



**Committee of the Whole Report
For the Meeting of November 14, 2019**

To: Committee of the Whole **Date:** November 8, 2019
From: Fraser Work, Director of Engineering and Public Works
Subject: 2019 Climate Action Strategy – Proposed Programs and Initiatives

RECOMMENDATION

That Council:

1. Adopt the new accelerated climate action planning directions in the Policy Directions section of this report, and adopt the new climate targets that expand on the existing CLP directions, as follows:
 - a. Expand the CLP's target to include that after 2025, all new and replacement building heating and hot water systems are zero emissions, and report back in the fall of 2020 with additional strategies and considerations to achieve this target (Policy Direction #4);
 - b. Direct staff to develop a new city-wide, long-term target for 2030, related to the reduction of embodied-emissions from materials used by the municipality, and report back in the fall of 2020 with the initial targets and planning considerations (Policy Direction #5).
 - c. Direct staff to initiate planning for new targets related to municipal ecosystem performance to enhance the city's natural carbon sequestration and climate adaptation capabilities, and report back in 2020 with an update (Policy Direction #6)

2. Adopt the strategies and directions contained within the *High Impact Initiatives* section of this report to meet the CLP and new policy direction objectives, which include the following:
 - a. Oil to Heat Pump Incentive Program
 - b. Building Energy and Efficiency Retrofit Program
 - c. Low Carbon Step Code ProgramAnd refer the responsibility to deliver Low Carbon Mobility High Impact Initiatives as part of the GoVictoria program in the following areas:
 - d. Active Transportation Infrastructure
 - e. Zero Emissions Mobility Incentives
 - f. Zero Emissions Rapid and Frequent Transit Initiatives

3. Consider allocating \$334,000 of ongoing operating funds in the 2020 financial planning process to support critical staff resources to deliver multi-year projects, as follows:
 - a. Three full-time positions \$324,000
 - i. Community Energy and Emissions Specialist (EPW) (1FTE) transition to ongoing
 - ii. Fleet Energy and Emissions Specialist (EPW) (1FTE) new
 - iii. Building Energy and Emissions Specialist (SPCD) (1FTE) new

- b. Training and conference attendance (\$10,000)
4. Consider allocating \$1,025,000 in funding as part of the 2020 financial planning process, using available Climate Action Reserve Funds (CARF) \$460,000 and a \$565,000 2019 surplus allocation to fund non-CARF eligible initiatives. These funds support the High Impact Initiatives and financial impact section of this report, outlined as follows:
 - a. **Oil to Heat Pump Incentive Program** (\$400,000 for fuel switching top up, electrical panel upgrades, equity top-ups and promotional materials, based on estimated uptake forecast):
 - b. **Building Energy and Efficiency Retrofit Program** (\$35,000 for promotional work, minor top ups):
 - c. **Low Carbon Step Code Program** (staff work only), and
 - d. **Climate Action Program**: Priority investments to support the following work (\$590,000):
 - i. ICLEI Membership renewal (\$60,000/year - 3-year contract \$180,000 total)
 - ii. Climate action project management / administrative guidelines (\$50,000)
 - iii. Support to Market Rental Revitalization Program (\$30,000)
 - iv. Electric Vehicle (EV) chargers (Broad Street) - (\$50,000)
 - v. Parkade EV chargers (\$25,000)
 - vi. Village EV chargers (\$50,000)
 - vii. EV Infrastructure strategy development (\$25,000)
 - viii. Communication strategy development and implementation (\$60,000)
 - ix. Program matching funds – Zero Emissions Fed/Prov programs (\$75,000)
 - x. BOMA – Capital Region 2030 Resilient District year two grant (\$25,000)
 - xi. GHG Modelling and Consultant support (\$20,000)
 5. Direct staff to:
 - a. Complete the necessary administration to extend the current ICLEI partnership agreement, which houses the western Canada ICLEI representatives in the City, for another 3-year period, to the satisfaction of the City Clerk,
 - b. Bring forward a bylaw to apply an initial per-hour City EV charging fee of \$1.00 per hour, or as required, to ensure adequate parking turnover and availability for public use, and amend bylaw to the satisfaction of the Director of Engineering & Public Works.

And that Council:

6. Advocate to the Province, CRD, BC Hydro and other key stakeholders to designate *Building Energy and Efficiency Retrofits* as a regional infrastructure priority,
7. Advocate to the Capital Regional District for the immediate start-up of a regionally-led community energy/emissions retrofit program applying the principles and directions outlined in this report and drawing from international best-practice.
8. Advocate to the Province to amend the Community Charter to give BC municipalities the independent authority to manage issues of climate change, reflecting the importance and reality that these complex issues share environmental / social and economic dimensions that affect community well-being in an increasingly important and severe manner.
9. Advocate for a regional Climate Action Leadership Advisory Board with membership from industry, academia, community, government and business to drive shared and impactful investments in regional greenhouse gas mitigation and adaption.

