



## **Committee of the Whole Report**

### **For the Meeting of January 31, 2019**

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**To:** Committee of the Whole **Date:** January 25, 2019  
**From:** Fraser Work, Director of Engineering & Public Works  
**Subject:** Climate Action Program Update and Planning Considerations

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### **RECOMMENDATION**

That Council:

1. Direct staff to proceed on the basis of option 2 outlined in this report (Enhanced Program);
2. Approve the Council Proposed Actions as follows:
  - a. Make available all ICBC municipal vehicle km/make/model/fuel economy information.
  - b. Continue the development and implementation of world-class low carbon fuel standards.
  - c. Fully invest in delivery of the zero-emission vehicles sales targets as established in the CleanBC Plan.
  - d. Continue progressive and direct funding programs and partnerships for municipal low-carbon initiatives, including building retrofit, transportation, waste management and other priority and shared GHG reduction programs.
  - e. Support transformational improvements to regional BC transit infrastructure to promote and enable rapid mode shift to transit in the region, including transitioning the BC Transit fleet to zero emissions as early in the 2020s as possible, and:
    - i. Completion of dedicated bus lanes on all connections between the West Shore and downtown.
    - ii. Installation of Traffic Signal Priority (TSP) sensors in all buses that operate in the City of Victoria.
    - iii. Installation of 'all door loading' capabilities for all busses in the Victoria regional transit system.
    - iv. Introduction of real-time, digital bus information to enable super-convenient, accessible transit operational information.
    - v. Introduction of "tap" payment-systems common to multi-modal service providers, to support rapid loading of busses and align with Smart Mobility goals.
    - vi. Completion of the business-case to determine the most effective investments in public transportation to realize the highest potential mode-shift and ridership in the south island, including but not limited assessing commuter ferry, public transit along the E&N rail corridor and Douglas

- Street / Highway 1 / Highway 99, bus rapid transit (BRT) or light-rail transit (LRT).
- vii. Reporting of annual regional transit GHG and combustion pollutants, mitigation priorities, progress and business cases for investments.
  - f. And that Council continue to advocate and engage with the CRD to prioritize the introduction of systems to minimize fugitive methane and capture all landfill GHGs.
3. Consider the 2019 Climate Action Program spending plan as part of the 2019 Financial Planning process.

## EXECUTIVE SUMMARY

Council adopted the Climate Leadership Plan (CLP) on July 26, 2018. The CLP is the City's action plan to reduce greenhouse gases (GHGs) by 80 percent below 2007 levels by 2050, transition to 100 percent renewable energy by mid-century, and prepare for a changing climate. These commitments are aligned with the global leadership required to keep the earth's temperature rise below 2°C, and reach net-zero carbon emissions as early as possible after 2050.

The CLP covers five sectors and identifies the goals, targets, strategies and actions to reduce GHG emissions and prepare for a changing climate. The plan aims to inspire public and business support for investments and priority actions to reduce GHGs and energy use to ensure Victoria plays its part to keep global temperature increases within safe limits. Early action is required to avoid significant costs and impacts to social and environmental well-being in our community, and worldwide.

Cities are uniquely positioned to enable this mobilisation effort, in a coordinated and integrated fashion across sectors, enabling individual action with timely and accurate information, incentives, directions, coordination, tools, targets and scalable, impactful programs.

The City's GHG reduction plan will be effectively and expeditiously realised through a dedicated focus on cutting the most impactful GHG sources, including: retrofitting existing buildings to high-efficiency standards; renewable electricity; elimination of fossil fuel heating sources; shifting people to transit, active transportation, and renewably powered mobility options; and the electrification<sup>1</sup> of commercial and passenger vehicle fleets.

The completion of the CLP in 2018, and subsequent progress on various Climate Action Program files, highlights the City's climate efforts and commitments. However, it is clear that the complexity and pace/progress of GHG reductions in both City and community require additional resources and planning to reduce risks of missing interim and longer GHG and renewable energy targets. The City can affect these changes using various levers at its disposable, including the use of intelligent policies, incentive programs, partnerships, education, land-use, taxation, design of the public right-of-way, and advocacy to other agencies/levels of government. The success and affordability of these changes will require decisions on both the role of the City in driving (or supporting) GHG reduction efforts, and the urgency required. This report identifies considerations for Council related to acceleration of program objectives, including the recommendation that Council support an 'Enhanced Program' (option 2), which will include immediate consultant support for policy workshops with Council and staff to ensure the wisest investment of the taxpayer dollar on activities that will deliver the highest impact climate action and adaptation results.

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<sup>1</sup> Or equivalent, zero-emissions, renewable power.



## PURPOSE

The purpose of this report is to provide an overview of the CLP and the Climate Action Program (CAP); respond to Council's recent queries related to climate action progress; and present staff's recommended approach for CAP in 2019.

## BACKGROUND

In August 2016, the City of Victoria set two ambitious targets, the reduction of community greenhouse gases (GHGs) to 80% below 2007 levels by 2050 and a transition to 100% renewable energy by 2050. These targets were aligned with the Paris Agreement (2015) where countries agreed to take necessary action to keep global temperatures to well below 2°C (above pre-industrial levels) and to pursue efforts to limit temperature increase even further, to 1.5°C. These targets align with Provincial, Federal and international requirements set forth by the United Nations Framework Convention on Climate Change (UNFCCC), and mirror commitments made by hundreds of worldwide cities.

Council passed the following motion on August 18, 2016:

- Establish a long-term GHG Reduction target for both corporate and community emissions consistent with global goals: an 80 percent GHG reduction by 2050, and a corresponding target of 100 percent renewable energy in the same timeframe.

And directed staff to take several steps, including:

Develop an action plan based on our existing work done to date, in support of meeting reduction targets. This plan will include:

- a. Priority actions / programs for consideration;
- b. Governance and documentation renewal plan;
- c. Resource plan; and
- d. Internal / external stakeholder communication, education and engagement plans.

In December 2016, staff returned to brief Council with an update on completed actions and further work on the Climate Action Program to enable a suite of priority climate actions for 2017, including development of the Climate Leadership Plan (CLP).

In September 2017, staff provided council with an update on the development of the CLP and an overview of its structure, approaches and content, with a commitment for a completed draft in December 2017 to be released for community and public comment.

In December 2017, Council approved the draft CLP and directed staff to proceed with initial community and stakeholder engagement to gather feedback and input on the CLP, in preparation of a final version. At that time, Council also approved the allocation of more than \$400,000 in funds from the Climate Action Reserve Fund (CARF) for priority staffing, actions and projects. Council directed staff to report back with the final Climate Leadership Plan in June 2018 with a long-term funding strategy and program update.

On July 26, 2018, Council approved the City's Climate Leadership Plan and staff provided an update on the climate action priority program items.

At the federal level, the government has set a long-term GHG reduction target of 80% below 2005 levels by 2050 and, through the Pan Canadian Framework, supports their interim 30% reduction in GHGs by 2030. In BC, the recently released CleanBC plan provides a pathway to achieve the Province's legislated climate target of reducing GHG emissions by 40% by the year 2030, based on 2007 levels. The Province has also set a 60% GHG reduction target for 2040 and an 80% GHG reduction target for 2050.

In October 2018, the Intergovernmental Panel on Climate Change (IPCC) released a special report clarifying that, with current national commitments to GHG reduction, global warming is expected to surpass 1.5°C above pre-industrial levels.<sup>[1]</sup> To avoid surpassing 1.5°C, after 2030 these commitments would need to be supplemented with very challenging actions such as restricting the use of coal, increasing the use of nuclear power, and extensive electrification to a scale that achieves net zero CO<sub>2</sub> emissions by 2045. Even with this effort, limiting global warming to the 1.5°C threshold may not be achieved if the Earth's warming response is more severe than currently estimated. All of these issues and the necessary actions have been clearly articulated in the City's CLP, and now the right level of planning and sustained efforts are necessary to avoid the biggest risks of climate change.

