



CLIMATE ACTION PLAN 2022



Land Acknowledgement

The Township of Esquimalt acknowledges with respect that we are within the Traditional Territories of the Lək'wəŋən speaking peoples, the Lək'wəŋən (Songhees) and Xwsepsum (Esquimalt) Nations.



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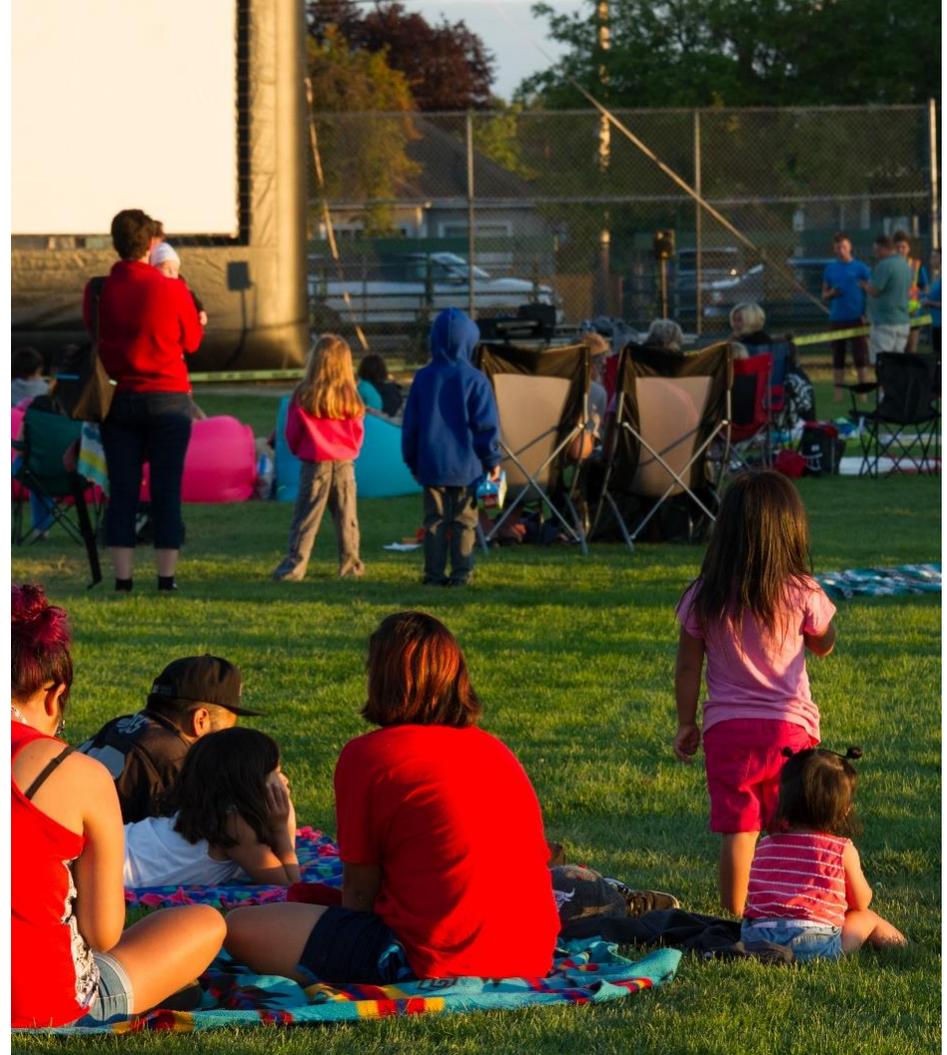
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Part A - Background

The climate is changing in British Columbia (BC) and globally. The average global temperature has already increased by 1 degree Celsius (°C) above pre-industrial levels. The climate trends in Canada depict a steady rise in both seasonal and annual temperatures, altered precipitation patterns, and an increase in the frequency, intensity, and duration of extreme weather. For BC these changes generally mean hotter, drier summers, more frequent and intense heat waves, more frequent and intense rainfall events, increased wind and storms, and sea level rise.

This Esquimalt Climate Action Plan envisions a future where Esquimalt residents experience the benefits of a connected, healthy, and economically prosperous community while acting on climate change and adapting to climate impacts.

The objectives, strategies, and actions included in this Climate Action Plan (CAP) are derived from two planning documents: the Esquimalt Community Climate Mitigation Plan (CCMP) and the Esquimalt Adaptation Planning Guide (APG), that each involved extensive collaboration with numerous community stakeholders and staff. This CAP incorporates both mitigation and adaptation. We encourage those reading this Plan to reference these two documents to better understand the climate impacts facing Esquimalt residents and the role Esquimalt is taking to help mitigate those impacts. Working towards both goals together has benefits for the community and society.



Local Climate Risks - Adaptation

Recent climatic events such as the 2021 heat dome, 2020 and 2021 heavy rains, and wildfire smoke in and around Esquimalt are consistent with global climate predictions and trends.

Temperature

By the 2050s, summer temperatures in Esquimalt are projected to be on average 3.3°C warmer and winter temperatures 2.4°C warmer, with an average increase in mean temperature of 2.7°C year-round. Extreme temperatures are also anticipated to increase; extremely hot days (exceeding 30°C) are projected to occur over four times as often by the 2050s and eleven times as often by the 2080s.

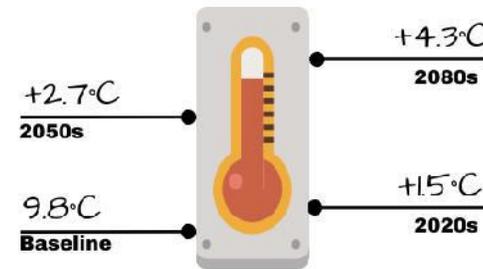
Cooling demands for occupants of buildings can be expected to increase significantly. Warmer temperatures have human health implications due to risk of heat-related illness among all populations.

Precipitation

The Capital Region is known for its 'Mediterranean-like' climate, with most of the rainfall occurring during the winter months. This will continue to be the case, but the difference will become more pronounced. Summer months will experience about 18% less rain by the 2050s, and 26% less rain by the 2080s, resulting in longer periods of drought (See graphic on next page).

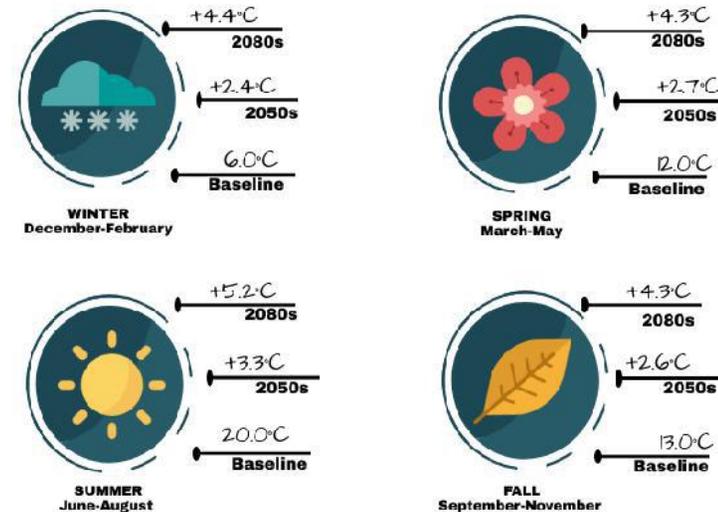
The annual precipitation is projected to increase with the majority occurring October through December. By the 2080's the region can expect more intense storms with an additional 12% precipitation during this period and 21% in the fall.

Projected Change from Baseline (1976-2005)



ANNUAL MEAN TEMPERATURES

Mean, minimum & maximum daily temperatures are projected to increase in every season.



MEAN SEASONAL TEMPERATURES

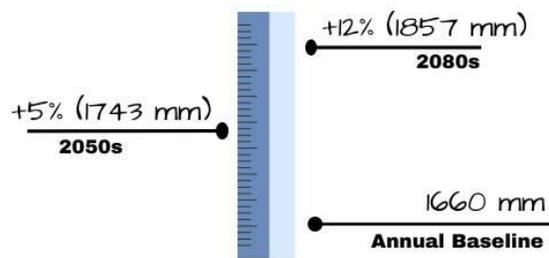


FROST-FREE DAYS

Frost-free days are expected to significantly increase over the long-term.

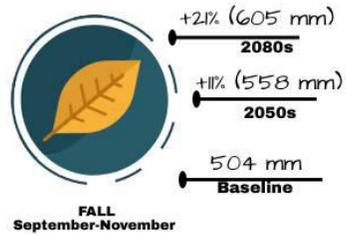
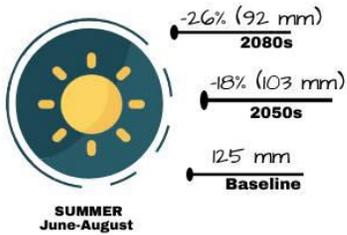
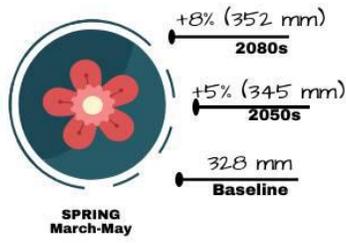
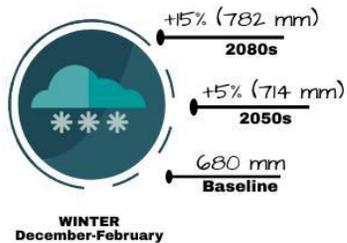
Temperature graphic, ICLEI Canada, 2020

Local Climate Risks - Adaptation



ANNUAL MEAN PRECIPITATION

Annual precipitation is expected to increase. Winter, Spring and Fall are projected to get wetter, with the greatest increases in Fall and Winter.



SEASONAL MEAN PRECIPITATION



HEAVY PRECIPITATION EVENTS

Precipitation events in general are projected to become more intense and extreme.

Precipitation graphic, APG, ICLEI Canada, 2020

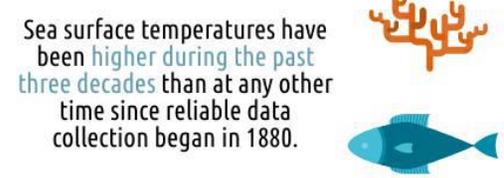
Sea Level Rise (SLR)

Sea levels are rising due to the thermal expansion of seawater combined with melting glaciers. The BC Ministry of Environment has recommended planning for a rate of 10 mm per year of SLR which translates to approximately 1m of SLR by 2100. Fortunately, much of the municipality is well above the 1 m contour, however some vulnerability to SLR does exist, particularly in areas such as Esquimalt Gorge Park, West Bay, and DND lands in Esquimalt Harbour.



RELATIVE SEA LEVEL RISE

Rising sea levels could cause increased coastal erosion, loss of low-lying lands, soil salination, and saltwater intrusion.



SEA SURFACE TEMPERATURES

Warmer sea surface temperatures could cause changes in aquaculture productivity, increased spread of aquatic invasive species, changes to marine ecosystems and species distribution, and more.