EXECUTIVE SUMMARY

The Climate Leadership Plan was adopted by Council in July 2018 and includes a series of goals, targets and initiatives to accelerate planning and action to reduce greenhouse gas (GHG) emissions and adapt to a changing climate. The CLP noted that additional strategy work was required to develop and deliver programs for both corporate and community climate action. In October 2018, the Intergovernmental Panel on Climate Change (IPCC) released a “Special Report on Global Warming of 1.5°C”. The report outlined the impacts of 1.5°C and 2.0°C of global warming and found that limiting global warming to 1.5°C would reduce challenging impacts on ecosystems, human health and well-being. In 2019, the City declared a “Climate Emergency” in response to the 2018 IPCC report, which reemphasised the severity of climate risks and the need for bold and sustained action to avoid the most severe impacts associated with global temperature rise, and increased efforts to get back on track with local actions to limit global temperature rise to below 1.5°C. The City’s CLP is largely consistent with the directions in the IPCC Report, but adds emphasis for accelerated actions and effective strategies to systematically decarbonize buildings, mobility and materials/waste management systems.

The November 14, 2019 report on the application of a Climate Lens strengthens the City’s commitments to integrating climate action into all City decisions and operationalizes that report through the initiation of a set of priority programs and projects.

Staff recommend that the City allocate dedicated resources in 2020 to advance the planning and program development work in several priority program areas (called High Impact Initiatives) needed to support community GHG reductions. The policy directions and commitments in the OCP and the CLP are reiterated and amplified in this report and strengthened by new targets and strategic priorities.

BACKGROUND

2018 Climate Leadership Plan

Council adopted the Climate Leadership Plan (CLP) on July 26, 2018. The CLP is the City’s plan to reduce greenhouse gases (GHGs) by 80 percent below 2007 levels by 2050 and transition to 100 percent renewable energy by mid-century.

The CLP groups climate action across 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 cost, social, and environmental risks to our community.

The CLP identified that much more planning was required to develop the strategies and programs to reach these targets.

2018 IPCC Report on 1.5°C

In October 2018, the Intergovernmental Panel on Climate Change (IPCC) released a “Special Report on Global Warming of 1.5°C”. The report outlined the impacts of 1.5°C and 2.0°C of global warming and found that limiting global warming to 1.5°C would reduce challenging impacts on ecosystems, human health and well-being. Whereas a 2.0°C temperature increase would worsen extreme weather, intensify rising sea levels and coral bleaching while exacerbating the loss of Arctic sea ice and ecosystems. The report also provides modelling indicating that meeting a 1.5°C target is possible through deep emissions reductions and “rapid, far-reaching and unprecedented changes in all aspects of society.” To reach the 1.5°C target, “Global net human-caused emissions of carbon

dioxide (CO₂) would need to drop by 45 percent by 2030 (compared to 2010 levels), reaching 'net zero' carbon emissions by mid-century.

In January 2019, staff drafted a committee report, with the action to “*review and 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°C vs 2.0°C temperature rise.*”

The revised approach and strategy work in 2019 has been a direct response to the 2018 IPCC report and the need to accelerate climate action.

Council’s Declaration of a Climate Emergency

On March 14, 2019, Council declared a climate emergency that included the following motions, that the City:

1. *Declares a climate emergency and commits to the objective of achieving carbon neutrality in the City of Victoria by 2030.*
2. *Directs staff to report back at the next update on the Climate Leadership Plan on the resource implications and potential amendments to the plan necessary to meet this objective.*

2019 IPCC Report and Considerations

The IPCC Special Report laid out a global pathway to limit global warming to 1.5°C with no, or limited overshoot. Applying the report’s targets at a municipal scale would result in a 45% reduction in all GHG emissions by 2030 and a 100% reduction (net-zero) by 2050.

Victoria’s Climate Leadership Plan targets are consistent with the IPCC targets, with important distinctions described below. To align with the IPCC Special Report 1.5°C emissions reduction pathway in Victoria, consumption based GHG emissions (from territorial emissions) would need to be reduced by approximately 320,000 tonnes by 2030 and eliminated by 2050. Territorial emissions are considered those associated with buildings, transportation and waste. However, the scope of emissions reductions envisaged in the IPCC report also identify the larger consumption-based emissions inventory, which includes the embodied emissions¹ from material extraction/production/logistics that occur outside of the site where building, vehicle and waste operations occur. The CLP’s “Next Chapter” honours the need to start inventorying embodied emissions. Victoria’s consumption-based inventory, which includes emissions associated with food and other consumables as well as buildings, transportation and waste, was estimated at approximately 700,000 tonnes in 2015. . This difference represents a new planning target and program requirements beyond currently defined mandates. CLP planning targets for the City have primarily focussed on emissions released through the combustion of fuels used in Victoria. As climate action matures, we will increasingly consider upstream GHG reductions for materials used and built in the city.

2019 Climate Planning and Policy Workshops

The City has been undertaking planning activities in 2019 to advance the action plans and strategies needed to accelerate climate action and has held community meetings in June to get initial input via a series of three climate action town halls. The town halls covered options to reduce GHG emissions related to new buildings, existing buildings and transportation. City Council received input from 67 speakers, representing local-residents, businesses, utilities, local, regional and provincial government and non-profits.