In December 2018, Council adopted a motion "Leadership for Climate Action," directing staff to report-back on options for expediting implementation of the Climate Leadership Plan.

This report provides a: status update on the Climate Action Program; details the importance of external funding opportunities, puts forward a 2019 spending proposal using funds mainly from the Climate Action Reserve Fund (CARF); and presents considerations for Council related to their December 2018 motion.

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<sup>[1]</sup> Metz, Bert. 2005. IPCC special report on carbon dioxide capture and storage. Cambridge: Cambridge University Press for the Intergovernmental Panel on Climate Change.

## ISSUES & ANALYSIS

The issues and analysis section is broken into the following segments:

- Overview of the CLP;
- Update on Climate Action Program actions/progress;
- 2019 Program Priorities and Climate Action Program Plan;
- Climate Action Program issues, pace and considerations; and
- Resultant financial and other considerations.

### **Climate Leadership Plan Overview**

The Climate Leadership Plan sets the City's long-term goals and targets for climate mitigation and adaptation. Council adopted the CLP in July 2018. The CLP key highlights are outlined below (the full plan is found in Appendix A, with more details on the CLP structure in Appendix B).

#### **1. Vision – Low Carbon Prosperity**

The City's vision for 2050 is of a vibrant, healthy, and prosperous community, fueled by renewable low carbon energy systems, and designed and integrated in ways that promote a high quality of life for all Victorians. The City's mission is to lead Victoria's transition to a renewable energy future, and to inform, equip, enable and inspire the community to rapidly reduce their own GHG emissions and prepare for climate change.

2. **Goals:** The goals from the CLP define the desired outcomes for each sector and are illustrated in this image from the document:



## SECTOR

## CLIMATE LEADERSHIP GOALS



### BUILDINGS

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- All buildings are highly energy efficient
- All buildings are powered by renewable energy



### MOBILITY

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- All Victorians have access to low carbon, high-performance and affordable multi-modal transportation
- Vehicles in Victoria are powered by renewable energy
- Smart land use minimizes transportation emissions



### WASTE MANAGEMENT

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- Organic materials are managed to avoid GHG emissions



### MUNICIPAL OPERATIONS

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- The City is a recognized leader in climate mitigation and adaptation
- The City takes integrated and informed climate action
- The City will provide timely and accurate data supporting strong climate mitigation and adaptation actions



### ADAPTING EARLY

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- All climate-related risks to city infrastructure are minimized through early planning and action
- Victoria's natural environment flourishes in a changing climate
- All Victorians are empowered and prepared for climate impacts and emergencies

Figure 1. CLP Sector GHG Goals

### 3. GHG Sector Targets (supporting each sector goal, above):

SECTOR	TARGETS
Low-Carbon, High Performance Buildings	<ul style="list-style-type: none"> <li>• By 2030, all new buildings are 'net zero' energy ready</li> <li>• By 2050, all existing buildings meet new high efficiency standards</li> <li>• By 2030, heating oil is phased out</li> <li>• By 2050, all buildings exclusively use renewable energy</li> </ul>
Low Carbon Mobility	<ul style="list-style-type: none"> <li>• By 2030, 25 percent of all trips by Victoria residents are taken by public transportation</li> <li>• By 2030, 100 percent of BC Transit buses are renewably powered</li> <li>• By 2030, Victoria residents choose walking and cycling for 55 percent of all trips</li> <li>• By 2030, renewable energy powers 30 percent of passenger vehicles registered in Victoria, and 100 percent of passenger vehicles are renewably powered by 2050</li> </ul>

	<ul style="list-style-type: none"> <li>• By 2030, 30 percent of commercial vehicles operating in Victoria are renewably powered</li> <li>• By 2030, 100 percent of Victoria's neighbourhoods are "complete" by design with substantial transportation system diversity</li> </ul>
<b>Low Carbon Waste Management</b>	<ul style="list-style-type: none"> <li>• Eliminate 100 percent of food and yard waste sent to the landfill by 2030</li> <li>• Eliminate 100 percent of other organic materials sent to the landfill by 2030</li> <li>• Capture methane from collected organic waste to provide renewable energy by 2025</li> </ul>
<b>Municipal Operations</b>	<ul style="list-style-type: none"> <li>• By 2040, all City facilities are powered by 100 percent renewable energy</li> <li>• All new City facilities are renewably powered</li> <li>• By 2025, all City power tools and small engine-driven equipment are renewably powered</li> <li>• By 2040, 80 percent of the City's fleet is electrified or renewably powered</li> <li>• By 2020, capital and operating plans are informed by climate data, carbon pricing, and the City's GHG reduction targets</li> <li>• By 2022, the City has developed a 'triple bottom line' accounting system that guides City business planning by assessing and balancing environmental and social risks and financial costs and opportunities</li> <li>• By 2022, partner with other local governments and the region to develop a community-accessible Energy and GHG information management System (EGIMS) to define, communicate and track community energy and GHG reduction across all sectors</li> </ul>
<b>Adapting Early</b>	<ul style="list-style-type: none"> <li>• Climate resilience is embedded into all City business</li> <li>• The City's infrastructure and services are ready to protect and respond to the risks associated with a changing climate</li> <li>• Natural habitats support healthy fish, wildlife, and plant populations and healthy ecosystem function</li> <li>• The community is knowledgeable and prepared to address the impacts from a changing climate</li> <li>• The City incorporates best practices in risk communication (e.g. advanced warning systems, short videos) covering all climate hazards</li> <li>• Climate resilience enhances quality of life for all Victorians, especially the most vulnerable</li> </ul>

Table 1. CLP Sector GHG Targets

**4. Pathways to 2050 GHG Reduction Targets (wedge graphic):** the "wedge diagram" below shows today's GHG emission levels and the necessary reductions to reach Victoria's emissions target. By assigning a quantity of GHG reductions to strategies, emissions can be sliced. The slicing approach shows that there is no single strategy or sector that can reach the target. Only ambitious, concerted action on many fronts allows Victoria to reach an 80% reduction in GHG emissions by 2050. The largest reductions are possible through deep retrofits of existing home energy, including the elimination of oil heating, and facilitating a mode shift to low carbon mobility options, such as electrified passenger vehicles, emissions-free transit, walking and cycling.