Sources:
 Canadian Climate Data and Scenarios Network - Government of Canada
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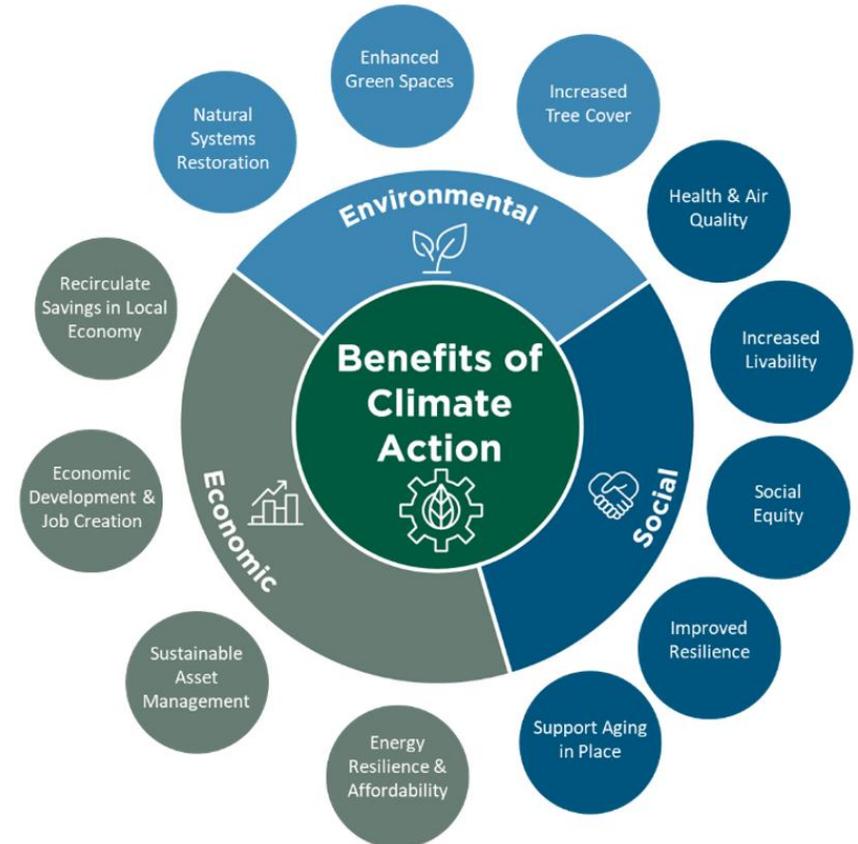
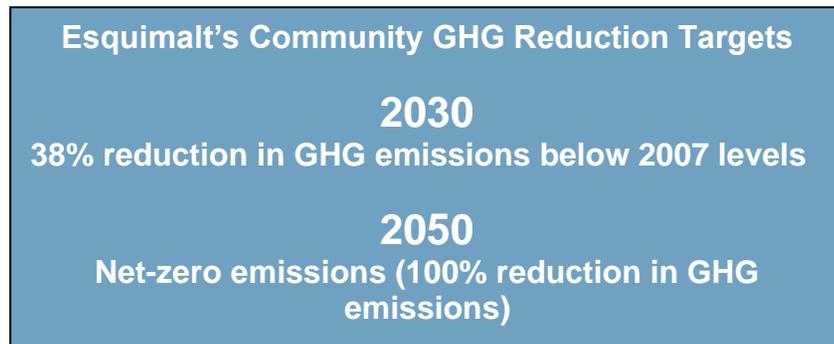
Sea level graphic, APG, ICLEI Canada, 2020

Mitigation

On April 12, 2019, Esquimalt joined over 30 communities in BC and over 1700 communities around the world and declared a “Climate Emergency”.

Esquimalt is a signatory to the BC Climate Action Charter, which is a voluntary agreement between the Province of British Columbia, the Union of B.C. Municipalities, and individual local governments. Local governments commit to:

- Carbon neutrality in corporate operations
- Measure and report their corporate greenhouse gas emissions, and
- Create complete, compact, and more energy-efficient communities



Benefits of climate action, CCMP, CEA, 2022

To meet our 2030 community greenhouse gas reduction target of 38% below 2007 levels, we need to collectively produce at least 36,439 fewer tonnes of greenhouse gasses in one year, relative to 2007.

The actions in this plan are projected to achieve emission reductions of 14,716 tonnes CO²e per year by 2030. Combined with the expected reductions from the ‘Business As Usual’ forecast, this equates to a total reduction of 38,189 tCO²e vs. 2007 levels, a 40% reduction that exceeds the 2030 target. [For details on the development of these projections see the Esquimalt Community Climate Mitigation Plan (CCMP)]

Our Community's Low Carbon Vision

During the CCMP planning process, community stakeholders went through a visioning exercise called “backcasting” to imagine what a low carbon future for Esquimalt could look like. 2040 was chosen as our visioning year to allow for a slightly longer time horizon than 10 years but short enough to imagine the changes taking place.

In 2040, GHG emissions in Esquimalt will be reduced by at least 50% and we will be on our way to net-zero emissions by 2050. In 2040, you will walk out your front door into a liveable community where all the services you need are close by and natural spaces are abundant. A variety of new mobility services are available to support the needs of all Esquimalt residents and visitors. Congestion is reduced and you arrive at your destination more efficiently. You can choose to travel by foot, bike, e-bike, scooter, or zero-emission public transit.

The air in Esquimalt is cleaner because there are far fewer cars on the street, and most are electric. There is less noise and much more space for parks and pedestrian-only streets as active and alternative transportation has been prioritized. People are trying out new types of living arrangements with more shared functions and spaces. All new buildings and most existing buildings no longer use fossil fuels for heating.

In addition to this community vision, workshop participants defined success for each major sector of community emissions:

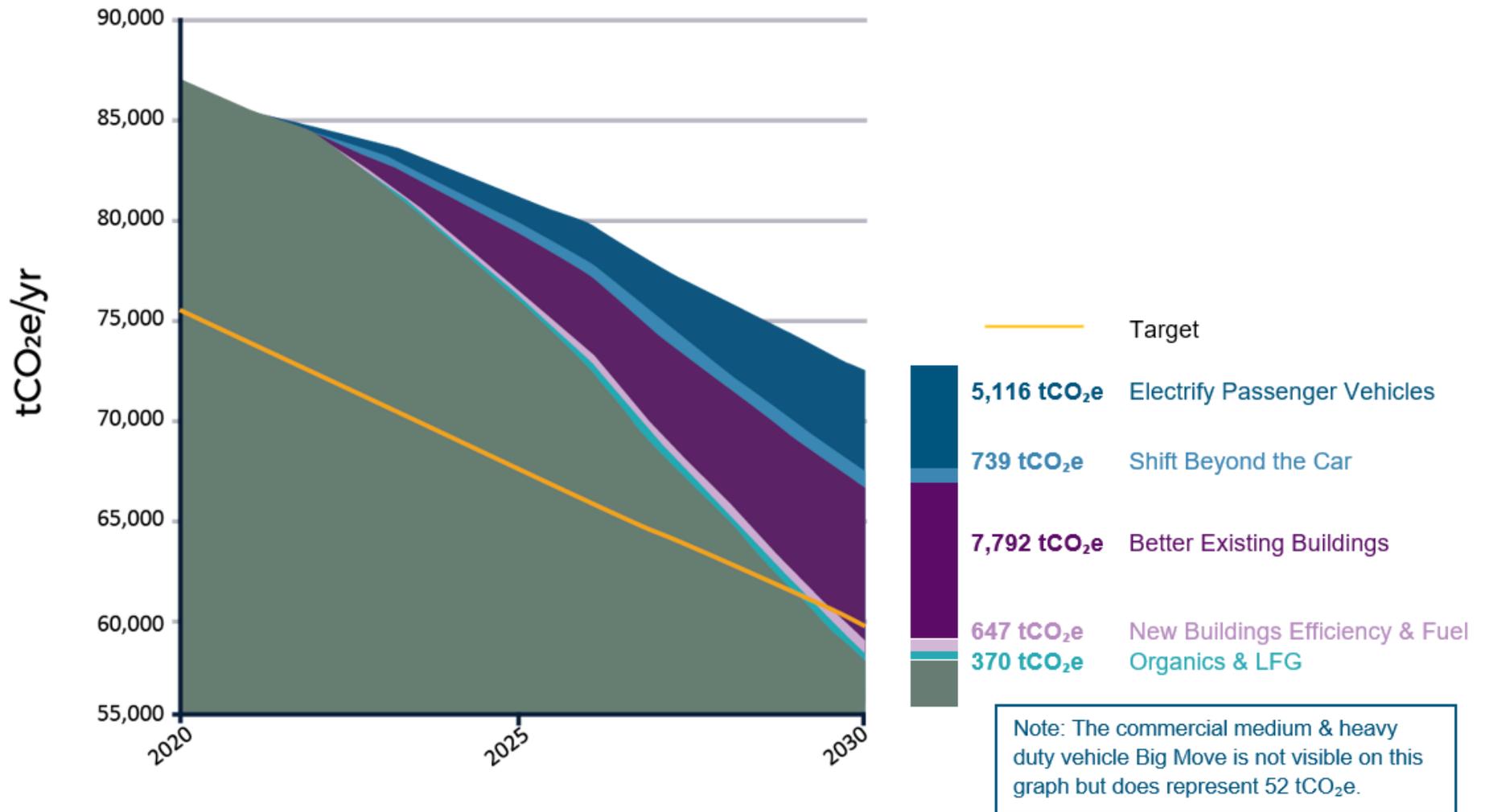
| The Future of Transportation | The Future of Buildings | The Future of Waste |
|---|---|--|
| A complete zero-emission transportation system connects our community and region. | Our community's buildings are exceptionally energy efficient, being powered, heated, and cooled with 100% renewable energy. | Our community diverts all of our organic waste, such as food scraps and yard trimmings, from landfills, and recovers value from everything that enters the waste stream. |

From these visions the CCMP lays out the seven objectives (the Big Moves) to achieve Esquimalt's mitigation targets:



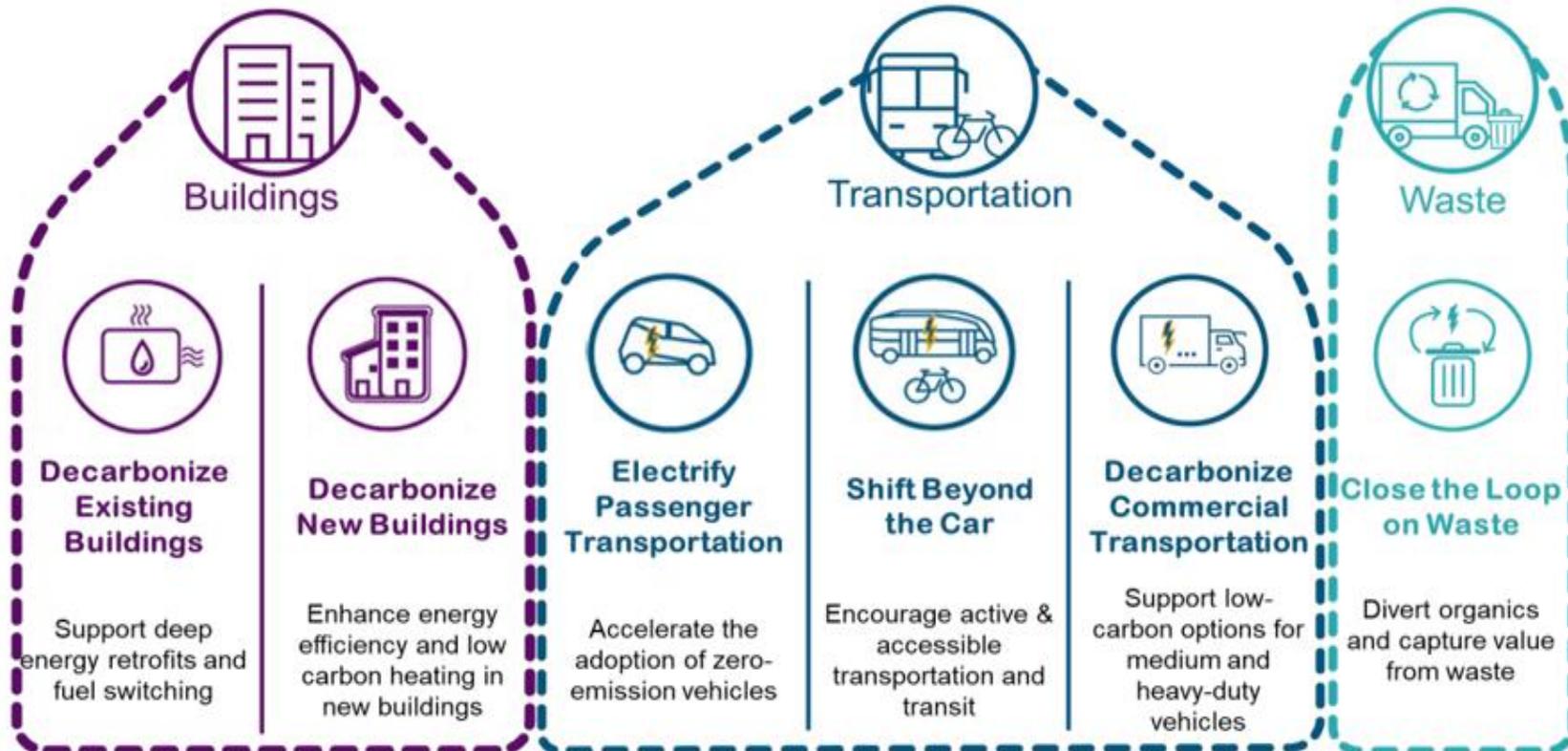
Meeting Esquimalt's 2030 Target - GHG Reductions by Big Move

Esquimalt is on track to meet the 2030 GHG Reduction Target. This graph demonstrates how each Big Move impacts Esquimalt's overall emissions profile between 2020 and 2030. This Climate Action Plan is a living document and focusses on actions the community can take in the next five years to move towards the targets and strategies envision by the community and defined in the CCMP.



