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Item No. 10.1
Halifax Regional Council
January 12, 2021
January 26, 2021

TO: Mayor Savage and Members of Halifax Regional Council

SUBMITTED BY: Original Signed

Peter Duncan, A/Executive Director, Planning and Development

Original Signed by

Jacques Dubé, Chief Administrative Officer

DATE: November 27, 2020

SUBJECT: HalifACT Interim Report

INFORMATION REPORT

ORIGIN

On June 23, 2020, the following motion of Regional Council was put and passed:

"It is recommended that Halifax Regional Council:

1. Authorize the direction contained in the HalifACT 2050: Acting on Climate Together plan, as contained in Attachment A.
2. Direct the Chief Administrative Officer to carry out the actions contained in the HalifACT 2050: Acting on Climate Together plan as part of the multi-year budgeting and business planning process, including establishing a target of net-zero municipal operations by the year 2030.
3. Direct the Chief Administrative Officer to prioritize efforts in the following critical core areas:
   a) Create new energy retrofit and renewable energy programming;
   b) Develop a detailed and costed plan for retrofitting existing municipal buildings to be net-zero ready and climate resilient;
   c) Develop an electric vehicle strategy, increase charging infrastructure and replace fleet vehicles with electric vehicles;
   d) Explore opportunities to require net-zero standards for new buildings in the municipality;
   e) Develop a framework for assessing and protecting critical infrastructure;
   f) Support communities for climate adaptation and climate-related emergencies; and
   g) Develop a financing strategy to operationalize the HalifACT 2050 plan over 30 years.
4. Accept in principle the need to resource the plan and direct the CAO to return to Council with a resource plan for consideration in the 2021/2022 budget.
5. Request that staff provide annual progress reports on the implementation of the HalifACT 2050: Acting on Climate Together plan, to Regional Council through the Environment and Sustainability Standing Committee."

LEGISLATIVE AUTHORITY

Halifax Regional Municipality Charter, Section 34(3): "The Council shall provide direction on the administration, plans, policies, and programs of the Municipality to the Chief Administrative Officer."

BACKGROUND

HalifACT - Acting on Climate Together is the Municipality's long-term climate action plan to reduce emissions and help communities adapt to a changing climate. The plan was unanimously approved by Regional Council in June of 2020 and early implementation of the plan has been occurring since the plan was adopted with the support of internal Business Units and across the HalifACT external stakeholder group. This report provides a quick introduction to the HalifACT plan, an overview of progress to date, and next steps. The full HalifACT plan and supporting documents can be found online.[1]

The development of the plan incorporated both technical modelling of our future climate and emissions reduction scenarios and extensive stakeholder and public engagement. The HalifACT plan contains three theme areas of action; Decarbonized and Resilient Infrastructure, Prepared and Connected Communities, and Governance and Leadership. Within these theme areas, there are 46 actions that are necessary to implement in order to meet the targets established in the plan.

The pathway selected complies with a "steep decline" scenario as stipulated by the C40 Cities classification for a city with high GHG emission per capita and a high GDP per capita, C40 Cities is an organization committed to delivering the goals of the Paris Agreement at a local level, consisting of approximately 95 cities around the world, which represent over 700 million citizens and one quarter of the global GDP. Committing to a steep decline fulfills an ethical obligation to cut emissions quickly and significantly since HRM is relatively well-positioned to do so.

The HalifACT plan responds to the Municipality's climate emergency declaration put forward by Regional Council in January 2019 and aligns with the recommended 1.5-degree Celsius pathway recommended by the Intergovernmental Panel on Climate Change (IPCC). Approval of the plan establishes a target of net-zero municipal operations by 2030, and community-wide targets of a 75% emissions reduction from the baseline year of 2016 by 2030, and net-zero emissions by 2050.

The technical modeling results as shown in the wedge diagram below, demonstrate action areas that are needed to meet the low carbon pathway. The diagram shows that the biggest impact to reduce emissions in the municipality comes from retrofitting existing buildings, both residential and non-residential. However, it's important to understand that all actions must take place simultaneously within the timeframe and at the scale laid out in the plan to achieve the low carbon scenario.