## PATHWAYS TO 2050 GHG REDUCTION TARGETS

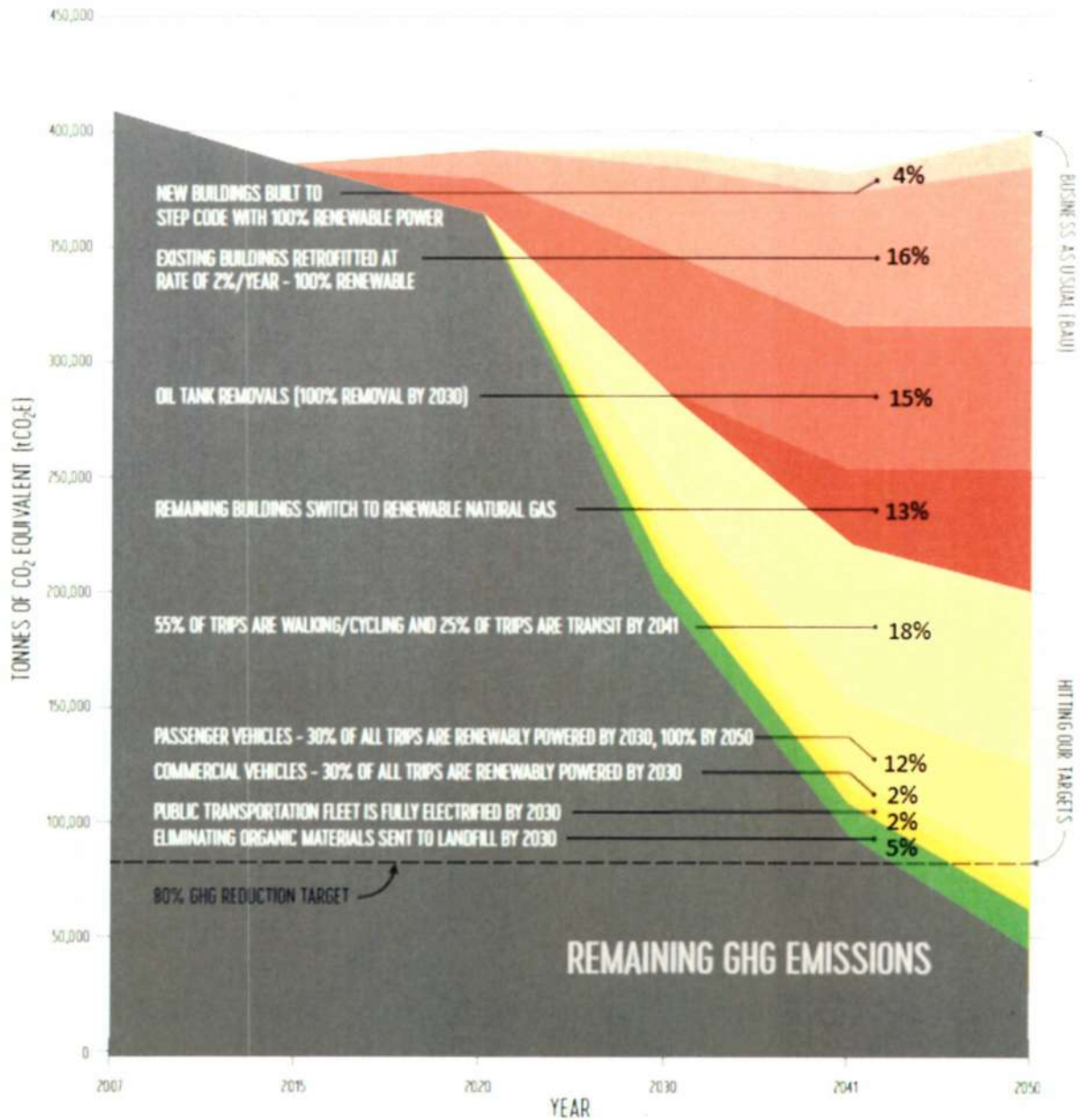


Figure 2. CLP Pathways to 2050 GHG Reduction Targets.



Collectively, these goals/targets would reach the overall target slightly before 2050, which provides a planning buffer to account for risks and uncertainties. The wedge diagram above indicates that climate mitigation actions should focus efforts on the highest-impact program areas that will demonstrate the largest GHG reductions:

- **Building Retrofit Program:** 31% total GHG reduction potential (including oil tank removal<sup>2</sup>)
- **Low Carbon Mobility:** 34% GHG reduction (active transportation, transit mode shift, and electrification)

These totals indicate that strategies for **Building Retrofit (including elimination of oil heat), transit and active transportation investments, and vehicle electrification programs** should be prioritized for the swiftest GHG reductions.

### **2018 Climate Action Program Progress Update**

The 2018 Climate Action Program efforts were focused on the completion of the CLP and the progress of other priority programs. Staff completed the City's plan to adopt an accelerated BC Energy Step Code and completed the Market Rental and Revitalisation Study (MaRRS), which looked at policies, regulations, and incentives to preserve Victoria's aging rental housing that typically provides lower rental rates than newer purpose-built rentals, but may also require upgrades for safety, liveability, energy performance, and seismic resilience. Additionally, staff advanced priority projects identified for 2018, including the City's retrofit strategy; additional EV charging installation in downtown parkades; and the Corporate Energy and Emissions Management System. Full details are found in Appendix C.

### **2018 Lessons Learned**

Staff commenced and completed additional important projects that emerged in 2018, outside of the priority projects and work plans, including participation in the following: Regional Working Group on Electric Vehicles and E-bikes; provincial energy-incentive program (Efficiency BC); Google's Environmental Insights Explorer beta testing; successful grant application to accelerate deep energy retrofits in the region; University of Victoria and various School District 61 presentations/visits; and, a coordinated response and submission to the Province's Clean Growth Intentions on Transportation and Efficient Buildings; among many other projects, partnerships, initiatives and public education and engagement opportunities.

Climate action activity is growing across the city, region, provincially and federally, which requires more City resources to administer and participate. The City is currently limited across many departments in its ability to implement the CLP actions and conduct community outreach and engagement to increase the reach and uptake of the CLP due to competing staff priorities and resource constraints. To facilitate uptake of the Climate Leadership Plan by the community, promotions, education and marketing activity should be wisely implemented via a strategy funded with appropriate resources. More work is required to ensure municipal stakeholders are exposed and engaged on CLP content and supported in their actions to reduce GHGs and prepare for a changing climate. All priority projects, outreach, emergent

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<sup>2</sup> Renewable natural gas (RNG) has been modelled as a key enabler (13% reduction potential) for buildings that have significant barriers to shift to lower GHG power systems, like hydro electricity. The availability of RNG across the market place depends on technological development, and significant investments from gas utility and regional governments.

issues and external liaison demands time, resources, and careful management.

Resource limitations will dictate project outcomes (time, cost, scope and/or quality) of programs. Additional resources in key project areas with skilled staff will be key considerations for the next program phases. External consultant support will also be required in several areas to ensure complex program concepts and approaches are well defined and show the requisite promise to deliver high impact GHG reductions. The risks of reduction delays adds pressure on staff to implement the wisest suite of GHG reduction programs in the shortest possible timeframe, while also ensuring we avoid any failures or redirections. There is simply no more time to either delay, or 'get it wrong.'

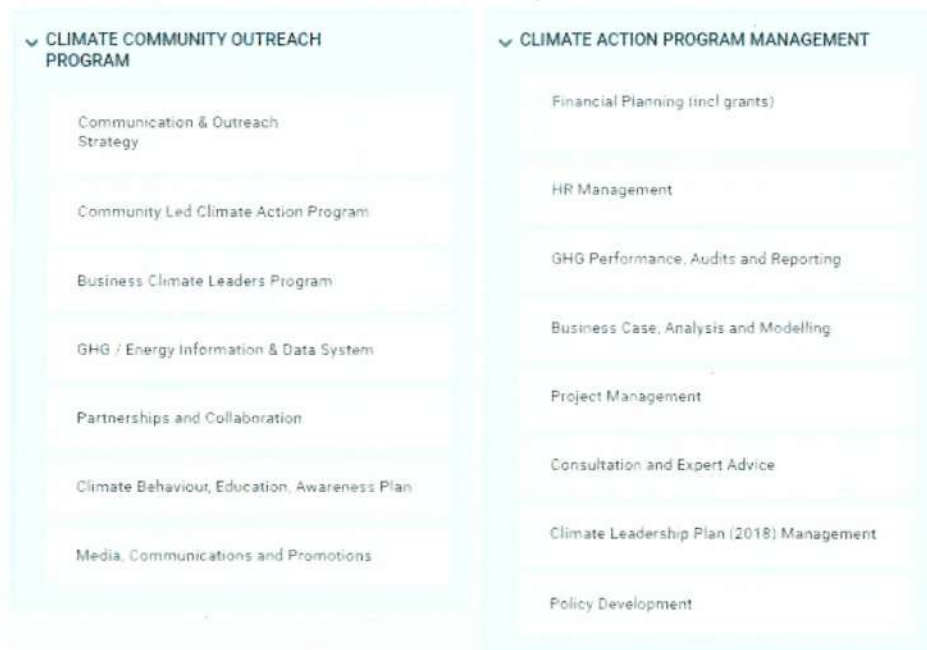
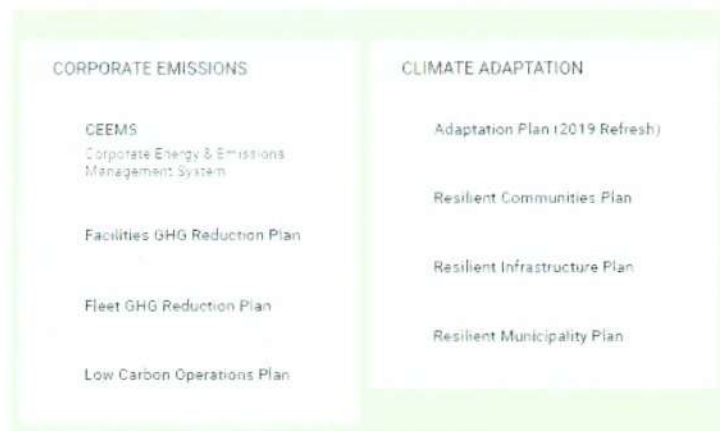
### **Climate Action Program – Current Planning and Program Structure**