Mitigation Objectives - The Big Moves

The CCMP developed seven objectives to support the climate targets the Township established. The “Big Moves” are broad categories of actions that have the biggest impact on reducing emissions in the community. The Big Moves focus on the types of emissions that are most in control of the local government and that are measured in the emissions inventory.

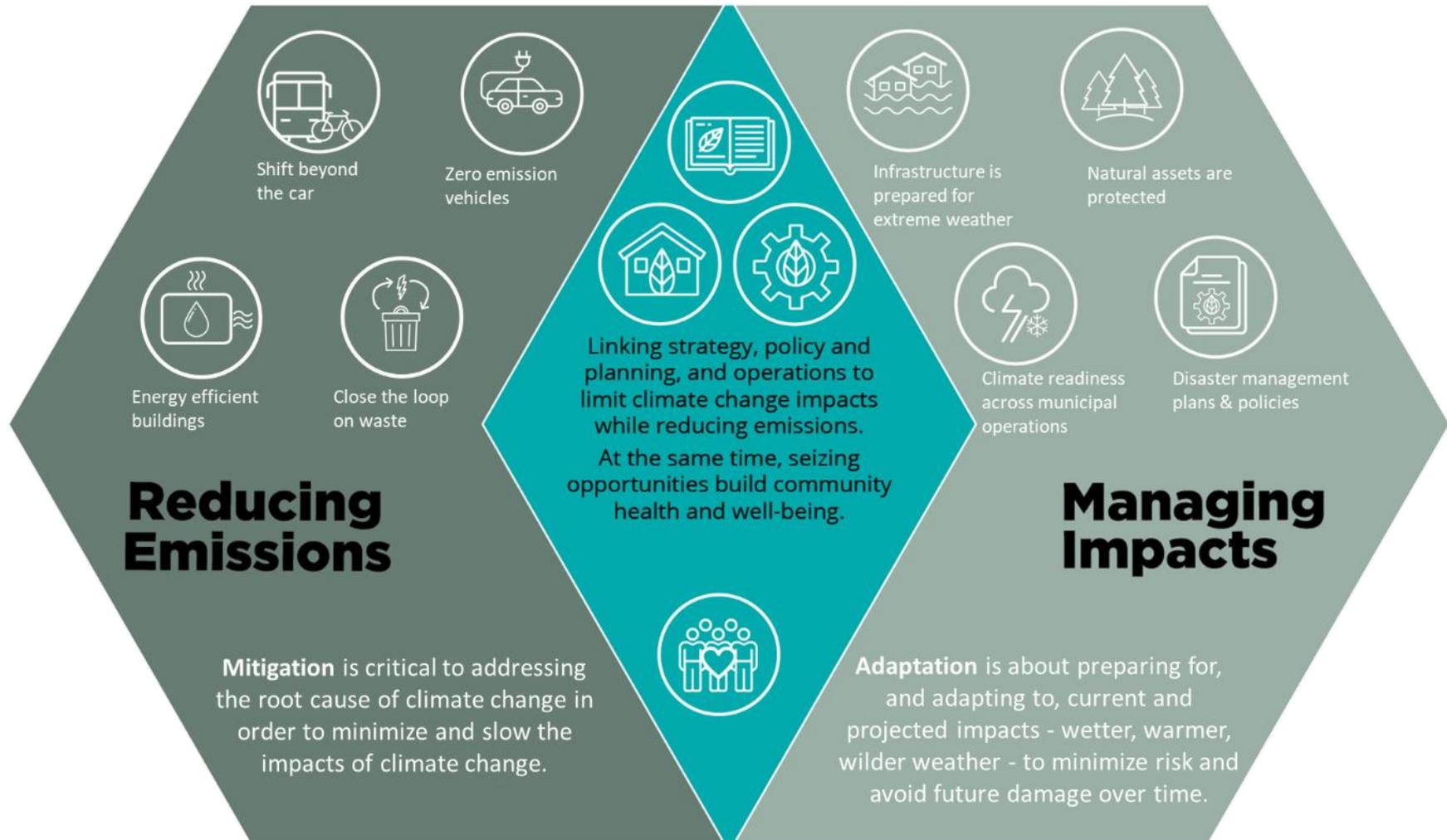


There is one more important category of actions – **Organizational Leadership**. This “seventh Big Move” is very important because it ensures that climate action becomes a part of regular decision-making and operational process within Esquimalt.

Big moves for climate mitigation, CCMP, CEA, 2022

Co-benefits of Adaptation and Mitigation

While some solutions fall clearly on one side of climate action, some of the best solutions are those that lead to both adaptation and mitigation benefits. For example: Adding a heat pump to a building improves energy efficiency, lowers greenhouse gas emissions, and provides the occupants with the opportunity to stay cool in extreme heat events. See next page for further co-benefits.



Co-benefits Adaptation and Mitigation graphic, CCMP, 2022

Co-benefits – Connecting the Adaptation and Mitigation Actions



This table identifies linkages between the adaptation strategies and mitigation, identifying locations for co-benefits.

| Adaptation Plan Actions | Mitigation Plan Synergies |
|--|--|
| Objective 1: Integrate Climate Change Thinking and Response | |
| 1.1: Incorporate climate change considerations into municipal operations and decision making. | |
| 1.1a: Complete Municipal Climate Action Plan | This Community Climate Mitigation Plan addresses the mitigation component of the overarching Climate Action Plan |
| 1.1b: Integrate climate change considerations into new and existing plans and policies, as well as Council reports and the Strategic Plan. | Similar actions are outlined in this plan under the Organizational Leadership Big Move. |
| 1.1c: Collaborate with local governments and First Nations in the CRD area to explore joint funding opportunities, research best practices and ensure consistency of policies. | Collaboration is key to implementing the Mitigation Plan. Specific collaboration opportunities include a regional E-Mobility strategy, and regional retrofit programs (Bring it Home for the Climate). |
| 1.2: Increase community level of knowledge on climate change. | |
| 1.2a: Enhance climate change education and awareness initiatives for Township residents and staff. | Successful implementation of this plan will require ongoing engagement with residents and staff. |
| Objective 2: Strengthen Infrastructure Resiliency | |
| 2.2: Create new capacity for rainwater absorption and slow runoff to allow stormwater system time to respond. | |
| 2.2a: Incorporate green infrastructure considerations into development plans and policies. | Nature-based solutions such as planted ditches, rain gardens, and bioswales are also a mitigation action as they don't require the use of carbon-intensive concrete. |
| 2.2b: Encourage rainwater landscaping in small scale residential settings. | |
| Objective 3: Reduce Risk to Buildings and Property | |
| 3.1: Prepare building stock for effects of more severe weather. | |
| 3.1a: Encourage residents and building owners to maintain and upgrade their buildings to be more resilient to extreme weather events. | Include both adaptation and mitigation objectives when designing programs and outreach materials for residential retrofit programs. Heat pumps have an adaptation benefit since they provide cooling in addition to heating. |

| | |
|---|---|
| Objective 4: Protect Biodiversity and Enhance Ecosystem Functions | |
| 4.1: Protect and expand the existing urban forest. | Urban forests can store carbon and provide shading, reducing the cooling demand in buildings. |
| 4.2: Increase the number of trees planted on private property. | |
| 4.3: Use current best management practices for maintaining health of existing urban forest. | |
| 4.5: Encourage community stewardship within natural areas in the Township. | |
| Objective 5: Build Community Resilience | |
| 5.1a: Encourage community social connectedness. | Social connectedness also has mitigation benefits as residents see local examples and are encouraged to make low carbon choices by their neighbours. |
| 5.1b: Advance the work of reconciliation with the Esquimalt and Songhees First Nations. | There may be collaboration opportunities with the Esquimalt and Songhees First Nations on mitigation projects. |
| 5.1c: Look for opportunities to increase access to locally grown food | Increasing local food access can reduce the consumption-based emissions from transporting food. |
| Objective 6: Protect Public Health and Safety | |
| 6.2: Ensure new residential buildings are climate ready. | |
| 6.2a: Encourage the use of passive construction techniques in new residential developments. | Passive heating, cooling, and ventilation techniques can result in reduced usage of mechanical systems. |
| 6.2b: Encourage deep home retrofits of existing buildings to improve both efficiency and comfort for residents. | Building envelope upgrades make the home more efficient but also help reduce the impact of extreme temperatures. Fuel switching to heat pumps reduces GHG emissions and provides cooling during heat waves. |
| 6.4: Support efforts to reduce urban air pollution. | |
| 6.4a: Advocate and support low emission transportation modes including active and public transportation as well as vehicle electrification. | Shifting beyond the car reduces emissions as well as air pollutants from internal combustion engines. |

Co-benefits/ synergies table, CCMP, CEA, 2022

Part B – Action Implementation Tables

| Lead and Supporting Division Acronyms | | Financial | | Time Involved |
|---------------------------------------|------------------------------|------------|-----------------------|---|
| Initial | Division | \$ | < \$50,000 | Low – minimal staff hours |
| CS | Corporate Services | \$\$ | \$50,000 - \$100,000 | Moderate – extensive staff time and/ or consultant time |
| CRD | Capital Regional District | \$\$\$ | \$100,000 - \$250,000 | High - extensive staff time and/ or consultant time |
| CSS | Community Safety Services | \$\$\$\$ | \$250,000 - \$500,000 | |
| CM | Communications | \$\$\$\$\$ | >\$500,000 | |
| DS | Development Services | | | |
| EPW | Engineering and Public Works | | | |
| FIN | Finance | | | |
| IH | Island Health | | | |
| PR | Parks and Recreation | | | |

| Timing |
|-------------|
| 2022 |
| 2023 |
| 2024 - 2025 |
| Ongoing |

T1, T2, T3, T4 = Community Climate Mitigation Plan - Implementation Tiers for the Big Moves (Appendix A, P.57)

Mitigation Actions – The Seven Big Moves

Objective (BIG MOVE) 1: Retrofit Existing Buildings

| EXISTING BUILDINGS 1: Improve Energy Efficiency and Enable Fuel Switching | | | | | | | |
|--|---|-----------------------|------|------------|---------------------|---------------|---------|
| | Action | Adaptation co-benefit | Lead | Supporting | Financial resources | Time involved | Timing |
| 1.1 | Encourage and enable deep energy retrofits. | ✓ | DS | CM | \$\$\$ | Low | Ongoing |
| <p>Sub-actions to enable this action:</p> <ul style="list-style-type: none"> Continue collaborating with CRD and municipal partners, other levels of government to support incentives such as the oil to heat pump grant program. (T1, T2 of Community Climate Mitigation Plan Implementation Tiers) | | | | | | | |

| <ul style="list-style-type: none"> • Consider offering further incentives for existing building retrofits (Green Infrastructure - CleanBC Communities funding (CCF)) - T2 • Share success stories of existing retrofits to help promote demand -T1 • Add information to website and property tax mailouts -T1 • Consider inviting CRD or other experts to speak or have a temporary display -T1 • Adopt provincially mandated energy standards - T3 & T4 | | | | | | | |
|--|--|-----------------------|------|------------|---------------------|---------------|---------|
| Action | | Adaptation co-benefit | Lead | Supporting | Financial resources | Time involved | Timing |
| 2.1 | Encourage and enable building electrification or renewable gas | ✓ | DS | CM | \$\$ | Low | Ongoing |
| <p>Sub-actions to enable this action:</p> <ul style="list-style-type: none"> • Continue supporting the oil to electric heat pump grant program -T2 • Make taking part in Provincial and CRD led incentive programs a priority - T3 is ongoing • Add information to website and property tax mailouts - T1 • Consider inviting CRD or other experts to speak or have a temporary display - T1 • Collaborate with CRD, province, and regional partners to promote new retrofit building code as it is rolled out - T4 • As renewable gas is very limited and has a consider carbon footprint, only consider its use for specific industries | | | | | | | |
| EXISTING BUILDINGS 3: Build Industry Capacity and Increase Demand | | | | | | | |
| 3.1 | Establish a long-term marketing campaign | ✓ | CM | DS | \$ | Low | Ongoing |
| <p>Sub-actions to enable this action:</p> <ul style="list-style-type: none"> • Use website/ social media pages to promote available courses and incentives for building owners, developers, and builders • Provide brochures at building department front counter – T1 • Collaborate with CRD, province, regional partners to promote educational opportunities for building owners, managers, construction, development, and inspection professionals - T1, T2, T3 | | | | | | | |
| 3.2 | Build industry capacity | ✓ | DS | CRD, CM | \$ | Low | Ongoing |
| <p>Sub-actions to enable this action:</p> <ul style="list-style-type: none"> • Collaborate with CRD and province to promote educational opportunities for building owners, managers, construction, development, and inspection professions - T1, T2, T3 | | | | | | | |