[1] HalifACT – Acting on Climate Together, Regional Council Package
https://www.halifax.ca/sites/default/files/documents/city-hall/regional-council/200623rc916.pdf

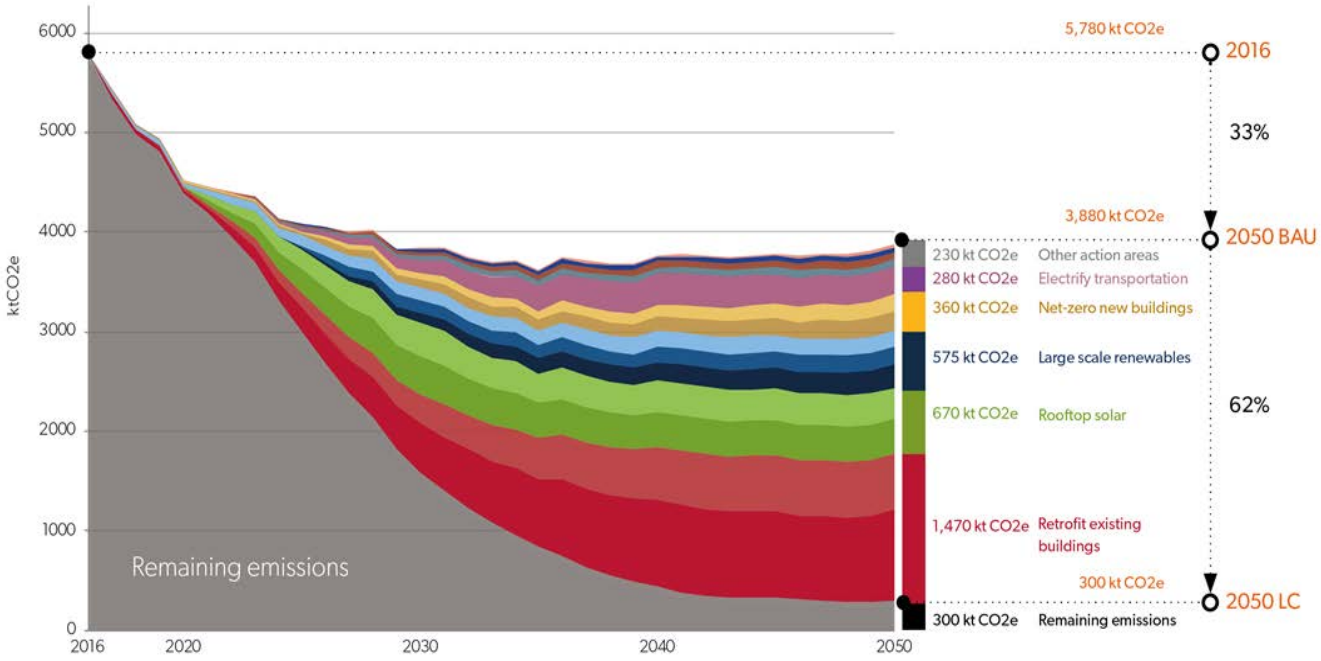

Figure 1: Wedge diagram of actions for the low carbon pathway

Currently, corporate operations result in approximately 1% of all community-wide greenhouse gas emissions. While this number seems low, the Municipality has a responsibility to lead and demonstrate practices that will encourage broader emission reductions within the community to achieve climate targets and positively impact economic development.

Given the magnitude of action required to address the climate challenge, Regional Council has identified and prioritized the first critical areas of action for the Municipality to lead, as follows:

1. Retrofit and renewable energy programming;
2. Retrofit municipal buildings to be net-zero ready and climate resilient;
3. Electrification of transportation;
4. Net-zero standards for new buildings;
5. Risk and vulnerability assessments;
6. Capacity building for climate adaptation; and
7. Sustainable financing strategy.

The development of the plan has relied on shared collaboration and action with community stakeholders as it is not a problem that can be solved by one organization alone. While the implementation of HalifACT will require a significant financial contribution from all levels of government and the community, the cost of inaction will continue to grow. HalifACT is a plan to address the climate crisis and is also a plan to promote social equity and economic development. The public and private investment, which are incremental to business as usual, totals $22 billion over the next 30 years. Although there is a significant upfront investment needed to achieve the low-carbon pathway, there are substantial savings over time, and HalifACT predicts a financial return to begin around 2030. Cumulatively, the implementation of HalifACT predicts a net benefit of $21.9 billion in avoided energy costs, operations and maintenance costs, carbon pricing costs, and increased revenues from energy generation.