¹ Emissions generated in the acquisition of raw materials, their processing, manufacturing, transportation to site, and construction (www.sciencedirect.com).

A regulatory review was also performed to identify legal options available to the City to advance climate action in the coming years. Two teams of expert consultants were also hired to review climate action strategy best practices and provide options best suited to accelerate climate action in Victoria. Staff have consolidated the information received from the public, stakeholders, legal review and consultants to provide a set of recommendations for Council to accelerate climate action beyond the steps identified in the CLP.

Climate Lens – Integrating Climate Action into City Decision Making

Applying a Climate Lens is a new and comprehensive approach to considering climate impacts in all relevant City decisions. This planning requirement will ensure that the potential climate impacts of a policy, program or project are assessed and considered during all stages of planning.

The federal government adopted a climate lens approach to integrate climate change considerations into the planning and development of specific infrastructure projects, by requiring that certain federally funded projects assess their expected greenhouse gas (GHG) emissions and/or resilience to the impacts of climate change. Addressing climate change requires transformational effort across all aspects of government operations to ensure that investments are aligned with its goals, and the opportunities for avoidable GHG emissions or exposure to climate risks are minimized.

Accelerating climate action across the City of Victoria will rely on adopting the tools and guidelines to integrate complex climate considerations across a broad suite of sustainability objectives, which requires careful analysis, considerations and trade-offs. The application of a climate lens to all planning, programs and service delivery work, not just capital projects will also ensure that climate action is top of mind for staff. The climate lens will be integrated as part of a larger city-wide initiative to develop an Equity Lens that will consider social, economic and environmental objectives and impacts of decisions with a view to removing barriers and improving inclusion. In some cases, trade-offs between objectives will be required. As these policies and tools are further developed and adopted in the coming year, staff will be better positioned to align climate action projects with important OCP, Strategic Plan and other major strategies, targets, requirements and desired outcomes.

ISSUES & ANALYSIS

Annual Corporate Emissions Update

The City’s annual greenhouse gases are reported as part of the BC Best Practices Methodology for the Quantification of GHG Emissions (Local Government and Public Sector Organizations). The overall 2018 emissions inventory can be summarized below, which is a function of fuel combusted in City fleet vehicles, facilities and operations.

2018	Energy (GJ)	t CH4	t N2O	t CO2	t CO2e, GHG
Direct Fuel Combustion	26,702	0.03	0.025	1,337	1,511
Mobile Energy Use	25,913	0.97	0.109	1,616	1,673
Total	52,615	0.99	0.134	2,954	3,184

The relative proportions of emissions from different City sources are estimated annually. Note that fleet assets are shared across several departments (Public Works, Fire, Police², Parks and others) and support various service areas, but are identified here as stand-alone.