Objective (BIG MOVE) 2: Decarbonize New Buildings

| Strategy1: Prioritize a low carbon approach | | | | | | | |
|--|--|-----------------------|------|------------|---------------------|---------------|---------|
| Action | | Adaptation co-benefit | Lead | Supporting | Financial resources | Time involved | Timing |
| 1.1 | Encourage low carbon heating in new buildings. | ✓ | DS | CRD | \$ | Low | Ongoing |
| <p>Sub-actions to enable this action:</p> <ul style="list-style-type: none"> • Continue collaborating with CRD and municipal partners, other levels of government to support incentives such as the oil to heat pump grant program – T1 • Continue to promote the benefits of alternatives to oil and gas, i.e., heat pump cooling benefits in summer months • Update policies to encourage low carbon energy systems with rezoning applications – T2 • Consider new policies that will encourage the creation of buildings that can be easily retrofitted to be net-zero in the future • Consider local metrics for measuring building energy use and the embodied carbon of building materials, as made available – T2, T3 | | | | | | | |
| Strategy 2: Build Industry Capacity | | | | | | | |
| 2.1 | Provide outreach and incentives | ✓ | DS | CRD, CM | \$ | Low | Ongoing |
| <p>Sub-actions to enable this action:</p> <ul style="list-style-type: none"> • Continue collaborating with CRD and municipal partners, other levels of government to promote educational opportunities for building owners, managers, construction, development, and inspection professions - T1-T4 • Oil to heat pump incentives - ongoing | | | | | | | |
| 2.2 | Collaborate to provide training and coordination | ✓ | DS | CRD, CM | \$ | Low | Ongoing |
| <p>Sub-actions to enable this action:</p> <ul style="list-style-type: none"> • Collaborate with CRD and province to promote educational opportunities for building owners, managers, construction, development, and inspection professions – T1-T4 | | | | | | | |

Objective (BIG MOVE) 3: Shift Beyond the Car

| Strategy (SHIFT) 1: Augment land use planning tools to enable compact community growth | | | | | | | |
|--|---|-----------------------|------|------------|---------------------|---------------|---------|
| Action | | Adaptation co-benefit | Lead | Supporting | Financial resources | Time involved | Timing |
| 1.1 | Augment policies and bylaws for compact growth | ✓ | DS | CS, EPW | \$ | Low | Ongoing |
| <p>Sub-actions to enable this action:</p> <ul style="list-style-type: none"> OCP policies and designations supports this strategy with increased density – Esquimalt growth is constrained by sea and political boundaries, Walk Scores are already very good for most of Esquimalt - T1, T2, T3 Consider adopting a Development Cost Charge (DCC) bylaw and Investigate community lifecycle infrastructure costing (CLIC) tool -T4 | | | | | | | |
| Strategy (SHIFT) 2: Increase walking, cycling, and other forms of zero emission mobility | | | | | | | |
| 2.1 | Enable active transportation through plans and policies | | EPW | DS | \$\$ | Moderate | Ongoing |
| <p>Sub-actions to enable this action:</p> <ul style="list-style-type: none"> Implement the Active Transportation Network Plan – T1 (National Active Transportation Fund grant funding being pursue.) OCP supports T2 - sidewalk master plan is being implemented Have developments improve the pedestrian realm Parking bylaw review in 2022, and Subdivision Servicing bylaw review in process – supports T3 Encourage better BC Transit service to support active transportation – shelter improvements are made where space makes it possible Trail master plan could be developed Consider creating a map of Esquimalt bike facilities (racks, repair station) | | | | | | | |
| 2.2 | Build safe routes for walking, cycling, and other forms of zero emission mobility | | EPW | DS, PR | \$\$\$ | Moderate | Ongoing |
| <p>Sub-actions to enable this action:</p> <ul style="list-style-type: none"> Active Transportation Network Plan was endorsed by Council in 2022 – with a schedule for implementation [T1 - T4 are ongoing] Sidewalk plan is being implemented and LED street lighting improvements are ongoing Consider further opening hours for some walking trails through the Parks and Recreation Regulation Bylaw | | | | | | | |

| Action | | Adaptation co-benefit | Lead | Supporting | Financial resources | Time involved | Timing |
|---|--|-----------------------|------|------------|---------------------|---------------|-----------|
| 2.3 | Develop and deliver an active transportation outreach strategy | | CM | DS, EPW | \$ | Low | 2023 |
| Sub-actions to enable this action: <ul style="list-style-type: none"> • Implement the Active Transportation Network Plan – Ongoing - T1, T2 • Collaborate with CRD and municipal partners to support education and promotion -T3, T4 • Ready Step Roll program is ongoing | | | | | | | |
| 2.4 | Normalize car-free and zero-emission zones | | EPW | PR | \$ | Low | 2024-2025 |
| Sub-actions to enable this action: <ul style="list-style-type: none"> • Pilot a car free area during special events - support an organization that may wish to lead on this (possibly Farmer’s Market) - any street could be closed for a day – parades do close streets for a short time – T1, T2 • Consider if there is any area that could benefit from being car free – T4 | | | | | | | |
| 2.5 | Promote micro e-mobility, & on-demand services (e.g., e-bikes, ride-hailing) | | CM | DS, EPW | \$\$ | Low | 2024-2025 |
| Sub-actions to enable this action: <ul style="list-style-type: none"> • Collaborate with CRD and regional partners on incentives and promotion -T1, T4 • Work with an interested event or mobility providers - T1, T-3 • Population demand in Esquimalt is likely not there yet, could do further analysis – T2 • Developers are encouraged to provide shared bikes for their property’s residents • EV car sharing is being implemented through development applications | | | | | | | |

| Strategy (SHIFT) 3: Promote transit ridership and support a zero-emissions transit network | | | | | | | |
|---|--|-----------------------|---------|-----------------|---------------------|---------------|---------|
| Action | | Adaptation co-benefit | Lead | Supporting | Financial resources | Time involved | Timing |
| 3.1 | Collaborate with transit providers to promote transit ridership | | DS | CRD, CM, EPW | \$ | Low | Ongoing |
| Sub-actions to enable this action: <ul style="list-style-type: none"> • Continue to promote transit passes as a transportation demand management measure with new developments • Support better transit initiatives such as BC transit's free under 12 years program • Support enhanced use of the E & N corridor – Light rail and commercial development along the route • Council level action - CRD Transportation committee – T1 to T4 | | | | | | | |
| 3.2 | Encourage BC Transit to transition to a zero-emissions transit network | | Council | DS, CS, CM, EPW | \$ | Low | Ongoing |
| Sub-actions to enable this action: <ul style="list-style-type: none"> • Continue to collaborate with CRD and regional partners – T2 • Council level action - CRD Transportation committee -T3 | | | | | | | |

Objective (BIG MOVE) 4: Electrify Passenger Transport

| Strategy (ELECTRIFY) 1: Enable charging “on-the-go” | | | | | | | |
|---|--|--|-----|--------|------|-----|---------|
| 1.1 | Design, fund, and build a public EV charging network | | EPW | DS, PR | \$\$ | Low | Ongoing |
| Sub-actions to enable this action: <ul style="list-style-type: none"> • Identify locations for additional EV charging – working with CRD on Regional Charging Network and grant application (2022-2023) • Identify locations for e-bike charging facilities • Look into capacity of the electrical system in municipal locations • New Gorge Pavilion has two level 2 chargers being installed in 2022 • 2023 – for further installation – Rec. Centre and Sports Centre – eventually all major parks with parking lots • Create local map – work with Plug in BC • Work with new and revitalized commercial developments to install EV chargers – Federal & Provincial grants are available • T1 - T4 are ongoing | | | | | | | |

| Strategy (ELECTRIFY) 2: Enable charging at home and work | | | | | | | |
|--|---|-----------------------|------|-------------|---------------------|---------------|---------|
| Action | | Adaptation co-benefit | Lead | Supporting | Financial resources | Time involved | Timing |
| 2.1 | Adopt EV-ready building requirements. | | DS | EPW, PR | \$ | Low | 2023 |
| Sub-actions to enable this action: <ul style="list-style-type: none"> • EV charging ready bylaw for new residential construction adopted in 2021 • Consider adding requirements for new commercial, industrial, institutional locations • T1 - T4 are ongoing | | | | | | | |
| 2.2 | Enable EV charging in existing residential and commercial buildings | | DS | CM | \$ | Low | Ongoing |
| Sub-actions to enable this action: <ul style="list-style-type: none"> • Collaborate with Province, CRD, BC Hydro, regional municipalities to offer grants • Website provides links to available grant opportunities – review information regularly • Development services staff do assist building owners to find grant information • T1 – T3 ongoing, T4 – Council at UBCM | | | | | | | |
| Strategy (ELECTRIFY) 3: Encourage EVs through outreach and supportive policies | | | | | | | |
| 3.1 | Develop and deliver an EV outreach strategy | | DS | CM, PR, EPW | \$ | Low | 2023 |
| Sub-actions to enable this action: <ul style="list-style-type: none"> • Consider adding links to website for EV education and promotion – T1 • Continue to collaborate with CRD and regional partners – T2, T2 • Consider branding: Electric Esquimalt – all charged up and ready to roll – T4 | | | | | | | |

| Action | | Adaptation co-benefit | Lead | Supporting | Financial resources | Time involved | Timing |
|--------|------------------------------------|-----------------------|------|------------|---------------------|---------------|---------|
| 3.2 | Provide incentives for EV adoption | | DS | CRD | \$ | Low | Ongoing |

Sub-actions to enable this action:

- Continue to collaborate with developers to install EV chargers in commercial, industrial, institutional locations
- Collaborate with CRD, municipal partners, and province -T4
- Pilot program to adopt low speed residential streets is in progress – T2
- Priority parking not needed at this time – reconsider in the future – T3

Objective (BIG MOVE) 4: Electrify Passenger Transport

Strategy (ELECTRIFY) 1: Enable charging “on-the-go”

| | | | | | | | |
|-----|---|--|-----|--------|------|-----|---------|
| 1.1 | Design, fund, and build a public EV charging network. | | EPW | DS, PR | \$\$ | Low | Ongoing |
|-----|---|--|-----|--------|------|-----|---------|

Sub-actions to enable this action:

- Identify locations for additional vehicle charging - take part in 2022 CRD Clean BC grant for regional network
- Identify locations for e-bike charging facilities
- Look into capacity of the electrical system in municipal locations
- New Gorge Pavilion has two level 2 chargers - installed in 2022
- 2023 – for further installation – Rec. Centre and Sports Centre – eventually all major parks with parking lots
- Create local map – work with Plug in BC
- Continue to encourage new commercial developments to install publicly available chargers
- T1 - T4 are ongoing

