fleet.

The team has conducted several data modeling, data collection and technical/financial analysis on the latest technologies including available energy sources to green the City of Saint John fleet and Saint John Transit fleet.

The Strategy has taken into consideration the long-term City of Saint John fleet and Saint John Transit fleet Strategy and required infrastructure as well as capital and operating costs implication to implement the proposed measures. Several consultations were held with various energy providers, Saint John Energy, municipalities across Canada and vehicles/buses manufactures to help develop a long-term dynamic strategy.

Major Benefits

The City transit and fleet low carbon migration strategy will have numerous economical and environmental benefits to the City:

Local Energy Expenditures – All diesel and gasoline consumed in Saint John is sourced from imported fossil fuels. This means a large percentage of the dollars expended on energy leave the city, the region, and the province. In contrast, the low-carbon strategy allows for the efficient use of renewal energy sources such as wind, ensuring almost all energy expenditures stay within the region.

Price Stability – The low carbon strategy allows the use of local energy sources such as wind energy to provide energy to the City fleet. This will help insulate the City from fuel price changes over time.

Decarbonization – The City is committed as part of their corporate GHG emissions and energy action plan to net zero by 2040. The proposed strategy is necessary to meet this commitment.

Electricity Supply Affordability & Peaking – The proposed strategy allows greater grid penetration for intermittent renewables, such as wind, on the electricity system while significantly reducing peaks in electricity demand. Therefore, allowing Saint John Energy to increase its direct installation of wind energy. With the low cost of wind electricity purchase and the use of this energy to fuel city fleet and saint john transit, this would increase revenue for Saint John Energy and make electricity more affordable for the City of Saint john.

Summary of Recommendations

The Carbon Migration Strategy Roadmap was developed to outline activities necessary to transition to a zero-emission fleet by 2040. It is divided into three phases, corresponding to short, medium, and long-term activities.

- Phase 1 is the shortest of the three phases with a 3-year duration, beginning in 2022 with anticipated completion by 2025. Phase 1 serves as a launching point to explore funding programs, partnerships, and leverage implementation opportunities. “Easy win” battery electric vehicles will begin to be adopted to introduce the new technology to City staff. Pilot programs will begin for the vehicles planned for adoption in Phase 2. During this time the City will work with hydrogen producers and the Atlantic Hydrogen Alliance to explore partnerships that could potentially make fuel-cell technologies more competitive.

- Phase 2 is five (5) years long from 2025 to 2030. During this time the next vehicle groups will begin their transition to battery electric alternatives, with the next round of pilots launching for vehicles identified for Phase 3. During this time the City's charging needs will exceed the available capacity at its fleet depot, necessitating electrical infrastructure upgrades. This significant investment should be sized accordingly to the portion of the fleet being electrified and any additional hydrogen fuel cell analysis should be completed before proceeding with any major infrastructure upgrades.
- Phase 3 is ten (10) years long from 2030 to 2040. During this time all remaining assets (vehicular and equipment) will need to be transitioned to zero-emission technologies. Actual progress should be compared to planned progress to understand any shortfall in meeting the 2040 net-zero emission goal. In particular, the rate at which the electrical grid decarbonizes will have the largest impact on reducing GHGs.

STRATEGIC ALIGNMENT

The Public Transit and Fleet Low Carbon Migration Strategy is aligned with the City of Saint John Climate Change Action Plan and with Council Priorities for Green: "We value the environment" and Move: "We value sustainable transportation choices."

SERVICE AND FINANCIAL OUTCOMES

The low carbon strategy has developed a long-term capital plan to implement the various phases. The successful implementation of these phases will depend on receiving funding from the various levels of government including non-government organizations. The City of Saint John has an opportunity to leverage capital funding from the new Zero Emissions Transit Fund (ZETF) and Green municipal Fund (GMF) toward the capital cost of several fleet and transit bus initiatives. The City of Saint John Finance Committee has considered and approved the application to the ZETF to help fund electric buses and related infrastructure. The decision on investment in fleet replacement is part of the Capital Budget process and the application to the ZETF does not change the process.

The proposed resolution also contemplates application to Federation of Canadian Municipalities to help fund pilot projects on new technology as identified in the strategy. The funding of pilot projects would be from operating budgets and does not require budget adjustments.

INPUT FROM OTHER SERVICE AREAS AND STAKEHOLDERS

The following City departments were consulted during this process and preparation of the report: Utilities and Infrastructure Services, Public Works and Transportation Services, Strategic Services and Public Safety Services. Additionally, other energy providers, manufacturers, stakeholders such as Saint

John Energy, Liberty utility, Saint John Port, etc. were consulted during the development of the green strategy.

ATTACHMENTS

1. City of Saint John Public Transit and Fleet Low Carbon Migration Strategy
2. Presentation by Wood