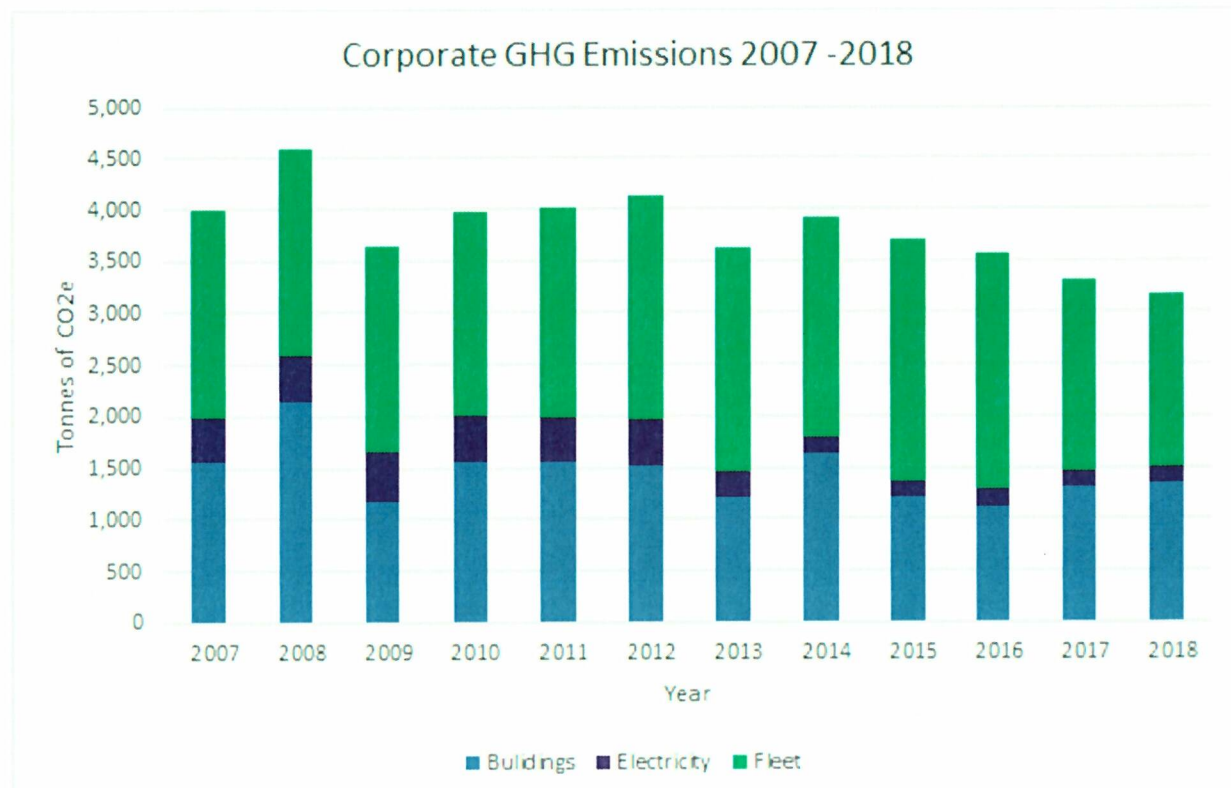


Figure 1. Annual GHG from Corporate City Sources.

In 2018, the following GHG improvements were made in the corporate emissions portfolio:

1. **Fleet:** 17 light duty and 6 heavy duty vehicles were replaced with newer, more efficient models and telematics was introduced to the fleet to better track and manage vehicle fuel usage.
2. **Facilities:** A range of energy and efficiency upgrades were performed across City buildings including the replacement of the Fire Hall 3 HVAC system with an air source heat pump. Five EV charging stations were added to City parkades.
3. **Operations:** Completed the city's conversion of 6,700 streetlights to LED, achieving over 50% energy savings. Several new battery powered small tools and equipment replacements.

The highlights from 2018 trends show a mild downward trend of 4% less emissions compared to 2017 totals. Building emissions remained relatively flat while fleet emissions declined by approximately 160 tonnes. Staff continue to assess the emerging telematics fleet operational fuel data, which will help understand where minor savings have been possible.

² Police department emissions are not included in the traditional services inventory as per provincial guidance: https://www.toolkit.bc.ca/sites/default/files/CarbonNeutralWorkbook.V2_noapdcs_03.12_1.pdf

Table 1 Community GHG Emissions Trends

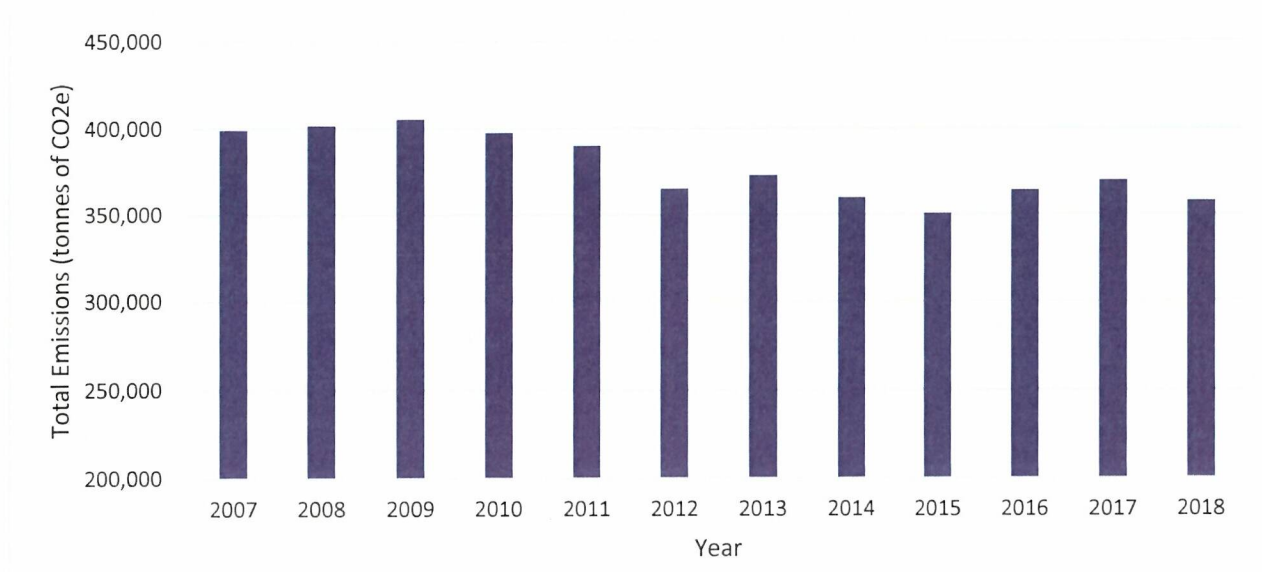


Table 2 Community GHG Emissions Summary

	2007 GHG Emissions (tCO2e)	2017 GHG Emissions (tCO2e)	2018 GHG Emissions (tCO2e)	Change Between 2017 / 2018	Change From Baseline
Total	399,186	367,778	357,519	-2.8%	-10.4%

The City's community GHG inventory³ uses data provided by utilities, Fortis BC, BC Hydro and others to estimate community wide GHG emissions for buildings, transportation, waste and land use.⁴ While the City continues to grow GHG emissions are still declining, though not yet at a rate that will meet our mid-century targets. Since 2007 emissions reductions have averaged a drop of 1%/year. To meet the CLP target, emissions reductions must be sustained at an average of over 2.5%/year.