Strategy (ELECTRIFY) 2: Enable charging at home and work

| | | | | | | | |
|-----|--------------------------------------|--|----|---------|----|-----|---------|
| 2.1 | Adopt EV-ready building requirements | | DS | EPW, PR | \$ | Low | Ongoing |
|-----|--------------------------------------|--|----|---------|----|-----|---------|

Sub-actions to enable this action:

- EV charging ready bylaw for new residential construction adopted in 2021
- Consider adding requirements for new commercial, industrial, institutional locations - 2023
- T1 - T4 are ongoing

| Action | | Adaptation co-benefit | Lead | Supporting | Financial resources | Time involved | Timing |
|---|---|-----------------------|------|-------------|---------------------|---------------|---------|
| 2.2 | Enable EV charging in existing residential and commercial buildings | | DS | CM | \$ | Low | Ongoing |
| <p>Sub-actions to enable this action:</p> <ul style="list-style-type: none"> • Collaborate with Province, CRD, BC Hydro, regional municipalities to offer grants • Website provides links to available grant opportunities • Development services staff do assist building owners looking for retrofit information • T1 – T3 ongoing, T4 – Council at UBCM | | | | | | | |
| Strategy (ELECTRIFY) 3: Encourage EVs through outreach and supportive policies | | | | | | | |
| 3.1 | Develop and deliver an EV outreach strategy | | DS | CM, PR, EPW | \$ | Low | Ongoing |
| <p>Sub-actions to enable this action:</p> <ul style="list-style-type: none"> • Consider adding links to website for EV education and promotion – 2023 – T1 • Continue to collaborate with CRD and regional partners – T2, T2 • Consider branding: Electric Esquimalt – all charged up and ready to roll – T4 | | | | | | | |
| 3.2 | Provide incentives for EV adoption | | DS | CRD | \$ | Low | Ongoing |
| <p>Sub-actions to enable this action:</p> <ul style="list-style-type: none"> • Continue to collaborate with developers to install EV chargers in commercial, industrial, institutional locations • Collaborate with CRD, municipal partners, and province -T4 • Pilot program to adopt low speed residential streets is in progress – 2023 – T2 • Priority parking not needed at this time – reconsider in the future - 2024-2025 – T3 | | | | | | | |

Objective (BIG MOVE) 5: Decarbonize Commercial Transport

| Strategy (Commercial) 1: Accelerate the adoption of Zero Emission Vehicle (ZEVs) for commercial fleets | | | | | | | |
|---|---|-----------------------|------|------------|---------------------|---------------|-----------|
| Action | | Adaptation co-benefit | Lead | Supporting | Financial resources | Time involved | Timing |
| 1.1 | Develop a community vision and strategy for Commercial ZEV Infrastructure | | DS | EPW | \$ | Low | 2024-2025 |
| Sub-actions to enable this action: <ul style="list-style-type: none"> Continue to collaborate with CRD and regional partners in supporting EV public charger installation – T2, T3, T4 Support car share organizations charging needs with public charging locations Determine if Esquimalt has any commercial fleets. - T1, T2 | | | | | | | |
| 1.2 | Engage commercial and industrial fleets | | DS | EPW | \$\$ | Low | 2024-2025 |
| Sub-actions to enable this action: <ul style="list-style-type: none"> Continue to engage with land developers to develop a grid network of charging locations available for public use – T3 Continue to collaborate with CRD and regional partners in supporting region wide training initiatives – T1, T2, T4 | | | | | | | |
| Strategy (Commercial) 2: Lead by example by transitioning municipal fleet. | | | | | | | |
| 2.1 | Update corporate policies to prioritize low carbon options when feasible. | | All | CS | \$ | Low | 2023 |
| Sub-actions to enable this action: <ul style="list-style-type: none"> Investigate public charging capabilities at various municipal facilities – T1 Investigate feasibility as new technology is available – T4 Set a date to phase out staff mileage compensation payments – make options available – car share membership – T2, T4 Establish phasing plan for fleet replacement with electric equivalent - underway Do not see the advantage to buying used ICE vehicles – T3 | | | | | | | |

Objective (BIG MOVE) 6: Close the Loop on Waste

| Strategy (WASTE) 1: Divert Organics from Landfill | | | | | | | |
|--|---|-----------------------|------|------------|---------------------|---------------|-----------|
| Action | | Adaptation co-benefit | Lead | Supporting | Financial resources | Time involved | Timing |
| 1.1 | Enhance organics collection and processing. | | EPW | CM, DS | \$ | Low | 2024-2025 |
| <p>Sub-actions to enable this action:</p> <ul style="list-style-type: none"> • Continue to collaborate with CRD and regional partners (CRD is working on a rental building policy) – T1, T3 • Investigate feasibility of adding residential yard-waste collection – T2 • Investigate feasibility of adding yard-waste to kitchen scrap pickup -T4 • Parks does their own leaf composting to create mulch • Consider that multi-family housing is contracted out, so control is with the CRD – T3 | | | | | | | |
| 1.2 | Divert construction, demolition, agricultural, and industrial wood waste. | | EPW | DS, CM | \$ | Low | 2024-2025 |
| <p>Sub-actions to enable this action:</p> <ul style="list-style-type: none"> • Continue to collaborate with CRD and regional partners, T1 – T4 • Parks is supporting the Anderson Park Community Garden Society, in creating a compost education centre at the community garden – for community garden waste | | | | | | | |

| Strategy (WASTE) 2: Explore other Resource Recovery Technologies | | | | | | | |
|---|--|-----------------------|------|-------------|---------------------|---------------|-----------|
| Action | | Adaptation co-benefit | Lead | Supporting | Financial resources | Time involved | Timing |
| 2.1 | Evaluate and implement other resource recovery opportunities. | ✓ | EPW | DS | \$\$\$ | High | 2024-2025 |
| Sub-actions to enable this action: <ul style="list-style-type: none"> Continue to collaborate with CRD and regional partners on resource recovery and potential waste to energy opportunities (Esquimalt completed public engagement for an Integrated Resource Management Plan in 2021) - T1, T2 | | | | | | | |
| 3.1 | Develop and deliver a comprehensive zero-waste outreach program. | | CRD | CM, EPW, DS | \$\$ | Moderate | 2024-2025 |
| Sub-actions to enable this action: <ul style="list-style-type: none"> Continue to collaborate with CRD and regional partners to support waste reduction – low waste with goal of eventually zero waste, T1 - T4 | | | | | | | |

Objective (BIG MOVE) 7: Organizational Leadership

7.1 Leading by Example

| Strategy 1: Shift Beyond the Car | | | | | | | |
|---|--|--|-----|-----|----|-----|---------|
| 1.1 | Provide bicycle and e-bike parking for employees and access to showers | | EPW | PR | \$ | Low | Ongoing |
| To enable this action: <ul style="list-style-type: none"> Regularly review with staff the need for additional space for bike storage and any maintenance issues Consider providing bike lockers at work locations | | | | | | | |
| 1.2 | Participate in Go By Bike Week. | | CM | All | \$ | Low | Ongoing |
| To enable this action: <ul style="list-style-type: none"> Continue to connect with regional Go By Bike chapter and provide in-kind location space (Archie Browning Parking Lot in 2022) Find a staff champion to lead this, incentives for participation | | | | | | | |

| Action | | Adaptation co-benefit | Lead | Supporting | Financial resources | Time Involved | Timing |
|--|--|-----------------------|------|------------|---------------------|---------------|-----------|
| 1.3 | Provide transit passes to employees. | | CS | All | \$\$ | Low | 2023 |
| To enable this action: <ul style="list-style-type: none"> Day passes are available to attend regional meetings Consider if a discounted pass for staff to commute to work could be feasible (Support BC Transit's Pro-pass program – coordinate transit passes for municipal staff) | | | | | | | |
| Strategy 2: Electrify Passenger Transportation | | | | | | | |
| 2.1 | Invest in EVs for light-duty fleet. | | EPW | PR | \$\$ | Low | Ongoing |
| To enable this action: <ul style="list-style-type: none"> Investigate the current availability of EVs on a yearly schedule Continue to provide staff with education about EVs and test drive available EVs Consider purchasing E-bikes for shared employee usage | | | | | | | |
| 2.2 | Install workplace charging for employee EVs | | EPW | DS | \$\$ | Low | 2024-2025 |
| To enable this action: <ul style="list-style-type: none"> Four chargers are available near the Municipal Hall Add public chargers near other municipal facilities – working with CRD on Regional Charging Network Consider possible discounted sign-up rates for staff | | | | | | | |
| 2.3 | Develop a vehicle purchasing policy that prioritizes low carbon options when feasible. | | EPW | CS, DS, PR | \$ | Low | Ongoing |
| To enable this action: <ul style="list-style-type: none"> EPW to collaborate with CS to develop policy, develop a list of criteria to consider EV purchase options are being considered prior to purchases Review options to phase out gas powered landscaping equipment | | | | | | | |

| Strategy 3: Decarbonize New Buildings | | | | | | | |
|--|---|-----------------------|------|-------------|---------------------|---------------|---------|
| | Action | Adaptation co-benefit | Lead | Supporting | Financial resources | Time involved | Timing |
| 3.1 | Adopt a high-performance building policy for all new civic buildings that includes energy and GHG metrics, optimized siting and orientation, and other green building features. | ✓ | CS | EPW, DS, PR | \$ | Low | Ongoing |
| To enable this action: <ul style="list-style-type: none"> • OCP policy and guidelines support energy efficient, low GHG construction • Gorge Park pavilion met this strategy • Proposed public safety building complies with this strategy | | | | | | | |
| Strategy 4: Retrofit Existing Buildings | | | | | | | |
| 4.1 | Conduct building energy audits at all major buildings and implement recommended measures. | ✓ | EPW | PR | \$ | Moderate | Ongoing |
| To enable this action: <ul style="list-style-type: none"> • Consider hiring a contractor to renew the 2010 audits of municipal buildings • Sports Centre and Recreation Centre audits last done in 2019 • Recreation Centre roof top hot water heating project underway, pool has approximately 20 heat pumps replacing boilers • Parks nursery building, and greenhouse scheduled for change over to heat pump in 2022 • Building lighting is all being changed to LEDs • Working with Benchmark BC to use the EPA's ENERGY STAR Portfolio Manager tool to track municipal buildings' energy usage (Part of Natural Resources Canada's benchmarking programs) - 2022 | | | | | | | |

| | Action | Adaptation co-benefit | Lead | Supporting | Financial resources | Time involved | Timing |
|---|---|-----------------------|------|------------|---------------------|---------------|-------------|
| 4.2 | Conduct energy-focused operational review of buildings and incorporate energy management into annual and monthly building maintenance procedures. | ✓ | EPW | PR | \$ | Moderate | Ongoing for |
| To enable this action: <ul style="list-style-type: none"> • See 4.1 - ongoing • Digital Direct Control program used in Recreation Centre, Archie Browning, Municipal Hall • Recreation Centre HVAC on motion control sensors – consider for other municipal buildings | | | | | | | |
| Strategy 5: Close the Loop on Waste | | | | | | | |
| 5.1 | Adopt zero-waste policies for all Township events. | | PR | CM | \$ | Low | 2024-2025 |
| To enable this action: <ul style="list-style-type: none"> • Consider creating a new green event planning guide providing strategies for low waste events – recognizing that zero waste is very challenging to operationalize without a full time monitor at each can. • Consider adopting Federal, Provincial and Regional zero-waste policies as they become available • Use available cutlery and dishes for staff events | | | | | | | |
| 5.2 | Enhance organics and recycling collection at all facilities through improved signage, education, and collection facilities. | | EPW | CM, PR | \$ | Low | 2024-2025 |
| To enable this action: <ul style="list-style-type: none"> • Replacement of bins • Investigate recycling contract options | | | | | | | |
| 5.3 | Investigate opportunities for energy recovery at facilities. | ✓ | PR | EPW | \$ | Low | 2024-2025 |
| To enable this action: <ul style="list-style-type: none"> • Could hire contractor to investigate • PIRANHA – use could be explored, connects to the sanitary line of a building for heat recovery • Pool heat pumps are recovering heat | | | | | | | |