Implementing a community-wide plan with many stakeholders, and with the complexity that the climate crisis presents, requires a new way of thinking and working. The Municipality has been working

collaboratively with stakeholders to approach the implementation of the HalifACT plan with a sense of urgency and innovation to rapidly prototype new ideas and move quickly from planning to action. In order to succeed in the critical core areas of action, and to achieve the targets set out in HalifACT, the Municipality must prioritize climate action across all Business Units. A mainstreaming of climate thinking will require adjustments to operations, business plans and budgets.

DISCUSSION

This interim report provides an update on key initiatives related to implementing HalifACT since it was approved by Regional Council at the end of June 2020, which have been the focus of the implementation from Business Units as well as external stakeholders. This interim report will be presented, with the concurrence of the Chair, to the Environment and Sustainability Standing Committee in January or February 2021. An Annual Report will be presented to Regional Council in September 2021.

Key Initiatives

Funding Applications

Strategic funding applications have been submitted to the Provincial and Federal Government to cost share the various initiatives in the critical core areas of action.

- An application for $75,000 was submitted for the Low Carbon Communities Program through the Nova Scotia Department of Energy and Mines. This funding, if awarded, will be used to support the development of the community retrofit program with the creation of a Retrofit Program Design Team made up of municipal staff, non-profits, and retrofit industry experts. To complement this funding, an application was submitted to the Community Efficiency Financing Program through the Federation of Canadian Municipalities to evaluate the current Solar City Program and explore the opportunities for third-party financing to support the expansion into deep energy retrofits. A funding decision is expected in early 2021.
- Three applications under the Investing in Canada Infrastructure Program (ICIP) Climate Change Mitigation Sub-Stream for active transportation, district energy, and community building energy efficiency projects were endorsed by Regional Council and submitted in September, 2020[2]. A decision is expected in January 2021.
- The Canada Infrastructure Bank recently announced 2 Billion dollars to incentivize retrofits in public and commercial buildings across Canada. Staff is actively exploring this opportunity to help retrofit corporate buildings.

Complexity University

Complexity Summer School was run by Complexity University and based on the Gigatonne Strategy,[3] a global community focused on learning how to tackle the world's most complex social, environmental and political challenges. Staff and stakeholders had an intense and rich month of learning with almost 20 stakeholders from the internal and external stakeholder team participating. This provided a strong experience of working as a team and a good foundation on which to build the HalifACT stakeholder implementation model. Our learning focused on a paradigm shift away from business as usual strategic planning towards a way of working that acknowledges the fundamental uncertainty and diversity in complex systems and moves forward with a balance of boldness and agility.

The team moved HalifACT objectives forward around "Prototypes". These are concrete projects with clear emissions targets, designed to start small and be tested over time, to be adapted as needed and scaled up

[2] ICIP Climate Change Mitigation Sub-Stream Funding Applications Recommendation Report https://www.halifax.ca/sites/default/files/documents/city-hall/regional-council/200901rc11122-new_0.pdf
[3] Complexity University Introduction https://www.xinx.co/the-gigatonne-strategy

if successful. Staff plans to continue offering this type of training to internal and external stakeholders as we begin prototyping teams and use this iterative and rapid approach to plan implementation.
During this training, each team was given a challenge to design a prototype to reduce 1 tonne of greenhouse gases in one month in the city they were working in. This was much more challenging than anticipated, considering reducing one tonne should be manageable compared to the over one million tonnes needed to be reduced in Halifax. A prototype from the Complexity University training is being finalized to provide electric vehicles to local start-up delivery services, in collaboration with the Halifax Innovation Outpost.[4] This prototype will continue to adapt as needs change. If successful, the program could be expanded to more businesses and delivery fleets.

Collaboration & Governance Model

Based on the learnings from Complexity University Summer School and feedback from internal and external stakeholder teams, staff proposes to create fast moving, adaptive prototyping teams to begin the implementation of the critical core areas of action. These teams will include municipal staff and stakeholder organizations with specific areas of expertise to contribute to the projects. The teams will meet on a weekly or bi-weekly basis to advance specific projects that align with the seven critical core areas of action. These prototyping teams will begin in January and will report back to the larger stakeholder group on progress and roadblocks and will be evaluated every six months to understand if projects need to pivot and how successes can be scaled.

The first prototyping team that will be implemented is the Retrofit Design Team. This team will work to collectively design an incentive and financing program for retrofitting existing buildings; incorporating renewable energy and resilience measures. This program will build on the success of the current Solar City program and be the first step in meeting the target of retrofitting all existing residential and non-residential buildings, which is the target with the largest potential impact in the climate plan.