It is notable that emissions were down between, 2017 and 2018. Annual variations in the inventory are difficult to attribute due to seasonal variations such as winter temperatures and heating demand, and are being trended over time to understand longer term indicators. Community investments in more efficient vehicles and a continuing switch away from oil heating are likely factors in reduced GHGs. In many cases, homes are switching from electric baseboard to gas home heating, which is adding GHGs to the portfolio.

Community Climate Action Challenges and Barriers

The bulk of greenhouse gas reductions in our community will come from the public based on decisions related to buildings and transportation energy, as well as consumption and waste choices. The City has an important role to inform and support improved climate action by building awareness, and through policy and planning, incentives and disincentives. Several challenges and opportunities still need to be addressed to support a rapid shift to renewable energy and zero emissions; a few of which are listed below:

³ The City's current emissions targets align to the provincial Community Energy and Emissions Inventory. In 2020, it is anticipated the City's targets will switch to GPC inventory for better comparability with other cities globally and enhancements. Other inventory enhancements will also be implemented at this time.

⁴ The community GHG emissions are calculated using a standardized method, the Global Protocol for Community-Scale Greenhouse Gas Emission Inventories (GPC).

Challenges:

- Costs and affordability are major issues for all stakeholders, due to the potential for costly, lower-emissions choices.
- The municipality has different and limited authorities, when compared to the federal, provincial and regional governments..
- Market forces may continue to favour high-carbon alternatives,
- Energy and fossil fuel subsidies, incentives and a lack of “all in” cost accountabilities continue to weaken the business case for climate action.
- Hazardous materials or unforeseen costs during building retrofits are a major consideration for home and building owners when planning energy upgrades.

Opportunities:

- Regional consistency is a powerful tool for change.
- Providing Building energy and efficiency performance data to owners and occupiers to encourage change
- Bundled co-benefits are necessary to strengthen the business-case for change.
- New skilled and qualified industry players will be able to support a wholesale shift to renewable energy buildings and operations.
- Consistency in program, messaging and information across levels of government can help reduce confusion.

CLIMATE ACTION STRATEGY DEVELOPMENT

The Climate Leadership Plan was adopted with the understanding that additional strategies were still required to chart the course for greenhouse gas reductions and adaptation work. This report represents the next stage of planning and strategy development to strengthen the commitments of the CLP and meet the targets. This report illustrates a set of new mandates for Council’s considerations and a set of strategies to deliver on the most important and impactful areas for greenhouse gas mitigation. These strategies are informed by the set of principles in the CLP (page 19) which include the following:

1. Lead and Inspire	6. Renewable Energy for all
2. Harmonize climate action to secure co-benefits	7. Dismantle Barriers
3. Universal accountability	8. Climate resilience is developed early
4. Making Energy visible	9. Think globally, change locally, partner regionally
5. Evidence-based decisions	10. Track and Adjust

New additional principles have emerged from this latest round of planning, which include the following, and have helped shape the set of recommendations in this report:

- Bundled benefits,
- Bold approach
- Incentives before disincentives (i.e. ‘carrots before sticks’)

City Leadership - Direct Action

The first principle is to lead by example and the City has to demonstrate a high standard of commitments and planning in support of climate action goals and targets. The next phase of investments for the City corporate GHG reductions will take shape, as per the following list of actions:

City Fleet

CLP Targets:

- By 2040, 80 percent of the City fleet is electrified or renewably powered.
- By 2025, all City power tools and small engine-driven equipment are renewably powered.

2020 Priority Actions:

- a. 2020 Fleet Master Plan Development (initiate) – Plan to Right-Size, modularize, electrify and build commonality into the fleet.
- b. Priority Vehicle Replacements: replacement of heavy-duty vehicles with modern, more fuel-efficient alternatives (21) and removing under-utilized pool vehicles, down-sizing vans and trucks and adding new hybrid and electric vehicles (numbers TBD). Two additional EVs were added to the light duty fleet in 2019 (11 total).
- c. Improving operational efficiency with a new digital booking system
- d. Introducing (procuring) corporate car-share memberships
- e. Building and sharing the defined requirements for electric municipal vehicles to strengthen market knowledge of fleet needs in the BC public sector.

Facilities

CLP Targets:

- By 2040, all City facilities are powered 100% by renewable energy.
- All new City facilities are renewably powered.

2020 Priority Actions:

- a. Facilities Master Plan (underway) includes a detailed plan to meet greenhouse gas reduction and adaptation targets, and will rely on:
 - i. Renewable heating and cooling system replacement / upgrade priorities
 - ii. Efficiency upgrades
 - iii. Building energy operations improvements to reduce energy-use
 - iv. Update of City civic facilities Green Buildings Policy to net zero carbon or similar standard
- b. Energy and HVAC Upgrades to various City facilities
 - i. Fairfield Community Centre Solar PV installation
 - ii. Oaklands Community Centre HVAC replacement
 - iii. Energy Audits for all major facilities will be completed
 - iv. Implement HVAC replacement City Hall annex (Phase 1)
 - v. Design work initiated for HVAC replacement in old City Hall (Phase 2)
- c. Crystal Pool project planning focus on 100% renewable energy and lower embodied emissions.