7.2 Integration Across the Organization

| Strategy 1: Incorporate - Embed climate action into other planning documents such as the OCP, bylaws and policies, and departmental/master plans. Incorporate into other documents and processes. | | | | | | | |
|---|--|-----------------------|------|------------|---------------------|---------------|-----------|
| Action | | Adaptation co-benefit | Lead | Supporting | Financial resources | Time involved | Timing |
| 1.1 | Update Council report templates to include climate action (mitigation and adaptation) considerations | ✓ | All | Council | \$ | Low | 2023 |
| Sub-actions to enable this action: <ul style="list-style-type: none"> • OCP, adopted in 2018 has climate action policies • Council reports currently have a “Sustainability and Environmental Implication” section • Review other municipality’s templates for best practices of items to include in this section • Provide a checklist for inclusion | | | | | | | |
| 1.2 | Create links between the upcoming Active Transportation Network Strategy and the Mitigation Plan | | DS | EPW | \$ | Low | Ongoing |
| Sub-actions to enable this action: <ul style="list-style-type: none"> • Celebrate active transportation usage improvements – pictures of new facilities and users • Use CRD ride share statistics • Develop key indicators for new facility usage – bike and pedestrian traffic counts, testimonials • Bikes are included in traffic counts – new traffic counter ordered for 2022 | | | | | | | |
| 1.3 | Update bylaws and policies to support plan implementation | ✓ | CS | All | \$ | Moderate | 2023-2024 |
| Sub-actions to enable this action: <ul style="list-style-type: none"> • Identify list of bylaws that could be updated - 2023 | | | | | | | |
| 1.4 | Identify which departments and staff are responsible for implementing aspects of this plan | ✓ | DS | All | \$ | Low | Ongoing |
| Sub-actions to enable this action: <ul style="list-style-type: none"> • Review by Climate Action Working Group members has dedicated certain actions to departments – 2022 - Directors to review and assign • Fulfill Local Government Climate Action Program (LGCAP) requirements to obtain yearly Provincial funding | | | | | | | |

| Strategy 2: Budget - Embed climate action into the budgeting process. | | | | | | | |
|---|---|-----------------------|---------|-------------|---------------------|---------------|---------|
| Action | | Adaptation co-benefit | Lead | Supporting | Financial resources | Time involved | Timing |
| 2.1 | Update Budgeting process and criteria to increase priority to climate action. | ✓ | CS, FIN | All | \$ | Low | 2023 |
| Sub-actions to enable this action: <ul style="list-style-type: none"> • Already top of mind in budgeting process • Consider including in the yearly strategic planning process | | | | | | | |
| Strategy 3: Monitor - Monitor indicators as outlined in the Monitoring and Evaluation section. | | | | | | | |
| 3.1 | Integrate specific climate action indicators into existing performance management and reporting processes | ✓ | DS | All | \$ | Low | 2023 |
| Sub-actions to enable this action: <ul style="list-style-type: none"> • Develop key indicators for consideration at strategic planning, period reporting time – perhaps a website dashboard | | | | | | | |
| Strategy 4: Convene - Host regular meetings to discuss implementation with internal and/or external stakeholders. | | | | | | | |
| 4.1 | Formalize the internal staff climate action working group | ✓ | DS | CM, PR, EPW | \$ | Low | Ongoing |
| Sub-actions to enable this action: <ul style="list-style-type: none"> • First meeting November 18, 2021, met December 2, twice on December 9, 2021; March 15 and June 9, 2022 • Terms of Reference – group meets at least 4 times per year | | | | | | | |
| 4.2 | Formalize Environmental Advisory Committee as the external implementation advisory group | ✓ | CS | DS | \$ | Low | Ongoing |
| Sub-actions to enable this action: <ul style="list-style-type: none"> • It is within the Environment, Parks & Recreation AC's current mandate to provide advice to Council and staff on environmental issues. | | | | | | | |

Strategy 5: Report - Report regularly to Council on progress and accomplishments. (Annual reporting is recommended)

| Action | | Adaptation co-benefit | Lead | Supporting | Financial resources | Time involved | Timing |
|--------|--|-----------------------|------|------------|---------------------|---------------|--------|
| 5.1 | Develop an annual progress report that ties to specific strategies in this plan. | ✓ | All | CM | \$ | Low | 2023 |

Sub-actions to enable this action:

- Include in annual report
- Add Climate Action section to every department's period report

| | | | | | | | |
|-----|---|--|----|-----|----|-----|---------|
| 5.2 | Work with the CRD to regularly update the community energy and emissions inventory. | | DS | All | \$ | Low | Ongoing |
|-----|---|--|----|-----|----|-----|---------|

Sub-actions to enable this action:

- Use the updated CRD template when available

Strategy 6: Renew - Prepare for plan renewal approximately every five years.

| | | | | | | | |
|-----|---|---|----|-----|----|-----|------|
| 6.1 | Set out a renewal schedule that includes annual progress reporting, updates every 2 years to monitor and incorporate new opportunities, and a full renewal every 5 years. | ✓ | DS | All | \$ | Low | 2023 |
|-----|---|---|----|-----|----|-----|------|

Sub-actions to enable this action:

- Develop and keep the implementation schedule up to date – ICAWG to meet four times per year
- Celebrate accomplishments regularly with staff and the community! Starting on page 43.

Adaptation Actions

Objective 1: Integrate Climate Change Thinking and Response

| Strategy 1.1: Incorporate climate change considerations into municipal operations and decision making. | | | | | | | |
|--|--|-----------------------|------|------------|---------------------|---------------|-----------|
| Action | | Mitigation co-benefit | Lead | Supporting | Financial resources | Time involved | Timing |
| 1.1a | Complete Climate Action Plan for the municipality. | ✓ | DS | ALL | \$ | Moderate | 2022 |
| Sub-actions to enable this action: <ul style="list-style-type: none"> Final Climate Action Plan to be received by Council, with direction to staff to bring forward initiatives that include budget and capacity implications following committee review. Establish a schedule to regularly update data and actions | | | | | | | |
| 1.1b | Integrate climate change considerations into new and existing plans and policies, as well as Council reports and the Strategic Plan. | ✓ | All | CS | \$ | Moderate | 2022-2023 |
| Sub-actions to enable this action: <ul style="list-style-type: none"> Create a list of the policies and plans that could have climate change considerations added All departments could provide list of their relevant policies and plans that may be included – ICAWG members could initiate | | | | | | | |
| 1.1c | Complete implementation plan for adaptation planning. | | DS | All | \$ | Moderate | 2022 |
| Sub-actions to enable this action: <ul style="list-style-type: none"> Climate Action Plan - includes adaptation actions - 2022 | | | | | | | |
| Strategy 1.2: Increase community level of knowledge on Climate Change. | | | | | | | |
| 1.2a | Enhance climate change education and awareness initiatives for Township residents and staff. | ✓ | DS | All | \$\$ | Moderate | Ongoing |
| Sub-actions to enable this action: <ul style="list-style-type: none"> Climate Action Plan to be endorsed by Council - 2022 The new Gorge Park, Green Shores demonstration project (2022 – 2024) has an adaptation educational component Ongoing awareness provided for residents and staff as initiatives come forward through website, social media, newsletters, etcetera. | | | | | | | |

Objective 2: Strengthen Infrastructure Resiliency

| Strategy 2.1: Ensure infrastructure is designed and maintained for up-to-date climate projections. | | | | | | | |
|--|--|-----------------------|------|---|---------------------|---------------|----------------|
| Action | | Mitigation co-benefit | Lead | Supporting | Financial resources | Time involved | Timing |
| 2.1a | Identify infrastructure most at risk for extreme weather impacts. | | EPW | PR, IT, CRD | \$\$\$ | Moderate | Ongoing |
| Sub-actions to enable this action: <ul style="list-style-type: none"> Identified by updated mapping – CRD enabled Inflow and infiltration report is complete, ready to be implemented Review of facilities, utilities (pump stations), parks infrastructure, third party infrastructure continues Continue developing Asset Management plans for all infrastructure Consider that assessments of facilities would be an added expense and involve more work and time | | | | | | | |
| 2.1b | Continually upgrade stormwater and sanitary systems to prevent inflow and infiltration. | | EPW | Contractors and private property owners | \$\$\$\$\$ | High | Ongoing |
| Sub-actions to enable this action: <ul style="list-style-type: none"> Long term to 2030 based on Prov. Min. of Env. deadline – work is ongoing – plan for approximately \$1.5 million per year | | | | | | | |
| 2.1c | Ensure public works has the necessary capacity to respond to extreme rainfall events that occur more frequently. | | EPW | CS, PR | \$\$\$\$ | High | 2023 & Ongoing |
| Sub-actions to enable this action: <ul style="list-style-type: none"> Outside contract help must be relied upon – keep updated list of contractors (acknowledge that in a major event these resources will be in high demand) Consider equipment purchase in 2023 budget – Vacuum Truck (\$150,000+) Review future staffing needs, expertise, possible Public Works yard expansion as equipment and staffing increase Complete yearly review of needs and capacity | | | | | | | |

| Strategy 2.2: Create new capacity for rainwater absorption and slow runoff to allow stormwater system time to respond. | | | | | | | |
|--|--|-----------------------|------|-------------|---------------------|---------------|---------|
| Action | | Mitigation co-benefit | Lead | Supporting | Financial resources | Time involved | Timing |
| 2.2a | Incorporate green infrastructure considerations into development plans and policies. | ✓ | DS | EPW | \$ | Moderate | Ongoing |
| Sub-actions to enable this action: <ul style="list-style-type: none"> • OCP design guidelines include support for green infrastructure, stormwater management (raingardens, swales) • New policy/ bylaw to add enforcement – consider hiring a consultant, RFP (look at both private and public infrastructure) • Consider policies to include existing private buildings, park lands, and municipal buildings | | | | | | | |
| 2.2b | Encourage rainwater landscaping in small scale residential settings. | ✓ | DS | CM, PR, EPW | \$ | Low | Ongoing |
| Sub-actions to enable this action: <ul style="list-style-type: none"> • Demonstration rain garden proposed for Gorge Park • Develop maintenance strategies for rain gardens on public property • Communicate opportunities/ education to the public – newsletter, website, social media • Incorporate into other property maintenance messaging | | | | | | | |

Objective 3: Reduce Risk to Buildings and Property

| Strategy 3.1: Prepare building stock for effects of more severe weather. | | | | | | | |
|--|---|---|----|-------------|----|-----|---------|
| 3.1a | Encourage residents and building owners to maintain and upgrade their buildings to be more resilient to extreme weather events such as wind and rainstorms. | ✓ | DS | EPW, CM, DS | \$ | Low | Ongoing |
| Sub-actions to enable this action: <ul style="list-style-type: none"> • Communicate suggested improvements and good property maintenance measures • OCP design guidelines encourage use of durable building materials | | | | | | | |

| Strategy 3.2: Prepare for the impacts of rising sea levels. | | | | | | | |
|--|--|-----------------------|------|------------------|---------------------|---------------|-----------|
| Action | | Mitigation co-benefit | Lead | Supporting | Financial resources | Time involved | Timing |
| 3.2a | Increase knowledge about the localized effects of sea-level rise and storm surges with Esquimalt residents and staff. | | DS | CM, CSS, PR, CRD | \$ | Low | 2023 |
| Sub-actions to enable this action: <ul style="list-style-type: none"> • Develop communications plan working with community safety – emergency program coordinator • Use unique ways to convey messaging – signage, maps, walking tours • Use CRD’s new flood inundation mapping – make it accessible to the public | | | | | | | |
| 3.2b | Incorporate outputs of CRD’s Coastal Sea Level Rise Risk Assessment and their Sea Level Rise Planning Approaches Project Report into regulation. | | DS | CRD | \$\$ | Moderate | 2022-2023 |
| Sub-actions to enable this action: <ul style="list-style-type: none"> • Update OCP policies and guidelines | | | | | | | |
| 3.2c | Ensure that municipal structures and facilities near water are built to withstand predicted conditions. | | EPW | PR | \$\$\$\$ | Moderate | 2023 |
| Sub-actions to enable this action: <ul style="list-style-type: none"> • Use CRD’s new 2021 coastal flood project mapping to help identify locations at risk • Complete assessments of facilities • Establish alternate facilities to deal with conditions where possible – e.g., parking lot that floods instead of the building | | | | | | | |