The larger stakeholder group will meet on a quarterly basis, to discuss progress from the prototyping teams, updates on higher level strategic initiatives, and to share actions from their organizations. These meetings will be the primary opportunity for stakeholders to provide feedback on the plan implementation and highlight work that is happening across the stakeholder group.

TEDxHalifax – HalifACT Public Launch

It is critical to build and maintain the public's awareness and engagement with the climate plan. Originally, an in-person public launch of HalifACT had been planned to celebrate the commitment of our stakeholders and build on the public engagement done during the creation of the plan. Due to the COVID-19 pandemic, these plans were adjusted to create an online celebration with the goal of creating greater awareness of the plan, highlighting local climate leaders and allowing for open dialogue about the future of climate work in the municipality.

Staff hosted a TEDxHalifax virtual watch party event as part of the worldwide TEDx Global Countdown event on October 10, 2020. The event included videos of from global experts in energy and climate change as well as local climate activists, artists and a Mi'kmaq Elder. The event also included an overview of the HalifACT plan with an invitation for people to get involved. The event was very well received and remains on the climate website for continued viewing[5].

[4] https://halifaxinnovationdistrict.com/
[5] TEDxHalifax Countdown video https://www.youtube.com/watch?v=ve1uXHUKjSo&feature=emb_logo

Green Economic Recovery

Halifax's Economic Response & Recovery Plan calls for a green recovery and aligns with HalifACT.[6] This plan includes building resiliency as a guiding principle, and action 31 states, "Address the climate change emergency in the context of COVID-19, taking advantage of the opportunity to transition to a carbon-neutral economy by 2050." Action 21 states, "Re-assess, advocate for, and proceed with key infrastructure projects that stimulate the economy and address climate change." This collaboration has resulted in the formation of a Green Economy working group that includes representatives from the Municipality, the Halifax Partnership, Efficiency Nova Scotia, Nova Scotia Power, the provincial government and non-profits. The Halifax Partnership hosted its first ever CEO Forum focused on the green economy in November 2020, an event that was oversubscribed due to popular demand. Staff will continue to participate in this working group to build relationships and spur climate action within the business and academic communities.

Stakeholder Meetings

Since plan adoption there have been two, half-day stakeholder meetings with the internal and external stakeholder teams. The first meeting took place in early July, shortly after the plan was adopted, to introduce the approved plan and discuss ideas for collaboration and governance models. This first meeting built momentum for implementation by hearing the support and encouragement from many different stakeholders. There was significant interest from stakeholders to stay involved and ensure the plan is implemented in the time and at the scale necessary. After the first meeting stakeholders were asked to complete a survey to help staff determine the best model for continued collaboration and governance of the plan and to begin to understand the collective resources available and resources that will be needed for plan implementation.

The second stakeholder meeting took place in October. This meeting reported back to stakeholders on the experience of the Complexity University Summer School, and the proposed model for collaboration and governance. The stakeholder team then spent time brainstorming ideas for prototyping teams around building retrofits, net zero new buildings, decarbonizing transportation, provincial policy, financing models, adaptation, and equity. The session focused on identifying potential barriers and developing prototype ideas for how to collectively progress actions forward. This planning session will serve as the basis for prototyping teams to begin in early 2021.

Presentations, Lectures and Workshops

Staff have been presenting the HalifACT plan and our early action to many different organizations. These presentations have offered an opportunity to create partnerships with stakeholder organizations, receive feedback on the plan's actions, and learn about climate change projects already happening across many organizations. Presentations completed since plan adoption include:

- Transportation Association of Canada (TAC)
- EfficiencyOne
- Canadian Urban Sustainability Practitioners (CUSP)
- Smart Energy Event Halifax & Kingston
- Atlantic Asset Management Conference
- Dalhousie Engineering Capstone Lecture
- Dalhousie Master of Planning Lecture
- Dalhousie Management Lecture
- Dalhousie School for Resource and Environmental Studies presentation
- Canada Green Building Council (CaGBC) Atlantic Conference
- MEOPAR

[6] https://halifaxpartnership.com/sites/default/uploads/Research-Strategy-Section/Halifaxs-COVID-19-Economic-Response-Recovery-Plan-May-12-2020.pdf

- Recycling Council of Alberta
- Livable Cities Forum
- Canadian Institute of Transportation Engineers
- QUEST

Federal Update

At the federal level, Canada introduced climate accountability legislation through Bill-C12, which had first reading on November 19, 2020 and is entitled *An Act respecting transparency and accountability in Canada's efforts to achieve net-zero greenhouse gas emissions by the year 2050*. The Minister of Environment will set targets in 2030, 2035, 2040, and 2045 with the ultimate target of net-zero by 2050.