City Public Infrastructure

- a. EV Charging – Installation of an additional 6 Level II electric vehicle chargers in the downtown and an expansion of chargers in public parkades (numbers TBD).
- b. EV Charging in villages / neighbourhoods including one or more DC fast chargers (subject to external funding),
- c. Electric Infrastructure Strategy Development: “EV-ready” regulations for new developments and completion of the City’s EV Infrastructure Strategy (technology, policy and approach).

Project Management and Administration

- a. Development of initial guidelines for City capital projects and 3rd party procurement.
- b. Development of initial guidelines to track City services and 3rd party GHGs.

Adaptation

- a. Completion of the City's Adaptation Strategy.
- b. Continued investment in underground infrastructure improvements.
- c. Complete coastal engineering studies.
- d. Initiate canopy cover, impermeable surfaces and planting opportunities assessment project and set canopy cover targets by neighbourhood.

Buildings and Land Use

CLP Targets:

- By 2030, all new buildings are 'net-zero' energy ready.
 - By 2030, heating oil is phased out.
 - By 2050, all existing buildings meet new high efficiency standards.
 - By 2050, all buildings exclusively use renewable energy.
- a. Market Rental Revitalization Study (MaRRS)
 - Staff will be proceeding with the initiation of the pilot program in Q1 2020 for 3 buildings.
 - b. BOMA Victoria 2030 Resilient District
 - Staff will continue to support and monitor the implementation of this project, including the development of key performance indicators.
 - c. Energy Benchmarking and Public Disclosure
 - Subject to external funding support, the City will launch a voluntary energy benchmarking and public disclosure program in 2020 so that energy use in large buildings in our community is made visible.

COMMUNITY CLIMATE ACTION PROGRAMS

The City's Role

The CLP defines the City's role to leading by example and enabling strong community action through policy and program development, but the City has an important role in informing, educating and encouraging change among resident and business stakeholders. The City must partner with the CRD and other agencies to support community education, to help remove barriers to climate action, and to develop the most effective programs if we are to collectively meet our targets.

Focusing Efforts – High Impact Initiatives

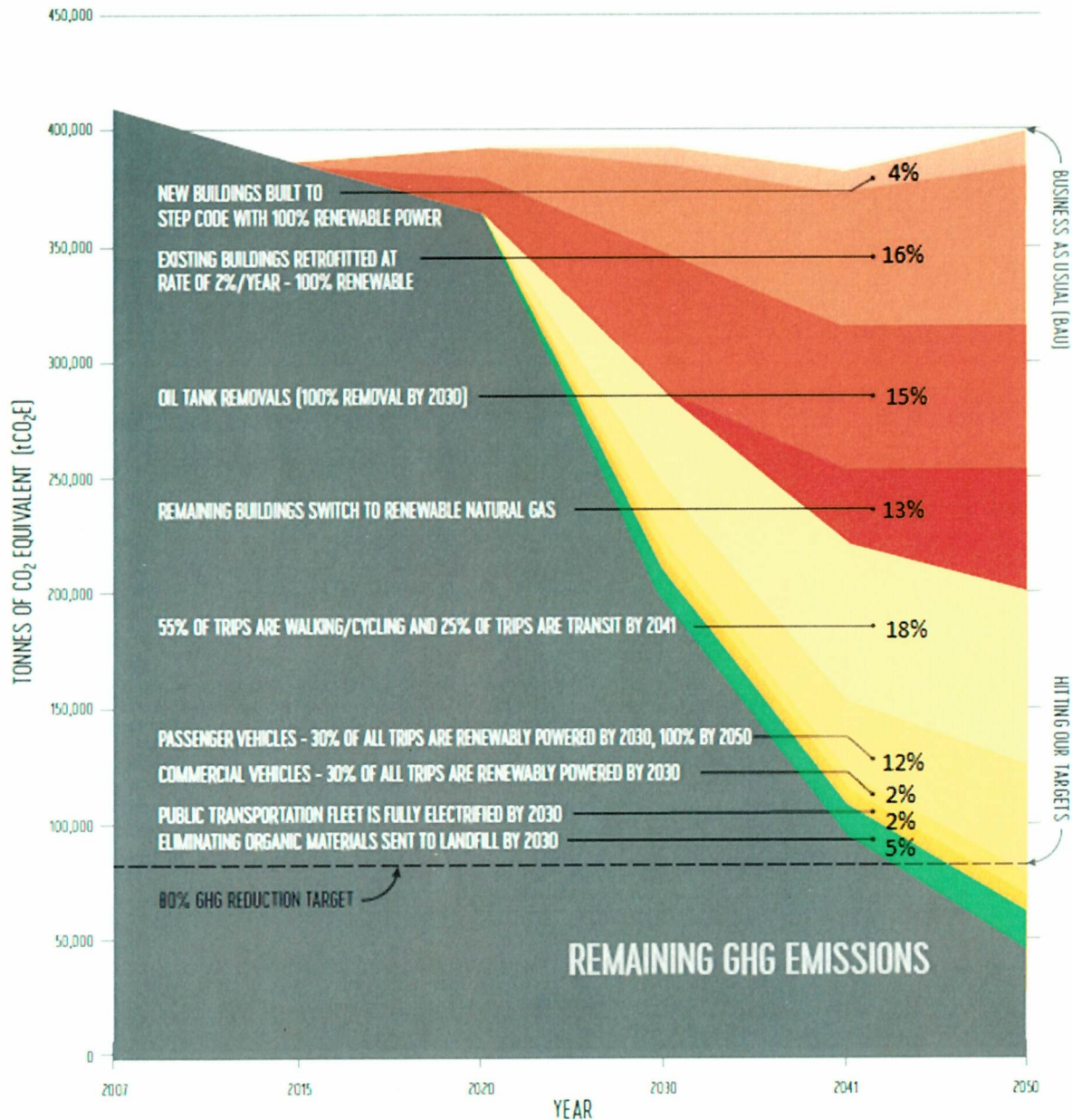
The wedge diagram below indicates that climate mitigation actions should focus efforts on the highest-impact program areas that will demonstrate the largest GHG reductions:

- **Building Retrofit Program:** 31% total GHG reduction potential (including oil heating system replacements⁵)
- **Low Carbon Mobility:** 34% GHG reduction (active transportation, transit mode shift, and electrification).

⁵ 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 100% RNG across the market place depends on technology development and significant investments from gas utility and regional governments, which currently remain unclear. Defining the role of RNG and fossil gas in our energy future and its importance to meet our CLP targets requires constant planning and review.

These two program areas include a number of important programs, described in more detail in the High Impact Initiative section, below.

PATHWAYS TO 2050 GHG REDUCTION TARGETS



Recent planning efforts have solidified additional priority bold climate action targets that will kickstart the required action, planning and investments needed to meet the 1.5°C pathway targets and adaptation responsibilities. These policy directions, which are also referred to in the table below as are similar to the directions adopted by the City of Vancouver and other BC municipalities. These action areas must be carefully considered within the City's specific authorities under the Community Charter and the Local Government Act.

Each Policy Direction below is a goal/target and approach that emphasises important areas for increased planning and focus or new emerging goals that are required to incent change. These new targets amplify the contents of the CLP and strengthen areas that will require more planning to meet accelerated mitigation and adaptation needs, before mid-century:

No.	Policy Directions	Goal	Approach
1	Complete, Compact, Low Carbon Communities	Residents are able to meet their daily needs within a 15-minute walk of their homes (existing OCP and CLP target).	Continue to introduce new, complementary set of targets to support compact communities and proximity to essential amenities.
2	Safe and convenient Active Transportation and Transit	By 2030, 80% of all trips in Victoria will be walking, biking, and transit (CLP).	Continue to invest in all ages and abilities cycling and pedestrian infrastructure.
3	Pollution Free Cars, trucks and buses	By 2030, 30% of passenger vehicles on Victoria's roads are renewably powered (CLP)	Provide incentives for electric vehicles through allocation of the right of way, charging infrastructure and price-signals.
4	Zero Emissions Building and Water Heating	All new and retrofitted heating and hot water systems are zero emissions after 2025 (exceeds current CLP target).	Develop programs and incentives to shift away from fossil fuel heating, via retrofit improvement programs.
5	Low Carbon Materials	By 2030, Victorian's use items and materials with substantially less embodied emissions than 2015. Target to be established.	Initiate planning and set new targets to help understand and mitigate embodied emissions.
6	Climate Resilient Ecosystems	Establish targets for urban forest and ecosystem management to reflect City emissions and adaptation requirements.	Review and set initial targets and begin integrating into program, planning and service delivery.

To support these goals, the City has been planning several programs that aim to deliver the most meaningful GHG reduction impacts. In January 2019, the City identified a set of potential high-impact project priorities. Staff assessed these programs as the most effective use of planning resources and priorities in the next phases of the Climate Action Program. The policy and planning work that staff undertook in 2019 included new builds, planning and land use, financial considerations and integration with other City objectives and planning priorities across all municipal programs.

HIGH IMPACT INITIATIVES

The High Impact Initiatives are the initial set of strategic priorities to meet the targets in the CLP and Policy Direction above. The CLP and OCP dictate the need for strategies to align approach and resources to make the most impactful GHG reductions. The analysis to date has identified six priority High Impact Initiatives related to existing and new buildings, mobility, and adaptation. The High Impact Initiatives are outlined as follows:

No.	HIGH IMPACT INITIATIVES	Strategy / Approach
1	Oil to Heat Pump Incentive Program	Provide meaningful subsidies to incent a rapid shift from oil to heat pump, building heating systems, and realize co-benefits. Elimination of oil heat represents the single largest opportunity for GHG reductions in single family homes.
2	Building Retrofit Program	Develop a regional service through the CRD or in direct partnership with municipalities, to introduce a non-profit energy retrofitting guidance / advisory service for community, to help residents and building owners understand energy efficiency and emissions complexities, navigate rebates and access proven skilled trades in the marketplace.
3	Low Carbon Step Code	Integrate a Low Carbon Pathway into Step Code to incent a shift to zero emissions in new construction and develop an approach to requiring highest Steps of the Code by 2027.
4	Active Transportation Investments	Continued investment in the City's biking and walking infrastructure to incent mode shift away from the motor vehicle, for shorter trips. This work will be completed through the GOVictoria program.
5	Zero Emissions Mobility Incentives	Increasing incentives for low or zero emissions vehicles through new approaches to the allocation of rights of way, including vehicle travel lanes, curb and parking access, pricing and charging infrastructure. This work will be completed through the GOVictoria program.
6	Support for Rapid and Frequent Transit	Partnerships and incentives to transform regional public transit and drastically increase mode-shift to clean public transit system. This work is addressed through the GOVictoria program.