Objective 4: Protect Biodiversity and Enhance Ecosystem Functions

| Strategy 4.1: Protect and expand the existing urban forest. | | | | | | | |
|--|--|-----------------------|------|------------|---------------------|---------------|------------|
| Action | | Mitigation co-benefit | Lead | Supporting | Financial resources | Time involved | Timing |
| 4.1a | Explore new ways of ensuring tree protection for new developments. | ✓ | PR | DS, EPW | \$\$ | Moderate | 2022 -2023 |
| Sub-actions to enable this action: <ul style="list-style-type: none"> • Tree protection bylaw being updated to include best management practices and incorporate climate action strategies - 2022 • New Parking Strategy and Bylaw to provide best practice on maximum parking requirements – 2022-2023 • Consider a new bylaw / zoning amendment to add enforcement of maximum lot coverage for new buildings/ permeability requirements – hire a consultant, RFP | | | | | | | |
| 4.1b | Continue to implement the recommendations of the Esquimalt Urban Forest Management Plan. | ✓ | PR | DS | \$\$ | Low | Ongoing |
| Sub-actions to enable this action: <ul style="list-style-type: none"> • Urban Forest Management Plan is referred to regularly by staff. • Increase messaging about Urban Forest Canopy benefits and Tree Protection Bylaw requirements to homeowners. | | | | | | | |
| 4.1c | Expand boulevard tree and Parks planting and watering program to double the number of trees planted and maintained per year. | ✓ | PR | EPW | \$\$ | Low | Ongoing |
| Sub-actions to enable this action: <ul style="list-style-type: none"> • 80 trees per year planted on boulevards and are watered for four years from planting • Have doubled the number of park trees planted in 2021 over previous years (300 new saplings added in quadrants of selected parks) • Saxe Point Park reforestation plan in process | | | | | | | |

| Strategy 4.2: Increase the number of trees planted on private property. | | | | | | | |
|--|--|-----------------------|------|------------------|---------------------|---------------|---------|
| Action | | Mitigation co-benefit | Lead | Supporting | Financial resources | Time involved | Timing |
| 4.2a | Continue to assist residents to grow and maintain healthy trees on private property. | ✓ | PR | CM | \$\$ | Low | 2023 |
| Sub-actions to enable this action: <ul style="list-style-type: none"> Investigate joining the Trees in Cities Challenge (UN and City of Victoria), possibly use software – “community tree keeper” Some saplings are given away, could look at expanding this program by giving away more native tree seedlings, including schools and youth programs Explore potential partnership with residents to plant and maintain boulevard trees (e.g., Saanich program) | | | | | | | |
| Strategy 4.3: Use current best management practices for maintaining health of existing urban forest. | | | | | | | |
| 4.3a | Continue to update the UFMP and tree preservation bylaw to reflect changing industry standards due to climate impacts. | ✓ | PR | | \$ | Low | 2022 |
| Sub-actions to enable this action: <ul style="list-style-type: none"> Tree protection bylaw is being updated to include best management practices and incorporate climate action strategies | | | | | | | |
| Strategy 4.4: Prevent the spread of invasive species. | | | | | | | |
| 4.4a | Continue to manage existing areas of invasive species within Esquimalt parks and public spaces. | | PR | GVGT, volunteers | \$ | Moderate | Ongoing |
| Sub-actions to enable this action: <ul style="list-style-type: none"> Management plans are created regularly and developed for all major parks – e.g., Saxe Pt management plan Revamp the information that is available on the Esquimalt website - 2023 | | | | | | | |

| Action | | Mitigation co-benefit | Lead | Supporting | Financial resources | Time involved | Timing |
|--|---|-----------------------|------|-------------|---------------------|---------------|---------|
| 4.4b | Be proactive in managing emerging invasive species threats as they appear. | | CRD | PR | \$\$ | Low | Ongoing |
| Sub-actions to enable this action: <ul style="list-style-type: none"> Capital Region Invasive Species Partnership-Intergovernmental Working Group (CRISP - IWG) – Leads in identifying and providing education, tools, and contractors (is chaired and coordinated by the CRD) | | | | | | | |
| Strategy 4.5: Encourage community stewardship within natural areas in the Township. | | | | | | | |
| 4.5a | Collaborate with the Esquimalt and Songhees Nations, ENGOs, and community groups for ecological restoration. | ✓ | PR | CS, CM | \$ | Low | Ongoing |
| Sub-actions to enable this action: <ul style="list-style-type: none"> Continue to work with GV Green team (recruits volunteers), and Earth Day activities with schools and residents Volunteer tool kit available in the parks for interested residents to volunteer daily, weekly, on own Opportunity to increase traditional ecological knowledge – learn from local First Nations Opportunity to improve ecological restoration knowledge through working with restoration professionals, graduates, and students Continue working with Gorge Waterway Action society, and World Fisheries trust in nature house, nature walks, restoration events, interns | | | | | | | |
| Strategy 4.6: Manage water quality runoff to reduce potential for algae blooms. | | | | | | | |
| 4.6a | Work together with other local government and the CRD to reduce the factors that could cause poor water quality in the Gorge. | ✓ | EPW | CM, CRD, DS | \$\$ | Moderate | Ongoing |
| Sub-actions to enable this action: <ul style="list-style-type: none"> Public education campaign – watershed map, safer garden methods (Lower fertilizer usage on lawns and gardens) Work with the CRD for testing, education, Street cleaning helps, opportunity to improve interception at storm drains Stormwater retention, increase pervious surfaces, increase private rain gardens and swales Increase tree planting will help increase summer season flows, provide shade, and reduce urban heating Lower fertilizer usage on lawns and gardens Fire Department to establish protocols to notify authorities when fire runoff may enter a water body. | | | | | | | |

Objective 5: Build Community Resilience

| Strategy 5.1: Empower and engage with Esquimalt residents and businesses on ways they can adapt to climate change and reduce their reliance on outside support and emergency responders during crises. | | | | | | | |
|--|--|-----------------------|--------|-------------|---------------------|---------------|---------|
| Action | | Mitigation co-benefit | Lead | Supporting | Financial resources | Time involved | Timing |
| 5.1a | Encourage community social connectedness. | | DS, PR | CM | \$ | Low | Ongoing |
| <p>Sub-actions to enable this action:</p> <ul style="list-style-type: none"> • Encourage Emergency preparedness education • Neighbourhood block party promotion – investigate potential “neighbour hub program” • Expand idea of Block Watch program to include more than security, i.e., knowing who has what in the neighbourhood • New buildings to have amenity spaces and programs for their residents • Consider innovative programs from other municipalities (e.g., “Happy to Chat” benches in the public realm) | | | | | | | |
| 5.1b | Look for opportunities to increase access to locally grown food. | ✓ | PR | DS, EPW, CM | \$ | Low | Ongoing |
| <p>Sub-actions to enable this action:</p> <ul style="list-style-type: none"> • Expand the Anderson Park community garden, and consider adding gardens in other locations • Review boulevard permit requirements – possible food specific exemptions • Continue to work with Esquimalt Farmer’s Market society and Esquimalt Community Gardens Society • Work with CRD and neighbouring municipalities to support regional initiatives | | | | | | | |

Objective 6: Protect Public Health and Safety

| Strategy 6.1: Ensure all residents have access to outdoor areas for cooling during extreme heat events. | | | | | | | |
|--|--|-----------------------|------|------------|---------------------|---------------|---------|
| Action | | Mitigation co-benefit | Lead | Supporting | Financial resources | Time involved | Timing |
| 6.1a | Consider shade as a necessity in all public facilities and spaces. | | PR | DS | \$ | Low | Ongoing |
| Sub-actions to enable this action: <ul style="list-style-type: none"> Esquimalt Gorge Park master plan has a picnic shelter, consider additional for other parks Potential to add shade along buildings, add awnings and trees where feasible | | | | | | | |
| 6.1b | Set goals for parkland per capita or within 15-minute walk of residential development. | | PR | DS | \$\$\$\$\$ | Moderate | 2023 |
| Sub-actions to enable this action: <ul style="list-style-type: none"> Update OCP policies and mapping to support further parkland acquisition in areas lacking 15-minute park access Support the park land acquisition fund with yearly contributions Consider that Vancouver targets no more than a 5-minute walk to park or green space for residents Set a goal of providing residents with daily needs within 10 minutes travel, by bike or transit, i.e. "The Ten-Minute Township" Consider surveying resident walking distances in Esquimalt Research and report on establishment of development cost charges (DCC's) to support the park land acquisition fund | | | | | | | |
| Strategy 6.2: Ensure new residential buildings are climate ready. | | | | | | | |
| 6.2a | Encourage the use of passive design techniques in new residential developments. | ✓ | DS | Council | \$ | Low | Ongoing |
| Sub-actions to enable this action: <ul style="list-style-type: none"> OCP policies and design guidelines support passive design and siting consideration for new buildings Help educate the public on the advantages of passive design to help increase demand, web campaign Establish relationship with Passive House Canada or other associations to keep up with improvements or good news stories regarding PH design Implement Step Code and low carbon building standards in a collaborative manner with regional partners and the province | | | | | | | |

| Action | | Mitigation co-benefit | Lead | Supporting | Financial resources | Time involved | Timing |
|--|---|-----------------------|------|-------------|---------------------|---------------|---------|
| 6.2b | Encourage deep home retrofits of existing buildings to improve both efficiency and comfort for residents. | ✓ | DS | CM | \$\$ | Moderate | Ongoing |
| Sub-actions to enable this action: <ul style="list-style-type: none"> • Continue working with CRD, municipal partners, other levels of government to support incentives such as the oil to heat pump grant • Consider offering further incentives for existing building retrofits - 2023 • Link to retrofit resources off Esquimalt website and include reference to retrofit options in materials for new residents or businesses and/or property tax information mailout - 2023 | | | | | | | |
| Strategy 6.3: Prepare to assist more vulnerable populations during extreme heat or other extreme weather events. | | | | | | | |
| 6.3a | Integrate extreme weather protocols into existing emergency preparedness plans. | | CSS | All | \$ | Low | Ongoing |
| Sub-actions to enable this action: <ul style="list-style-type: none"> • “Review all emergency policies and programs to ensure that they recognize and reflect climate change”. (From: Strategic planning – 2022 operational strategies) | | | | | | | |
| Strategy 6.4: Support efforts to reduce urban air pollution. | | | | | | | |
| 6.4a | Advocate and support low emission transportation modes including active and public transportation as well as vehicle electrification. | ✓ | DS | EPW, CM, PR | \$\$ | Moderate | Ongoing |
| Sub-actions to enable this action: <ul style="list-style-type: none"> • Implement the Active Transportation Network Plan – complete a schedule for implementation • Continue with Transportation Demand Management to reduce parking needs • Continue to encourage the installation of electric vehicle charging infrastructure in all new developments • Continue to encourage new developments to provide transit incentives with reduced parking requirements • Continue to require bicycle infrastructure in all new developments, and include facilities for electric bikes and the larger cargo bikes • Prioritise sidewalk and bike lane maintenance (clear of debris and shrubbery) • Consider grants for low-income residents to purchase electric bikes (i.e., Saanich program) - 2023 | | | | | | | |

- Consider incentives to encourage municipal staff to adopt low emission transportation (e.g., day off with pay program - xx days/year) - 2023
- Prioritize pedestrian-friendly street designs, OCP & ATP policies exist to support this
- Investigate the development of a bike skills training track/ park
- Complete the Integrated Parking Strategy – consider locations for paid parking

Strategy 6.5: Reduce potential habitat for vectors that cause disease.

| Action | | Mitigation co-benefit | Lead | Supporting | Financial resources | Time involved | Timing |
|--------|--|-----------------------|------|-------------|---------------------|---------------|---------|
| 6.5a | Provide education and outreach to the public to minimize the occurrence and spread of vector-borne diseases. | | CM | IH, PR, CSS | \$ | Low | Ongoing |

Sub-actions to enable this action:

- Work with CRD and other resource organizations to provide education
- Create website page to promote effective, safe rodent control without the use of rodenticides – provide links
- Promote better garbage management
- Ensure key staff have the needed education to promote safe vector source control (rodent, mosquitoes, birds, bats, cats, ticks)
- Highlight efforts of township departments to reduce problem habitats as a demonstration for the public

| | | | | | | | |
|------|--|--|-----|---------|----|-----|---------|
| 6.5b | Utilize best management practices for vector borne disease prevention in municipally owned infrastructure. | | EPW | CSS, PR | \$ | Low | Ongoing |
|------|--|--|-----|---------|----|-----|---------|

Sub-actions to enable this action:

- Ensure key staff have the needed education to complete this safely

Accomplishments

Note: Provincial reporting requirements have changed from year to year with Climate Action Revenue Incentive (CARIP) Public Reports required in years 2011 - 2013 and 2015 – 2018. Therefore, there is much more detail of actions taken in these years.