The most recent staff planning activities have framed the Climate Action Program (CAP) as shown in the following breakdown, which defines the CAP framework, and is reviewed here for planning and discussion:

1. **Climate Action Program:** All City climate action programs, projects and activities.
2. **Climate Leadership Plan:** The parent document that establishes the mandate and sets the City's climate vision, goals, targets and required actions.
3. **Climate Action Program Sectors:**
  - a. High Performance Buildings
  - b. Low Carbon Mobility
  - c. Low Carbon Waste
  - d. Municipal Operations
  - e. Climate Adaptation
4. **Climate Action Program Support:** Program management activities for Climate Action Program.
  - a. Climate Outreach Program
  - b. Climate Action Program Management







Many of these major programs and initiatives have already been progressed via projects and activities, while others are currently at the concept or initial planning stages. Additional planning and actions will be required in the coming months to develop strategies, plans, and actions.

### **Climate Action Program Priorities**

Increased and immediate attention in 2019 and over the next 5 years are considered critical in order for the City to meet the longer term GHG targets and prepare for the unavoidable impacts from a changing climate. The following programs are highlighted for Council's consideration, discussion and staff's refinement.

**Priority Programs:** Staff's current assessment suggests the most important programs to progress as priorities in 2019, are as follows, with the blue text highlighting the highest potential GHG reduction impact areas:

2019 PRIORITY PROGRAM AREA	INITIATIVE
High Performance Buildings	Step Code Implementation
	<a href="#">Retrofit Program</a>
	<a href="#">Oil Heat Elimination Project</a>
Low Carbon Mobility	<a href="#">Bike Master Plan (and other Active Transportation Projects)</a>
	<a href="#">Transit Improvements / Electrification</a>
	EV Strategy
	EV Infrastructure Investments
	"EV Ready" for new construction
Low Carbon Waste	Zero Waste Strategy (including work on organics/single-use)
	Love Food Hate Waste Program
Corporate Emissions	CEEMS
	Facilities Master Plan
	Fleet operations and GHG reduction review (Telematics)
Climate Adaptation	Implementation Plan
Community Outreach	Strategy Development
	Community Led Climate Action Program
	<a href="#">Climate Behaviour, Education and Awareness Program</a>
	GHG / Energy Information & Data System
Program Management	<a href="#">Consultant Policy Workshops</a>
	Grant Writing
	Ongoing Analysis (e.g. modelling, business case development)

The projects highlighted in the table above in blue are assessed as the most critical "*High Impact*" programs that pose the largest potential GHG reductions, and staff assess these programs as the most effective use of resources and priorities for 2019:

No.	HIGH IMPACT INITIATIVES	COMMENTS
1	<b>Building Retrofit Program</b>	Buildings represent the largest source of GHG emissions in Victoria.
2	<b>Oil Heat Elimination Project</b>	Oil tank elimination represents a single area with potential for one of the highest GHG reductions.
3	<b>Bike Master Plan</b>	Ongoing investments in mode shift through development of improved safe cycling network.
4	<b>Transit Improvements / Electrification</b>	Partnerships and incentives to transform regional public transit and drastically increase mode-shift to clean public transit system.
5	<b>Climate Outreach Program</b>	Developing strategy and plans for social programs to enable and promote progress in climate action at the personal, family, business and societal levels.
6	<b>Expert Consultant Advice (Policy Workshop)</b>	Comprehensive review of City programs, policy options, approach and priorities to reduce risks and guide staff and Council.



Progressing the above, high-impact initiatives, would rely on both project resources and support from legal, planning, finance, HR and engagement teams, as well as partnerships and support from other agencies, where appropriate. Based on available in-house resources, staff currently have the capability to complete initial planning / scoping in these high priority areas in 2019, but do not have access to the financial resources to quickly progress all of these programs.

### **Current Climate Team Staffing Model**

The following organizational chart identifies the staff positions employed on the Climate Action Program team at the City of Victoria. There are four, full-time CAP staff (two FTEs partially funded on term agreements with utility providers). Additionally, for 2018-2019, CAP is supported by a hosting agreement partnership with ICLEI Canada, supporting partial FTE support to City programs. The ICLEI team member mainly supports the adaptation planning and programming for the City.



Figure 3. City Climate Action Team. Note: dashed box refers to team member embedded in SPCD, and beige box refers to ICLEI employee/Western Canada office representative.

#### **a) Staffing Issues:**

- Lack of project resources and resultant project timelines/scope limitations.
- Lack of outreach, promotional and engagement capacity
- Term employment limitations
- Need access to unique skills / experience in the marketplace to expedite and define programs.

#### **b) Priority Staffing Considerations:**

- Fill current vacancies
- Add project resources in highest priority areas
- Add dedicated climate outreach / engagement staff
- Consult for expert support where required

### **Considerations for Project Acceleration**

In December 2018, Council passed several motions requesting commentary from staff on the considerations related to accelerating a number of key program areas in the Climate Action Program. Staff's initial consideration and assessment of the motions is discussed in this section of the report.

The following Council motions were made on December 13, 2018, and the initial staff commentary is captured in the below table:

Council Motion	Summary of Staff Comments
<p><i>Accelerating the reduction of the City of Victoria's corporate emissions.</i></p>	<p>The City's corporate target is to reduce emissions 60% by 2030 and 80% by 2040, which exceeds the community target of 80% reduction by 2050.</p> <p>In 2017, City operations accounted for 3,400 tonnes of GHG emissions, representing approximately 1% of total community GHG emissions. The CLP states that all new buildings will be renewably powered and that the City's responsibility is to lead and inspire in the transition to low carbon buildings, fleet and waste systems. City leadership by example has been established as a key principle for climate planning.</p> <p>Investment in facility renewable heating systems and high efficiency, low fuel economy vehicles are priorities, as is the electrification of all new facilities and vehicles. Additional resources and planning are required on both fronts to develop plans for wisest investments. In 2019, the PRF department will commence facilities master planning process which should include a 'carbon lens' on planning. Fleet telematics installation has been completed and will help identify the highest impact fleet investments for electrification, which relies on the growing utility EV options now entering the marketplace. Fleet Electrification plan is not yet an action for the City, and can be incorporated into the 2020 financial plan as a priority, using the 2019 telematics data to support priorities and decisions. In some cases, fleet operations will have to be redesigned to reach climate action goals and to achieve multiple coherent benefits in affordability and reliability.</p> <p>The Corporate Energy and Emissions Management System, currently underway, will establish interim targets to set an achievable trajectory to meet the CLP target of an 80% renewably or electrically powered fleet by 2040.</p>
<p><i>Expediting the transition of the municipal vehicle fleet, as well as the transition of passenger vehicles, commercial vehicles and the VicPD fleet to renewable energy</i></p>	<p>Transitioning to renewably powered vehicles is a key goal of the CLP for both corporate, personal and commercial vehicles and is discussed in both the Mobility (p. 34) and Municipal Operations (p. 48) chapters. In Victoria, on-road transportation accounts for 40% of community emissions, second highest only to building related emissions.</p> <p>The key City levers to accelerate change will be to support community's adoption of electric vehicles, using a wise mix of policy and infrastructure improvements, which includes options for incenting change indirectly, through benefits related to other vehicle services, including parking and corresponding disincentives for inefficient vehicles.</p> <p>Corporately, City vehicle emissions make up 0.5% of community emissions. Even as a relatively small contributor, the City must lead by example and inspire the transition to zero emission vehicles. The CEEMS will establish interim targets to set an achievable trajectory to meet the CLP target of an 80% renewably or electrically powered fleet by 2040.</p> <p>Staff will examine overall fleet emissions and their relative contribution to GHGs, and prioritize zero emissions or more sustainable alternatives. EPW staff will continue to work with the Police Department in order of GHG reduction potential. VicPD currently owns 3 hybrid vehicles for administrative and detective roles and seeks to purchase more on a preferential basis.</p>