The Act will provide for emissions reduction plans, progress reports, public participation, expert advice, establishing an advisory board, and reporting on the Government of Canada's implementation of measures aimed at mitigating climate change.

Provincial Update

In October 2019, Nova Scotia passed the new Sustainable Development Goals Act (SDGA).[7] The Act creates a framework to set additional goals in regulations that advance Nova Scotia's economic, social, and environmental wellbeing. It sets ambitious new targets to fight climate change (53% below 2005 levels by 2030 and net zero by 2050) and commits to a new Climate Change Plan for Clean Growth. A public engagement process was scheduled for Spring 2020 to gather public input on goals under the SDGA Act and the new Climate Change Plan. This process was postponed due to COVID-19 and is now planned for 2021. The Municipality is collaborating with Province on how the new provincial Climate Change Plan and the SDGA can best enable the goals and targets of HalifACT, and to identify areas of collaboration.

Renewable Energy

The Municipality has plans to add to its portfolio of corporate solar energy systems. Currently there are 26 solar energy systems of varying technologies installed on municipally-owned buildings.[8] Due to advances in technology and a steep reduction in system costs, solar electricity will primarily be pursued. There are current plans to add 75kW of solar to the Dartmouth North Community Centre and up to 300kW of solar to the Ragged Lake Transit Centre. It is anticipated that the system at the Ragged Lake Transit Centre will be coupled with a large battery storage system to provide resiliency during climate impacts to ensure that transit operations are not impacted. In partnership with other business units, staff will continue to identify suitable municipal buildings that are planning to undergo retrofits and will have their roof replaced so that solar can be incorporated.

While on-site renewables are important, the Municipality will also need to investigate utility-scale renewables to achieve the targets of HalifACT. To advance this, the Municipality will be exploring the Province's new Green Choice Program. In 2016, the federal government announced that all electricity used by their corporate buildings across Canada must come from renewable sources by 2025. This renewable energy will be purchased from wind and solar farm production across the country. To achieve the federal goals, the Province of Nova Scotia passed legislation on February 26, 2020 to amend the Electricity Act. The amendment and accompanying regulation will create the Green Choice Program.

This program would give large electricity consumers the ability to purchase clean electricity from new, local and large-scale renewable energy projects. Due to the current pandemic, full release of details on the program has been delayed. However, it is understood that eligible participants would purchase renewable

[7] https://nslegislature.ca/sites/default/files/legc/PDFs/annual%20statutes/2019%20Fall/c026.pdf
[8] Halifax Regional Municipality "Municipal Solar Energy Systems" https://www.halifax.ca/about-halifax/energy-environment/environmental-programs-initiatives/solar-hot-water-projects

energy at a set rate over a fixed period of time. Participating in the Green Choice Program would be a significant opportunity to rapidly advance the HalifACT target of net-zero municipal operations. Consultation with the Province and appropriate Business Units is ongoing to discuss the risks and benefits of pursuing this opportunity as more information becomes available.

Aside from large-scale renewables, the Municipality is also supportive of integrating green hydrogen within our natural gas systems. In September, the Municipality provided a letter of support to Heritage Gas for their Investing in Canada Infrastructure Program Climate Change Mitigation Sub-Stream application. The proposed project consists of an electrolysis plant that is powered via 4MW of wind energy. The project would be located in Halifax and produce 40,000 GJ of green hydrogen annually.

Innovation Outpost

The Halifax Civic Innovation Outpost is a partnership between HRM, the Halifax Partnership and the Halifax Innovation District and launched in November 2019 with a focus on social innovation, data transparency and connecting start-ups into the municipality. As the Municipality commits to the next chapter of the Outpost with renewed funding, the mandate has been updated to support the implementation and progression of HalifACT. Bringing the HalifACT plan to life requires pace, impact and trial and error, perfectly suited for the Outpost. Municipal staff will begin to work with members of the Outpost team to collaborate and engage key external stakeholders in the challenges of the climate crisis. This collaboration allows for new partnerships with private businesses and start-ups and will focus on the evolutions required from the private sector to ensure we meet our ambitious climate mitigation and adaptation targets. Working with the Outpost will serve as a place for collaboration across businesses, governments and organizations.