These Hight Impact Initiatives are further detailed and explained in the attached Appendix A, which includes important planning and implementation considerations that will dictate the next steps in 2020.

OPTIONS AND IMPACTS

Accessibility Impact Statement

Accessibility will be considered in the future development of climate programs and actions that support the strategic directions in this report.

2019-2022 Strategic Plan

This report and its directions are directly aligned with to the Strategic Objective 6: Climate Leadership and Environmental Stewardship.

Impacts to the Financial Plan

The six policy directions highlight the areas for increased planning and investment. Several important initiatives that will deliver climate mitigation and adaptation benefits are included as part of the 2020 financial planning process. These include active transportation infrastructure, urban forest management and underground infrastructure strengthening.

Financial investments are proposed for a set of High Impact Initiatives, broken down as follows:

- **Oil to Heat Pump Incentive Program** (\$400,000 for fuel switching top up, electrical panel upgrades, equity top ups and promotional materials, based on estimated uptake forecast):
- **Building Energy and Efficiency Retrofit Program** (\$35,000 for promotional work, minor top ups):
- **Low Carbon Step Code Program** (staff work only):

Climate Action Program investments are required to support the following priority work (\$590,000):

- ICLEI Membership renewal (\$60,000/yr - 3-year contract \$180,000)
- Climate action project management and administrative guidelines (\$50,000)
- Support to Market Rental Revitalization Program (\$30,000)
- Electric Vehicle Chargers (Broad Street) - (\$50,000)
- Parkade EV Chargers (\$25,000)
- Village EV Chargers (\$50,000)
- EV Infrastructure Strategy Development (\$25,000)
- Communication Strategy development and implementation (\$60,000)
- Program Matching Funds – Zero Emissions Fed/Prov programs (\$75,000)
- BOMA – Capital Region 2030 Resilient District year two grant (\$25,000)
- GHG Modelling and Consultant support (\$20,000)

The combination of High Impact Initiative and the CAP funding would require **\$1,025,000** for programs (not including staffing). The Climate Action Reserve Fund (CARF) is projected to have an available 2020 balance of \$683,000. The \$1,025,000 would comprise of a \$460,000 allocation from the CARF and a one-time surplus allocation of \$565,000.

An allocation of **\$334,000** from ongoing operating funds is also required to support additional staffing. The additional staff will advance priority projects in 2020, with operating costs initially estimated as follows:

- Three full-time positions \$324,000
 - i. Community Energy and Emissions Specialist (EPW) (1FTE) transition to ongoing
 - ii. Fleet Energy and Emissions Specialist (EPW) (1FTE) new
 - iii. Building Energy and Emissions Specialist (SPCD) (1FTE) new
- Training and conference attendance (\$10,000)

Additional financial planning / strategy development is underway and will seek to define the long-term healthy reserve funding levels needed for the Climate Action Reserves, and possible funding sources to support both overall program or as part of discrete High Impact Initiative programs. As some programs include funding estimates based on oil incentive uptake estimates, ongoing management of available funds and periodic reporting will be required to ensure programs remain within available funding limits.

Official Community Plan Consistency Statement

“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 Objectives:

- 12(a) - That climate change is mitigated through the reduction of greenhouse gas emissions from buildings, transportation and solid waste.
- 12(b) - New and existing buildings are energy efficient and produce few greenhouse gas emissions.
- 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.

Climate Lens Impact Statement

The actions and recommendations contained within this report are central to the City’s Climate Action Program success.

CONCLUSION

The Climate Leadership Plan released in 2018 set the goals and targets and initial action plans to get us to 80% GHG reduction and 100% renewably powered, by 2050. The 2019 planning processes has concentrated on developing a set of strategies to make the most impactful reductions in GHGs across both City and community emissions. Staff are recommending the introduction of new programs to incentivise the transition from oil to heat pump heating systems, the initiation of a regional building retrofit energy and efficiency service, and a low carbon pathway to the BC Energy Step Code. A series of priority projects are also part of the proposed Climate Action Program, which is also supported by projects in other business units that have direct climate mitigation and adaptation benefits. These programs are proposed for Council’s considerations as part of the 2020 financial planning process.

Respectfully submitted,



Fraser Work,
Director of Engineering & Public Works

Report accepted and recommended by the City Manager:

Date:



NOV 8, 2019

List of attachments:

Appendix A: High Impact Initiatives
Appendix B: CLP Targets by Sector