<p><i>Mandating electric-vehicle charging capacity in all new construction that provides on-site parking, including a possible exemption for affordable housing.</i></p>	<p>Based on Council's previous direction, staff have been progressing stakeholder engagement to prepare a set of voluntary "design guidelines" for developers regarding EV charging infrastructure.</p> <p>Emerging best practice is regulating all new residential parking spaces to be 100% "EV-Ready," i.e., provide EV charging or provision for ready installation of EV charging. Richmond and Vancouver have adopted such policies.</p> <p>Should council wish to accelerate EV charging in all new construction, council can direct staff to seek the necessary legal review and to descope industry engagement. Staff can bring forward more information / considerations for introducing mandatory requirements in all new construction projects in Q3 2019.</p> <p><i>For staff and council clarity, please note that council have "mandate electric vehicle charging capacity in all new construction" as a 2021 action in the draft strategic plan.</i></p>
<p><i>Accelerating the implementation of the BC Energy Step Code for new buildings.</i></p>	<p>Accelerating Step Code implementation between 2020-2032 is possible in order to achieve "net zero ready" homes, as early as possible.</p> <p>Staff are currently progressing Council's 2018 direction to introduce the following steps in 2020:</p> <ul style="list-style-type: none"> <li>- Step 2 for garden suites</li> <li>- Step 3 for all other Part 9 buildings (single family homes, duplexes, townhouses)</li> <li>- Step 2 for high-rise concrete residential (greater than 6 storeys) and Part 3 commercial buildings</li> <li>- Step 3 for low-rise wood-frame residential (less than 6 storeys)</li> </ul> <p>Based on staff vacancies, overall GHG impact and other risks, altering the 2019 or 2020 program plan would risk higher priority GHG or planning programs.</p> <p>In the April 2018 CoTW report, Council directed staff to monitor project compliance after the initial 2020 timeframe, and report back on considerations for implementation timelines for step-phasing to reach the highest step 5, before 2032.</p>
<p><i>Accelerating the retrofitting of existing buildings for energy efficiency, including incentives for the installation of solar hot water, heat pumps and other clean energy technologies</i></p>	<p>Staff have identified building retrofits and fuel switching as two of the highest impact areas for GHG reductions in community.</p> <p>Key barriers to the community's adoption of low carbon heating fuels include financial/economic issues, process complexity (lack of understanding of where and how to start), lack of interest, lack of ability to make change (landlord/tenant split incentives), and affordability.</p> <p>Acceleration of this program is a priority for staff, and would include immediate planning action to accelerate meaningful community outreach, partnerships with non-profits and other commercial/government agencies, partnerships with industry, policy development, financial reviews, and program implementation.</p> <p>Acceleration of this program in 2019 would benefit from consultant support, policy review and discussion with Council, and additional staff to quickly develop towards implementation.</p>
<p>Expediting waste reduction and the capture and re-use of methane.</p>	<p>CRD is exploring regional organics treatment technologies with the potential for the production of renewable natural gas. The CRD intends to choose a partner by the end of 2019 and have an operational facility by 2021. The City of Victoria CLP recognizes the need for increased RNG capture and distribution for buildings and other systems. Staff at the CRD and City of Victoria are working closely to align shared objectives for organics treatment.</p>
<p>Reviewing the targets in the Climate Leadership Plan to account for GHG emission reductions</p>	<p>The Climate Leadership Plan renewable target is largely consistent with the 1.5°C mitigation pathways identified in the 2018 IPCC Special Report and puts the City of Victoria on a comparatively aggressive GHG reductions trajectory that meets, or exceeds those targets set by the federal and BC provincial governments.</p>



necessary to limit global warming to 1.5°C.	Staff will need to review / analyze the considerations related to the latest IPCC 1.5°C report and report back to Council at a later date with additional considerations of the 1.5 vs 2.0 temperature rise, and mid-century targets (i.e. zero emissions or 80% )
Increasing transparency of the City's annual reporting on emissions targets.	Since 2010, the City provides Climate Action Revenue Incentive Program (CARIP) reports to the province and publishes a report to the City's website. CARIP reports provide an overview of corporate GHG emissions and an outline of the measures the City has taken that year to reduce GHG emissions both corporately and community wide. Additionally, as a signatory to the Global Covenant of Mayors for Climate and Energy, the City provides an annual report on community GHG emissions and steps taken to address the local impacts of climate change.

## Program Urgency, Approach and Risks

There are multiple approaches and options to consider when developing / implementing the City's Climate Action Program. Staff have laid out the priority programs in this report, which could be supported by many policy options, each with their own unique set of risks and considerations. Before any plans and major resource commitments are made, staff estimate that more in-depth discussions with Council are required now in order to further define preferences for approach (i.e. policy/incentive/disincentive), risks and considerations for each (see below), and the agreed pace required for the preferred approach. With that information, staff will be able to more accurately refine resource estimates based on the chosen approach and level of urgency. A few key questions are presented for Council to consider – namely confirming/exploring the City's role in GHG reductions and adapting to climate change impacts (noting community/business/industry/institutional stakeholder boundaries), identifying the most attractive or highest potential policy/approach, and the subsequent resource commitments/considerations required to meet objectives. These are explored in more detail below:

1. **The Role of the City:** A key consideration for the City is its role when addressing GHG reductions in specific project areas. The City's role in change-making will be different for each project/GHG reduction efforts. Many city emissions fall outside the direct control of the City, or even fit under different or multiple jurisdictions. Different stakeholders may be incentivised to reduce GHGs through one or a series of levers that the City can impose, by wise policy, strong regulation, incentives, re-design, or by other means. The City may adopt the role of educator, regulator, leader by example, advocator, intervener, convenor, promoter, designer etc. The City should determine **its role for each GHG reduction program, and how that will impact GHG reduction potential, resource requirements, legal and other risks.**
2. **Define Urgency and Importance:** Any climate program will also be defined by its urgency. The CLP has set the 'big picture' goals and overall imperative. The CLP set targets between now and 2050 and established several interim actions and priorities. The latest IPCC report reemphasises a lack of worldwide pace on climate action and reaffirms the risks of missing the global 1.5°C temperature rise target. The CLP is largely based on meeting the Paris Agreement's aim of keeping global temperatures well below 2°C (this century). Cities have already signalled the need for increased efforts, accelerated timelines and bolder actions. **Council's direction to staff on program pace/urgency will allow staff to assess options and their resource implications, which can be presented for further consideration/planning/prioritization.**



3. **Define the Approach / Strategy:** Once the City has committed to its specific role and urgency in each high impact initiative, the various options and strategies available will need to be risk assessed to answer the following question: **“what is the most impactful policy or program to achieve the desired change with the highest probability of success?”** The option(s) with the most attractive impact/risk/benefit profile. A single or suite of wise, coherent policies and other governance “levers” should aim for the most GHG reduction, per dollar and duration of investment (i.e. achieve the fastest and cheapest GHG reduction impact), while also delivering other environmental and social benefits across the community (e.g. better air quality, less noise, reduced traffic, healthier and more active lifestyles). The various options must be explored further for each initiative, so that staff can assess and make appropriate recommendations for investment.
4. **Resource Considerations:** Staff will then assess the resource implications and risk/benefit considerations and make suitable recommendations to balance time/cost/quality with staffing levels and external consultant support. All risks and requirements need to be carefully managed to avoid risks, most of all – a failure to reduce GHGs, or even creating unintended increase in GHGs over time. The risks of false-starts are increasing. The overall impact may be measured by “GHG reductions per dollar per year,” which should drive program planning. Even with any decision to increase staffing levels, the benefits will not be realised until late 2019 at the earliest, due to staffing timelines. In some areas, the skills and experience required to architect or direct staff resources are at a premium, and specialist consultant support would be required to increase the potential of program success and efficiency.