Nova Scotia Power – Integrated Resource Plan

Halifax was one of many stakeholders invited to participate in Nova Scotia Power's (NSP) Integrated Resource Plan (IRP) consultation process. The IRP is NSP's long-term strategy for delivering safe, reliable, affordable and clean electricity to customers across Nova Scotia. On November 13, 2020, Halifax submitted feedback on the 2020 Integrated Resource Plan, Draft Report as it relates to HalifACT. As the primary electric utility for the Province, NSP is a key player in the success of HalifACT through grid decarbonization and robust infrastructure deployment to accommodate the high levels of building and vehicle electrification identified as key actions of HalifACT. NSP will be filing the final IRP with the Nova Scotia Utility and Review Board. Once filed, continued and meaningful collaboration between the Municipality and NSP will continue to ensure the successful implementation of each plan.

Halifax Water

As a future growth area, the Cogswell Redevelopment area is an optimal location for district energy (DE) due to the available waste heat being generated at the Halifax Waste Water Treatment Facility located on Upper Water Street. It was determined through a feasibility study conducted by the Halifax Regional Water Commission (Halifax Water) that the waste energy from the facility could adequately heat and cool the proposed future development at a price and emission intensity less than existing fuel options.

On August 18, 2020, by-law D-500 was approved by Halifax Regional Council which outlines the DES service area, service connection criteria and authority for enforcement. With this mandatory connection by-law in place, Halifax Water will update its business model to the satisfaction of its Board of Commissioners and will seek final approval from the Nova Scotia Utility and Review Board after full approval of the Cogswell project from Regional Council.

In the meantime, Halifax Water continues to work on developing the final business case, stakeholder documentation, regulations, design guidelines, and a rate structure. Halifax Water will coordinate installing the underground infrastructure within the larger Cogswell Redevelopment Project.

Other climate related activities at Halifax Water include ICIP applications for three projects: Cogswell District Energy System; Aerotech Biosolids Processing Facility including Total Resource Recovery (anaerobic digestion/RNG generation and nutrient recovery); and, four new solar projects.

LC3 Update

Low Carbon Cities Canada (LC3) is a program of the Federation of Canadian Municipalities' (FCM's) Green Municipal Fund[9]. LC3 was provided $183 million in the March 2019 federal budget to further climate change mitigation efforts. This funding followed a proposal from six non-profit organizations to the federal government, to replicate the model of The Atmospheric Fund,[10] which has been reducing greenhouse gas emissions and air pollution in Toronto since 1991 through demonstrating and scaling new technologies and innovative policy development. Locally, this includes the non-profit organization EfficiencyOne, who currently administers Efficiency Nova Scotia programs in the province, among other efforts. Since the inception of the idea in 2017, staff has been collaborating with EfficiencyOne and the Province of Nova Scotia to secure the funding and establish the framework for EfficiencyOne to administer the local LC3 Centre.

Since the 2019 budget announcement, EfficiencyOne has been working directly with FCM and the other LC3 Centres across the country to finalize details and secure a funding agreement. FCM will soon be entering into funding agreements with six different non-profit organizations (covering seven LC3 Centres) across the country – including an agreement with EfficiencyOne to administer the Halifax LC3 Centre. In addition to the funding agreement between EfficiencyOne and FCM, efforts are currently underway to establish a memorandum of understanding between EfficiencyOne and the Municipality, to outline how the entities will work together to help further mitigate climate change via projects and initiatives through the local LC3 Centre.

Once the funding agreement is secured, EfficiencyOne will ramp up efforts in 2021 and launch the LC3 Centre, which includes new initiatives such as a grant program for local innovative ideas to reduce greenhouse gas emissions in the Halifax area. Once the LC3 Centre is established, EfficiencyOne will continue to work with HRM and other local stakeholders to help the Centre succeed in its efforts to assist the municipality in meeting its ambitious climate change mitigation goals.

Strategic Planning Initiatives

Environment and climate change initiatives have previously been included under the Healthy, Livable Communities Council priority outcome area in the past. Environment is now proposed to be its own distinct priority area for Council's new 4-year term, and includes projects such as retrofitting municipal buildings, electrifying transit fleet as well as community and corporate vehicles, and developing a community-wide retrofit program. These strategic initiatives will require additional funding above and beyond what is usually planned for during the municipal budgeting process, and the success of HalifACT and of meeting both the net-zero municipal operations target and the community-wide net-zero target is dependant on adequately funding the critical core areas of the plan.