### **Ninety Nine Percent GHG Ownership and Tipping Points**

Driving major change initiatives like climate action are significant and daunting tasks. As we know, 99% of the GHGs in our community come from behaviours and energy decisions that are mainly outside of the City's span-of-control. But the City has an important position that can leverage change, action, cooperation, information, and other shared benefits that all stakeholders need to transition to a low carbon community.

Large social change initiatives have been studied extensively and highlight that once tipping points are reached by early adopters, social normal will drive the remainder of the change. Growing the desired change, rather than just sparking/igniting it, dictates that change-making follows a trajectory similar to the innovation diffusion curve (below), and the rate of change can spill past a “tipping-point”, which does not require the sustained efforts to move the whole population mass towards the desired end-state.

## Accelerating Diffusion of Innovation: Maloney's 16% Rule<sup>o</sup>

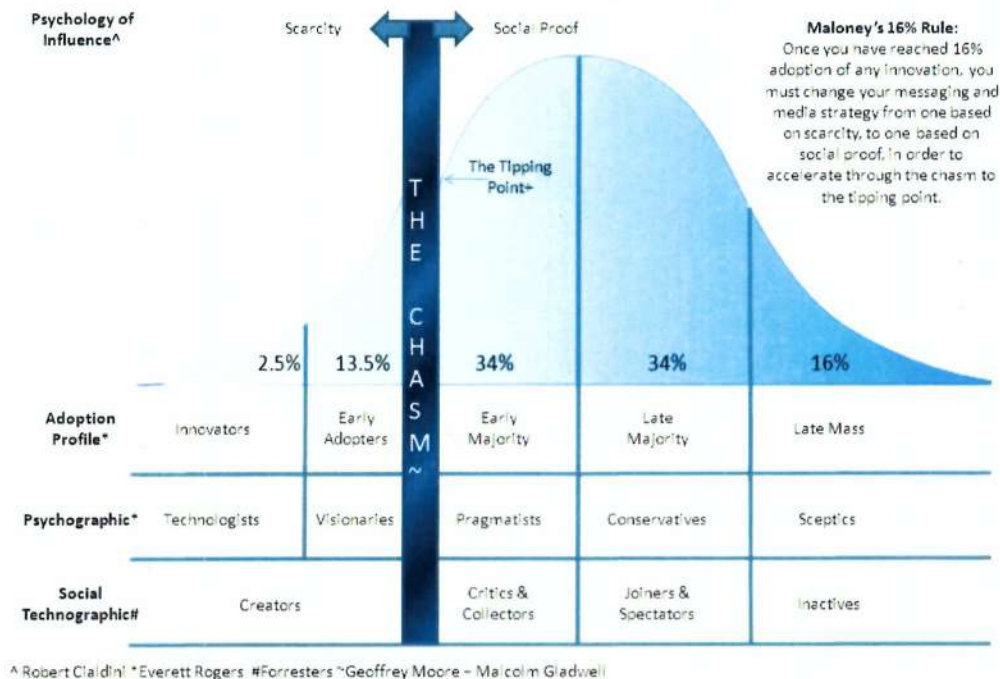


Figure 4. Innovation Diffusion Curve<sup>3</sup>

Incenting this type of change needs to focus on the behaviours that sit at the ends of the spectrum, using recognition and reward programs for those leading, and meaningful incentives/disincentives for those late adopters. Understanding the barriers and opportunities for all types of stakeholders will be key to architecting effective programs with the highest potential for success and to show the least chance of unintended consequences.

### OPTIONS & IMPACTS

Once defined, the pace and scope of high impact and important initiatives will dictate the staffing requirements and financial needs of the Climate Action Program. Before programs can be scoped accurately, more information is required from Council to determine their desired regulatory/incentive/disincentive approach for high-impact initiatives. Maintaining the status quo will continue to move programs forward, but at a pace beset by current resources and priorities. Accelerating the program immediately, without a comprehensive – or even quick – look at policy options could result in false-starts, failures or negative unintended consequences across GHG emissions and health, safety, affordability and quality of life.

Any acceleration of climate action will require efforts from several departments and will result in increased financial investment from the City. Without accurate staffing and priority definition, churn and misallocation of resource risks are highest. Shared resources for cooperative and common programs across regional governments, and other levels of government may be the

<sup>3</sup> Matinaro, Ville & Liu, Yang. (2015). Virtual design and construction: Innovation process and diffusion in Finnish construction business. International Journal of Innovation and Learning. 18. 133. 10.1504/IJIL.2015.070869.



cheapest programs to run, but may also represent less impact or effect than what is required to drive major social change programs.

Any investment in climate programs will rely on limited City tax revenues, the Climate Action Reserve Fund (CARF), plus any external funding. Climate mitigation programs will compete for funds with other important municipal programs, including infrastructure investments (some of which are needed to prepare for a changing climate). Careful risk-based investment is required and should reflect the relative importance of the Climate Action Program.

## **Staff / Resource Options**

The following options are outlined for Council's consideration. Any other options or combinations of actions can be considered and would be subject to further analysis and reporting:

### **1. (Option 1) Status Quo Program**

No change to current staffing and resource model. The current staffing model provides for a 4.0 FTE Climate team, which includes a cost-share model for 2 positions through agreements with BC Hydro and Fortis BC. This option would include the support of a new, 2-year agreement with BC Hydro for the Community Energy Specialist role. Other staff from City departments are supporting climate action programs and integrating CLP directions into their daily work.

This program includes progressing several projects and initiatives that are currently underway, in order of priority, including those covered by Council's previous direction. Priority 2018/2019 ongoing programs are outlined in this report and in Appendix C.

**Risks:** Slower project pace, reduced GHG impact, loss of funding opportunities, continued reliance on external support, and reactive issues management.

Risk to longer term climate mitigation and adaption goals, reputational, risks, legal risks and cost liabilities due to early and affordable adaptation investment.

**Benefits:** Relatively low operating costs.

### **2. (Option 2) Enhanced Program (recommended)**

This option includes all of the programming in Option 1 and adds immediate staff resources as well as a process to define what is needed to more comprehensively progress high-impact initiatives, set aside higher financial reserves, and get earlier access to consultant resources to design and implement programs. This option requires \$537, 700, with future additional financial asks to follow any Policy Workshop (as detailed below).

#### **a. Additional Staffing:**

- i. 1 FTE Facilities Energy Project Specialist (BC Hydro partnership) as per 2018 approved recommendations.
- ii. 1 FTE Grant Writer.
- iii. 1 FTE Climate Outreach Specialist.
- iv. Support new 2-year agreement with BC Hydro for Community Energy Specialist, which currently expires in early spring, 2019.

#### **b. Consultant Support (2019):**

- i. **Policy Workshop(s):** Exploration and assessment of the suite of climate action / low carbon City policies / interventions / roles that will be most impactful for reducing GHGs. Ideally, any suite of policy actions will work in mutually reinforcing fashion.
  - 1. Subsequent to the Policy Workshop(s), staff would report on results and resourcing recommendations.
- ii. **Climate Outreach Strategy:** Development of the priority programs to build capacity in community and understanding / awareness to support rapid climate action, starting with communications plan, and then a more fulsome outreach strategy, to be populated upon Council's determinations through the workshops (above).
- iii. **Building Retrofit Strategy & Playbook:** Immediate consultant support to assist / accelerate the ongoing planning and program development for building GHG reductions. The retrofit strategy will be further clarified based on outcomes from the workshops (above).

**Risks:** Some delays for initial planning, continued reliance on external support, and reactive issues management. Reduced climate mitigation and adaption risks.

**Benefits:** Reduced risks due to adequate program design, access to increased funding opportunities, additional community liaison/interfaces, higher quality consultant inputs to support faster/smarter programs.

### 3. (Option 3) Immediate Program Restructuring

Council can consider adding significant resources (financial and staffing) immediately, before programs and policy directions are confirmed.

The following considerations relate to an accelerated program that would have to be further defined depending on the outcomes of the urgency/role discussions with Council.

- a. **Staffing:** Depending on Council's direction for urgency/policy, staff levels could be set to add a number of resources in areas listed below, which may include adding one or more of the following:
  - i. Climate GHG management staff
  - ii. Project specialist / SMEs
  - iii. Climate outreach / communications specialists,
  - iv. Grant Writer(s)
  - v. Support Teams: legal support will be required, and will depend on the role and approaches of the City. HR support will be required and will depend on staffing models adopted. Finance/procurement support will also be a consideration, depending on action plan. Facilities support will be required to house any new positions, which is beyond current location capacity.
- b. **Consultant Support (follow-on 2019 priorities):** Council could also consider adding immediate consultant support to augment staff resources and support program planning. Costs and approach would depend on Council's direction.

**Risks:** Potential for significant recruiting resources, high cost, office space restrictions, incoherent planning/actions, resource inefficiencies, duplication of



effort, reduced GHG reduction outcomes over time, unintended negative consequences.

**Benefits:** Perceived benefit / optics in community, access to available resources for priority work/programs, accelerated program pace (late 2019/2020), access to increased funding opportunities, additional resources for community liaison/interfacing.

### Council Proposed Actions

Council Advocate to Province for the following immediate sector actions to promote / enable GHG reductions and realize important social and economic co-benefits:

- g. Make available all ICBC municipal vehicle km/make/model/fuel economy information.
- h. Continue the development and implementation of world-class low carbon fuel standards.
- i. Fully invest in delivery of the zero-emission vehicles sales targets as established in the CleanBC Plan.
- j. Continue progressive and direct funding programs and partnerships for municipal low-carbon initiatives, including building retrofit, transportation, waste management and other priority and shared GHG reduction programs.
- k. Support transformational improvements to regional BC transit infrastructure to promote and enable rapid mode shift to transit in the region, including transitioning the BC Transit fleet to zero emissions as early in the 2020s as possible, and:
  - i. Completion of dedicated bus lanes on all connections between the West Shore and downtown.
  - ii. Installation of Traffic Signal Priority (TSP) sensors in all buses that operate in the City of Victoria.
  - iii. Installation of 'all door loading' capabilities for all busses in the Victoria regional transit system.
  - iv. Introduction of real-time, digital bus information to enable super-convenient, accessible transit operational information.
  - v. Introduction of "tap" payment-systems common to multi-modal service providers, to support rapid loading of busses and align with Smart Mobility goals.
  - vi. Completion of the business-case to determine the most effective investments in public transportation to realize the highest potential mode-shift and ridership in the south island, including but not limited assessing commuter ferry, public transit along the E&N rail corridor and Douglas Street / Highway 1 / Highway 99, bus rapid transit (BRT) or light-rail transit (LRT).
  - vii. Reporting of annual regional transit GHG and combustion pollutants, mitigation priorities, progress and business cases for investments.
- l. And that Council continue to advocate and engage with the CRD to prioritize the introduction of systems to minimize fugitive methane and capture all landfill GHGs.

### *Impacts to Financial Plan*

The recommended options ('Enhanced Program') would require \$537,700 of funding prior to the completion of the Policy Workshop(s). Further financial asks will be brought forward as a separate report following the Policy Workshops.

The operating budget for the Climate Action program supports two FTEs and modest expenditures in consultant support, analysis and research. The Climate Action operating fund in the draft 2019 Financial Plan is \$314, 995. The Climate Action Program's core activities and partnerships are normally met by drawing funds from the Climate Action Reserve Fund, which has a projected, uncommitted, reserve balance for 2019 of approximately \$350,000. These monies are augmented annually using the CARIP<sup>4</sup> grant (at a rate of approximately \$90, 000 per annum). As the City eliminates corporate GHGs, the money received through the CARIP grant will be reduced. Additionally, the energy savings from the LED street light replacement program will be added to the reserve, once confirmation of amount is received from BC Hydro. The CARIP and LED savings are intended to fund ongoing City corporate energy savings projects, and to maintain healthy reserve levels; however, as climate action needs grow, additional funding sources are required.

Each year, staff submit applications to government agencies, non-profits and utility providers to supplement those funds available through the CARF for adaptation and mitigation efforts. Staff's preliminary assessment has identified more than \$1.5 million in grant opportunities applicable to City programming (most submissions are due in Q1, 2019). CARF funding is available through various funding agencies and matching funds are required in many instances. The estimated staff time required to pursue these opportunities is beyond the capacity of current staffing levels. There is currently no FTE at the City to prepare detailed submission, expressions of interest or grant applications. A partial FTE exists corporately to provide strategic support to all City departments applying for grants.

The Federal Gas Tax Fund may also provide a suitable option to support accelerated climate action initiatives. Historically, these funds have been used to support capital infrastructure projects such as the active transportation network. However, as per its stipulations, the Gas Tax Fund are configured so that they could support City capital climate action projects. A long-term funding strategy is required to ensure program health and climate action progress.

Staff remain focussed on implementing actions that achieve the highest GHG reduction per dollar of investment together with co-benefits to other Council priorities, including health and well being, affordability, and sustainability.

Financial planning in all City departments must consider the requirements to meet their individual capital project GHG objectives set forth in the CLP. The estimated project funds required in 2019 are outlined in the below table:

Initiative *	2019 (Existing Climate Action Operating or CARF draw)	Comments
<b>Step Code Implementation</b>	See comments	Step Code is active as of November 1, 2018 with implementation and staff monitoring through Permits and Inspection staff in Sustainable Planning and Community Development.

<sup>4</sup> The Climate Action Revenue Incentive Program (CARIP) is a conditional grant program that provides funding to local governments that have signed the B.C. Climate Action Charter equal to 100 percent of the carbon taxes they pay directly to support local government operations. The program encourages investment in climate action.



<b>Retrofit Program Strategy</b>	funding carry-forward from CARF, plus an additional new request for \$50, 000	Research and analysis; strategy development
<b>BC Hydro Community Energy Specialist partnership</b>	\$55,000 (per annum over 2 years)	Continue the partnership with BC Hydro to partially funding a Community Energy Specialist (with focus on Step Code, MaRRS, etc).
<b>Community Energy Specialist</b>	\$34, 700	Partnership with Fortis BC expires in August 2019. These funds are to continue the position, fully-funded by CoV, for the remainder of 2019.
<b>Oil Heat Elimination Program</b>	Existing staff resource	Priority and scope to be defined by Policy Workshop(s)
<b>EV Strategy</b>	Funding carry-forward from CARF	Complete and implementation commenced
<b>EV Infrastructure Investments</b>	\$50,000	One additional project (set of charging infrastructure, or policy change)
<b>EV-Ready for new construction</b>	Contingent on staffing of continued specialist position in SPCD.	Introduce regulations for new development EV infrastructure.
<b>CEEMS</b>	Existing staff resources and carry-forward item	
<b>Facilities Master Plan</b>	N/A for Climate Action Program (Facilities budget)	
<b>Fleet Duty Cycle (Telematics)</b>	Existing staff resources in engineering	Data trending and recommendations for priority replacements.
<b>Climate Outreach Strategy / Plan</b>	TBD (based on Policy Workshop outcomes)	A program to realize change across the community
<b>Climate and Sustainability Communications Strategy</b>	Existing staff resources and \$50, 000 carry-forward from CARF.	Staff have identified the need for a robust climate and sustainability communications strategy that clearly presents a detailed approach for sharing what the City is doing in the priority areas and for inspiring action by residents, businesses and visitors. Staff have identified the previous funds committed for the Climate and Sustainability Change Agent to support this strategy's development.
<b>GHG / Energy Information &amp; Data System Scoping</b>	Existing staff	Advancing specific projects and future program scoping completion
<b>Policy Workshop(s)/Review (Consultant)</b>	\$100, 000 (estimated)	Consultant support to host a series of workshops with council and staff on climate action focus areas and recommended steps. The requested amount is an initial rough estimate.
<b>Ongoing analysis, modelling, business case development, grant applications, etc.</b>	Carry-forward from CARF	Ongoing analysis and modelling to support program planning and development.
<b>District 2030</b>	\$25,000	To support the development of British Columbia's first 2030 District

<b>Carbon Pricing</b>	TBD based on Policy Workshop	Consultant support will be sought to analyze City processes and implement a solution into capital planning and reporting that enables the City to account for the full cost of carbon in its expenditures.
<b>Climate Grant Writer</b>	\$117, 000 (per annum)	As identified in option 2, Enhanced Program
<b>Climate Outreach Specialist</b>	\$106, 000 (per annum)	As identified in option 2, Enhanced Program.
<b>Any additional staff based on Policy Workshop outcomes</b>	TBD	To be identified through Policy Workshop(s) (option 2)
<b>Total Ask:</b>	<b>\$537, 700</b>	

\* Note: Sustainable mobility and Zero Waste programs have been removed from this section, as they are administered via those programs, as per the goals and targets from the CLP.