Greenhouse Gas Reporting

The Municipality tracks corporate greenhouse gas emissions on a yearly basis and publicly reports on climate actions, targets, funding and programs to the Climate Disclosure Project (CDP)[11]. In completing the reporting requirements for the 2020 CDP reporting cycle, the Municipality received a score of A, joining 87 cities across the globe being recognized for leading climate action in cities. This score is based on the Municipality demonstrating best practice standards across climate mitigation and adaptation, setting

[9] *https://fcm.ca/en/programs/green-municipal-fund/low-carbon-cities-canada*
[10] https://taf.ca/
[11] Carbon Disclosure Project https://www.cdp.net/en

ambitious and realistic climate targets, and having strategic and holistic plans to address climate change at the city level. The Municipality has been incrementally improving the score from CDP since first reporting in 2015. 2020 is the first year the Municipality will appear on the A List of leading cities[12].

Municipal Building Energy Efficiency

The Municipality has been accelerating energy efficiency projects for three years in partnership with Efficiency Nova Scotia through their On-site Energy Manager (OEM) program. This partnership to date has resulted in annual cost savings of $1.3 million for the $2.1 million invested in projects. The full annual report can be found online[13]. So far this year, the Municipality's OEM has procured 62 of the planned 71 projects for the 2020/21 fiscal year.

Corporate Facility Design and Construction in Corporate and Community Services has been working collaboratively with the On-site Energy Manager and the Energy & Environment team to set energy targets and strategies for new builds and building retrofit projects. This work has included providing expertise and facility information to assist in prioritizing all aspects of facility heating and ventilation energy conversion. In the selection process for recent new lease space, preference was given to locations that met BOMA BEST[14] and/or LEED certifications.

Transit and Fleet Electrification

In September 2019, Halifax Regional Council approved the development of a municipal Electric Vehicle Strategy. The strategy will outline the policy, corporate and community infrastructure needs, and public education required to advance Halifax in becoming an EV-ready city. The strategy will also offer recommendations on the transition of our light-duty municipal fleet vehicles to align with the council motion of net-zero municipal operations by 2030. Due to delays caused by COVID-19 the RFP was awarded to Dunsky Energy Consulting in July 2020 and is expected to be complete by the end of January 2021. Upon completion, it will be presented to Regional Council for consideration.

Electric vehicle charging infrastructure has started to be integrated into new municipal building projects, such as Station 62 in Williamswood, which will include two electric vehicle charging stations. The new fire headquarters building in Hammonds Plains will have eight charging stations, with capacity for 44 in the future. Corporate Fleet has purchased 12 hybrid cars and SUVs and two fully electric vehicles. An electric ice resurfacer is also being purchased this year.

On May 26, 2020 a report outlining transit electrification and a bus rapid transit strategy was submitted to Regional Council for approval of projects to be submitted to the province for funding consideration.[15] The project for the electrification of transit buses includes the expansion of the Ragged Lake Transit Centre to allow for charging and replacing existing diesel buses with electric buses. The Rapid Transit Strategy details the extent, modes and timelines to implement a new rapid transit system in the Municipality. Staff is working collaboratively with the Province to refine the projects and submit to Infrastructure Canada for funding consideration.

[12] Cities A List 2020 https://www.cdp.net/en/cities/cities-scores
[13] HRM Corporate Building Energy Efficiency Annual Report 2020 https://www.halifax.ca/sites/default/files/documents/about-the-city/energy-environment/HRM%202020%20Efficiency%20Report_5.pdf

[14] Building Owners and Managers Association https://bomanovascotia.com/
[15] Strategic Transit Projects – Rapid Transit Strategy and Electric Buses https://www.halifax.ca/sites/default/files/documents/city-hall/regional-council/200526rc917.pdf

Planning and Projects

The Regional Plan Review process provides an opportunity to further integrate the climate targets and actions outlined in HalifACT into the Municipality's planning documents in a more comprehensive way. The Regional Plan Review was initiated by Regional Council in February 2020. One of the main objectives of the Regional Plan Review is to consider the recommendations of the various priorities plans that have been completed since 2014, including HalifACT, and integrate them into planning policy. Staff is currently in the process of preparing a Themes & Directions document for the project, which will provide an overview of initial policy approaches and areas of study.
The Windsor Street Exchange redevelopment project is progressing with a review of responses to the Request for Proposals for the functional plan and preliminary project design. When awarded, this project will consider a Climate Lens for the design and construction of the Windsor Street Exchange redevelopment. A Greenhouse Gas (GHG) Mitigation Assessment, which measures the anticipated GHG emissions impact of an infrastructure project, and a Climate Change Resilience Assessment, which employs a risk management approach to anticipate, prevent, withstand, respond to, and recover and adapt from climate change related disruptions or impacts, will be completed early in the design process with the results considered throughout the project. The redevelopment project will align with the actions set out in HalifACT; specifically, stormwater management, green infrastructure, flooding, naturalization, and evacuation planning will be considered in the design and planning of this project.