### *Accessibility Impact Statement*

Infrastructure and asset planning will incorporate and report on community accessibility considerations in accordance with current and future City policies and instructions.

### *2019-2022 Draft Strategic Plan*

The City's draft Strategic Plan includes eight objectives and associated actions. Objective 8 is Climate Leadership and Environmental Stewardship. Staff response to the Climate Leadership Plan initial draft actions, Step Code and EV charging for new developments is contained in the body of the report. Staff response to the Alternative Energy and Energy Utility draft Strategic Plan items are outlined below, and are reported separately as part of staff's response to Council draft Strategic Plan motions.

#### **Topic:** *Alternative Energy*

**Action:** (16) *Work with the Greater Victoria Harbour Authority on options for shore power and lower emissions ground transportation. (2021)*

**Staff Commentary:** The Climate Leadership Plan includes an action for initiation by 2020 to "Work with port authorities to supply on-site renewable energy for marine vessels." This CLP action recognises the opportunity to reduce a significant source of GHG emissions and improve local air quality. The City recognises the Greater Victoria Harbour Authority's role in this area and BC Hydro as the likely electrical service provider. The policy direction to approach this issue will be informed by the recommended review with Council in Q1/Q2 2019.

#### **Topic:** *Energy Utility*

##### **Actions:**

(17) *Explore the creation of a municipal energy utility, more local energy creation solar, ex. Foodwaste generators for food trucks at the museum. (2021)*

(18) *Create a municipal energy utility, more local energy creation solar, ex. food-waste generators for food trucks at the museum. (2022)*

**Staff Commentary:** Traditional energy utility models will face increased competition from the emergence of new, affordable, local and distributed energy technologies that provide local, on-site power generation such as solar, wind and geothermal. Costs and energy storage remain the key barriers to wider scale implementation. Solar and wind can be used today to augment the



hydroelectric grid, to provide capacity from passive renewables where possible. The City has already explored some potential opportunities for expansion of district energy in Victoria, shared by linking buildings that require opposite needs of heating and cooling. Future opportunities to support the transition to all forms of renewable energy should be progressed as a secondary priority to elimination of fossil fuels and GHG emissions. In the future, the City may explore its role in the management of future energy systems and mixes, or its role in promoting a different mixture of hydroelectricity, solar, wind and other renewable forms. Any action in this area would require a business case to better understand future options that would be appropriate in consideration of potential GHG reduction or other positive impact. With an increased understanding of the objectives from Council related to this motion, staff can report on this item as part of the annual reporting process. Exploration of legal authorities for such a utility should be undertaken early in the process.

#### *Official Community Plan Consistency Statement*

#### OCP Sustainability Vision:

*"Victoria is an urban sustainability leader inspiring innovation, pride and progress towards greater ecological integrity, livability, economic vitality, and community resiliency confronting the changes facing society and the planet today and for generations to come, while building on Victoria's strengths as a harbour-centred, historic, capital city that provides exceptional quality of life through a beautiful natural setting, walkable neighbourhoods of unique character, and a thriving Downtown that is the heart of the region."*

#### *Section 12 - Climate Change and Energy Goals:*

- 12(A) Victoria and Victorians are more resilient to climate change and energy scarcity and costs.
- 12(B) New and existing buildings are energy efficient and produce few greenhouse gas emissions.
- 12(C) Transportation options reduce fossil fuel dependence, help conserve energy and produce low greenhouse gas emissions and other air contaminants.
- 12(D) The waste stream to the regional landfill is reduced to a minimum, with recovery, re-use, recycling and composting of resources undertaken as standard practice.
- 12(E) Victoria relies on clean renewable, diverse and efficient energy sources.

#### *Section 12 – Climate Change and Energy Broad Objectives:*

- 12(a) That climate change is mitigated through the reduction of greenhouse gas emissions from buildings, transportation and solid waste.
- 12(b) That the community is prepared for climate change through adaptation planning that reduces future impacts on public health, property and the natural environment.
- 12(c) That community energy consumption and generation are managed to give priority to conservation and efficiency, diversification of supply, renewable energy, and low carbon fuels.
- 12(d) That the supply, distribution and efficient use of energy, including the provision of renewable energy at the district scale, is achieved in alignment with the urban Place Guidelines in this plan.

## CONCLUSION

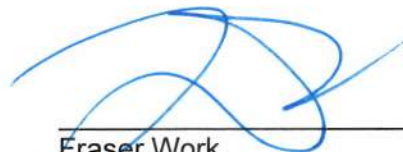
In August 2016, Council committed to a long-term greenhouse gas (GHG) reduction target for both corporate and community emissions of 80 percent GHG reduction by 2050, including a corresponding target of 100 percent renewable energy by the same date. In July 2018, Council adopted the City's first Climate Leadership Plan (CLP), reflecting two years of staff work centred on planning, modelling, mapping and expert GHG and energy consultation. The CLP renewable target is largely consistent with the 1.5 °C mitigation pathways identified in the 2018 IPCC Special Report and puts the City of Victoria on a comparatively aggressive GHG reductions trajectory that meets, or exceeds those targets set by the federal and BC provincial governments. The CLP identifies the goals, targets and near-terms actions to limit Victoria's contributions to global warming, and to prepare for a changing climate.

As the CLP underscores, only some actions across each sector (Buildings, Mobility, Waste, Municipal Operations, and Adaptation) include well-defined strategies. For the rest, the City must first gain a fuller understanding of the related barriers and opportunities to determine how best to proceed. The City's Climate Action Program is focused on progressing the CLP, and this report has outlined the CAP priority areas for 2019. Should council wish to accelerate the pace of climate action by the City, this report has identified several considerations for council, including the recommendation that Council directs staff to proceed with option 2 ('Enhanced Program'), which will include immediate consultant support for policy workshops with Council. Staff also recommend that council consider the 2019 CAP spending plan as part of the 2019 Financial Planning process, with draws from the CARF and other City sources.

Respectfully submitted,



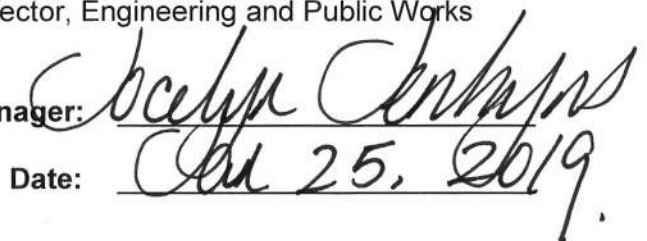
Jess Dawe  
Manager, Energy and Climate Action



Fraser Work  
Director, Engineering and Public Works

**Report accepted and recommended by the City Manager:**

**Date:**

  
Jan 25, 2019

Attachments:

Appendix A – Climate Leadership Plan (PDF)

Appendix B: Climate Leadership Plan Overview

Appendix C: 2018 Climate Action Program Progress/Commentary