Climate Adaptation

A high-level risk and vulnerability assessment was completed by the Municipality's Emergency Management Office over the last year and a half. This assessment identifies risks to the municipality with detailed risk profiles for risks identified as high or very high in their likelihood and severity. This work provides a strong basis to begin further community and stakeholder consultation and to develop community action templates to better understand how to reduce risks and impacts. Three identified high-risk areas for the municipality include erosion, flooding and winter storms, which are likely to increase with a changing climate.

On August 14, 2018, the Municipality published the findings of the Sackville Rivers Floodplains Study (2017). The updated floodplain mapping shows a larger flood impact for the 1-in-20 and 1-in-100-year weather events when compared with older (1980s) flood risk mapping. Staff is therefore reviewing policies in the following four Municipal Planning Strategies (MPS) and Land Use By-laws (LUB):

- Bedford Community Plan Area
- Sackville Community Plan Area
- Sackville Drive Area Plan
- Beaver Bank/ Hammonds Plains/ Upper Sackville Plan Area

Staff held three information sessions with members of the impacted communities in September 2018. Further public engagement opportunities based on the proposed amendments are forthcoming[16]. The Bisset Run, Shubenacadie River and Little Sackville River flood plain studies are nearing completion and will be presented to Regional Council in 2021.

Staff will be investigating and including stormwater best management practices for the Prince Albert Road project. The Prince Albert Road project includes a rain garden alongside Rixdale Avenue. This rain garden will use vegetation and soils to capture and filter stormwater, improving localized flooding and the quality of water reaching Lake Banook. Funds from the climate change capital account have been earmarked to assist with this project, along with some other community resilience-building initiatives.

New and updated Digital Elevation and Digital Surface Models have been created for the entire municipality based on recently acquired LiDAR. These models are available as Open Data and will be used for a wide

[16] https://www.halifax.ca/about-halifax/regional-community-planning/sackville-floodplains

variety of applications. Currently staff is completing flood risk scenario mapping with the new models using the most recent climate projections.

Next Steps & Resourcing

Monitoring and Reporting

A commitment to annual reporting on HalifACT was included as part of the approved motion when the plan was adopted in June 2020. This report serves as a first, interim report despite only being approved in June so that it can align with the municipal budget process. Over the next year, more robust key performance indicators and metrics will be developed to report on implementation. Staff will be developing a framework to gather information from stakeholders and across Business Units to provide a comprehensive assessment of progress. Staff also plans to report back to the public and stakeholders with a quarterly newsletter as part of an ongoing communication and engagement effort.

Mainstreaming Climate Action

Planning & Development has been leading collaboration across Business Units to encourage climate action and environmental stewardship and to support research, reporting, projects, policy changes, funding applications and more. Mainstreaming of climate thinking has begun through inclusion of environment as a Council outcome area, climate risk consideration in asset management and capital planning, and climate risk as an enterprise risk management consideration.

Among the more critical work in climate change is the work of fostering partnerships, working on policy and legislative barriers, leveraging funding, and working with a lens of equity and inclusion. Consideration of how to strategically administer climate work in the Municipality is still required, to ensure responsibility and accountability.

FINANCIAL IMPLICATIONS

There are no direct financial implications associated with this information report. Significant investments in climate action will be required to achieve the longer-term targets set out in HalifACT 2050. Required funding requests for its implementation will be addressed through future Council decisions related to the long-term capital outlook and annual capital and operating budgets.

COMMUNITY ENGAGEMENT

There has been no community engagement completed to inform this report. However, significant community engagement was completed during the development of the HalifACT plan and there has been ongoing stakeholder engagement during the early implementation of the plan.

ATTACHMENTS

None.

A copy of this report can be obtained online at halifax.ca or by contacting the Office of the Municipal Clerk at 902.490.4210.

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