2007

Began measuring emissions from Township buildings and fleet.

Created a Green Building and Development Policy

2008-2009

Esquimalt becomes a signatory to the Climate Action Charter. Committing to become carbon neutral in their corporate operations, measure and report their community's greenhouse gas emissions, and create complete, compact, more energy efficient communities.

Completed a corporate GHG Inventory for 2008.

Selected 2007 as the Community Energy and Emissions Inventory (CEEI) baseline year for setting GHG emission reduction targets.

Set a target to take action to reduce community greenhouse gas (GHG) emissions by at least 38 per cent by 2030, compared to 2007 levels, and strive for the ultimate objective of carbon neutrality by realizing zero net community GHG emissions by 2050.

Began using biodiesel (5 per cent) in fleet vehicles

Sustainability reserve fund established.

2010

Development of Corporate Climate Action Plan. Completed energy audits of all municipal facilities.

Began energy efficient retrofits in municipal buildings.

Installed domestic solar hot water system for the municipal hall.

Introduced ban on bottled water in municipal facilities.

Completed Phase I of Craigflower Road Upgrade Project including 1km of new sidewalk and 3 km of bike lanes.

Started Phase II of Craigflower Road Upgrade Project including 2 km of sidewalk and bike lanes.

Completed 500 m of bike lanes along Esquimalt Road.

Completed 600 m of sidewalks in the Sidewalk Master Plan.

Hosted Bike to Work Week Clinics on Bike Safety Skills and Bike Maintenance.

Hosted CRD Transportation Tune Up Workshops for the community.

Changes to the OCP and Zoning Bylaw, have increased permitted floor area ratios and building heights, allowing for higher density residential uses in selected areas.

Spring Compost Sale: composting bins, digesters and worm bins sold below cost; and free public composting workshops.

Established the community's first Community Garden.

Planted 66 replacement trees, for failing trees, and an additional 134 trees in parks and boulevards where there has never been a tree.

Began development of Community Climate Action Plan (BC Hydro QuickStart Pilot).

2011

Township competes first Climate Action Revenue Incentive (CARIP) Public Report for 2011.

Signed on to the provincial 'solar ready' regulation.

Encourage greener features and technologies in new developments with the use of the new Green Building Checklist

Increased awareness of climate action initiatives through the community newsletter and website.

Built a Rain Garden on Yarrow Place as a storm water filtration and management facility for the road run-off from Craigflower Road before entering the Gorge Waterway.

Began working on inflow and infiltration by separating nine sanitary and storm manholes.

Planted 99 trees in parks and boulevards.

Staff promoted and participated in Bike to Work Week. The Township recognized all staff members who took an alternative commute (e.g., walk, bus and carpool) to work.

Built a covered and secure bike lock-up for staff at the Municipal Hall.

Substantial completion of Phase 2 of Craigflower Road Upgrade Project. Upgraded to more energy efficient street, Added an additional 2 km of bike lanes and 2 km of sidewalks on Craigflower Road between Admirals Road and Garthland Road. Completed 750 m of bike lanes on Esquimalt Road between Lampson Street and Admirals Road. Upgraded six bus shelters along Craigflower Road.

Upgrade lighting systems and controls in Public Safety Building. Installed light sensors in the Municipal Hall.

Completed energy efficiency retrofits, implemented heat recovery system, and completed water efficiency upgrading of all toilets, sink faucets, and installed a filtered water bottle refilling station at the Archie Browning Sports Centre.

The Township of Esquimalt proudly accepts recognition for demonstrating a commitment to work with the Province and the Union of BC Municipalities (UBCM) to take action on climate change.

2012

Continued with ongoing communication of climate action and sustainability initiatives through the website, community newsletter and media releases. Promotional material on New Home Energy Efficiency Programs, distributed with development, building permit applications as well as being posted on the municipal website.

Environmental Advisory Committee partnered with Royal Roads University students on the development of the second phase of a community engagement in climate action strategy.

Advisory Planning Commission's Terms of Reference to include one representative from the Environmental Advisory Committee to provide an environmental perspective on development applications.

Developed urban forestry policy and adopted park acquisition policy.

Hosted a Bike Skills Course with Bike to Work Victoria which provided training to teach adults how to cycle safely in traffic.

Continued with the implementation of the Pedestrian Charter. Conducted surveying of sidewalk trip and fall hazards including an inventory of ramps.

Developed a Green Event Planning Guide for community events.

Promoted 2012 Earth Hour. During the hour-long event, Esquimalt's electricity consumption decreased by 2%.

Completed Phase 3 of Craigflower Road Upgrade Project which included an additional 300 metres of sidewalk.

Installed 13 new bus shelters with solar lighting: replacing 10 older bus shelters and adding 3 new bus shelters.

Continued with Sidewalk Construction Program, replacing 880 metres of sidewalk and increased connectivity with a new sidewalk along Sioux Place.

Hosted compost and recycling stations at three community events including the Township's Centennial Community Celebration.

Funded a "Tap by Tap" program delivered by City Green Solutions which distributed low-flow water fixtures to multi-unit residential buildings in Esquimalt. Three apartment buildings, totalling 78 units, participated resulting in annual water savings of 2.7 million litres of water and 22 tonnes of GHG emissions.

Added two storm water management chambers (underground mechanical sediment debris control) on Craigflower Road and separated 16 sanitary and storm manholes.

Planted 77 trees in parks and boulevards, and berry bushes along the perimeter of the Anderson Park Community Garden.

Staff promoted and participated in Bike to Work Week and a celebration station hosted at Esquimalt Memorial Park. The Township recognized all staff members who took an alternative commute (e.g., walk, bus, and carpool) to work.

Audited water flow rates of all tap water fixtures and shower heads in municipal buildings. Replaced taps in 5 I buildings with low-flow water fixtures.

Upgraded one sewer pump station with energy efficient components.

Completed energy efficiency retrofits at the Esquimalt Recreation Centre which included: facility lighting upgrade; adding a dehumidification reclaim system that will extract heat from the pool deck air stream to heat the pools and pre-heat the domestic hot water for the facility; solar ambient heating system will provide the rest of the heating needed for the domestic hot water system; air reclaim system that extracts the heat from the pool deck as ventilation air; and the replacement of the DDC system to handle the needs of the new high efficiency systems described.

Installed five new insulated apparatus bay doors and motors at the Public Safety Building (Fire) which will reduce energy consumption.

Township of Esquimalt's leadership in energy conservation was featured by BC Hydro in a Power Smart Month promo spot which aired on GlobalTV throughout the month of October 2012.

2013

Purchased a 100% electric vehicle (Nissan Leaf) and one hybrid vehicle. Promoted electric battery powered vehicles and technology by having the Leaf on display at three community events.

Installed two public Level 2 electric vehicle charging stations near the Esquimalt Municipal Hall and Library.

Continued with Sidewalk Construction Program, replacing 880 metres of sidewalk and new sidewalks along Sioux Place, along Wordsley Street, and along northern side of Coles Street.

Installed 2 new wheelchair ramps at the south side of Lyall Street and Grafton Street.

Installed two new bus shelters along Esquimalt Road (by Memorial Park and Lampson St.)

Began implementation of sidewalk trip hazard and ramp study, with twenty-seven No.1 hazards and two No. 2 hazards repaired.

Installed a bus stop, replaced sidewalks [270 m] including 4 wheelchair ramps and completed road restoration as part of Dunsmuir Road Corridor Upgrade.

Commissioned and completed an aquatic energy retrofit at the Esquimalt Recreation Centre.

Staff promoted and participated in Bike to Work Week. Hosted a celebration station at Esquimalt Memorial Park and recognized all staff members who took an alternative commute (e.g., walk, bus and carpool) to work.



Planted 83 trees adjacent to streets and in parks.

Held an Earth Day event in Highrock Park and planted 60 Douglas Fir seedlings as well as 3 Garry Oak trees.

Removed 500 square metres of invasive plants at Highrock and Macaulay Point Parks.

Completed inventory, mapping, and multi-year treatment plan for Macaulay Point Park species protection.

Hosted the 2nd Annual Bloomin' Beautiful home and garden contest which included a new award category for best environmental practices.

Separated 14 sanitary and storm manholes.

The Environmental Advisory Committee created signage for a recycling and compost re-sortation station at community events. Provided guidance on how to organize composting and recycling collection for two community events (Earth Day and Buccaneer Days).

Continued with collection of yard and garden waste at transfer station.

Completed lighting upgrades at the Public Works Yard, Esquimalt Municipal Hall, and within parks to replace older style lighting.

Conducted an inventory of street light types, wattages, and lighting strength.

Installed a new energy efficient HVAC system at the Public Works Building.

Had a team of Camosun College students create an inventory of the Township's cycling infrastructure.

Completed an inventory of public access bicycle parking facilities in Esquimalt and drafted an Esquimalt Cycling Riders Map.

Appointed a staff member to the CRD Pedestrian and Cycling Master Plan (PCMP) Project Advisory Committee.

Upgraded Grafton sewer pump station with energy efficient components.

Continued to encourage greener features and technologies in new developments with the Green Building Checklist.

Continued with the new Design Review Committee, comprised of up to three members with knowledge or experience in energy conservation and environmentally sustainable building design.

Continued to work with developers on various infill projects.

Introduced new Development Permit Guidelines for one large site, requiring the use of green building standards and technology, on-site renewable energy systems (where feasible), and encourage on-site energy recovery.

Continued with Environmental Advisory Committee to Council.

Continued with ongoing communication of climate action and sustainability initiatives through the website, community newsletter and media releases.

Hosted a round table discussion on the Environment/Green Economy, one of nine sector round tables conducted, in drafting an Economic Development Strategy for Esquimalt.

Completed study on potential opportunities for resource recovery opportunities from the wastewater treatment plant (liquid and solids portions).

Hosted public open houses on the introduction of residential kitchen scraps collection in 2014.

Continued with implementation of Pedestrian Charter. Conducted a review of wheelchair ramps and developed strategy for the installation of new ramps. Began implementation of findings from the 2012 sidewalk trip hazard and ramp study. In 2013 all twenty-seven No.1 hazards and two No. 2 hazards were repaired.

Completed a pavement condition index report which will be used to initiate a strategy for road corridor rehabilitation (underground and surface).

Completed planning, design work and public consultation on the upgrade of the Admirals Road Corridor which would include the addition of bike lanes, street lighting, and improved transit infrastructure.

2014

No CARIP report required this year (municipality was only asked to identify top three actions):

The new Waste Management Program launched in March 2014. The program included separation and collection of kitchen scraps and curbside pickup of both garbage and kitchen scraps.

Continued with civic building energy efficient retrofits.

Continued to set aside monies in the Sustainability Reserve Fund.

The Township encouraged residents and businesses to turn off lights and electrical devices for one hour on Saturday, March 29, 2014. Esquimalt placed second out of 69 participating BC communities with energy savings of 5.8% during the hour.

Annual Earth Day Celebration in Highrock Park expanded in 2014 to over 1,000 participants including students from Macaulay Elementary, Rockheights, Esquimalt High and L'Ecole Victor Brodeur. Students removed invasive species and planting 200 native plants and three trees.

Third Annual Bloomin' Beautiful Home and Garden contest was held with entries for best environmental practices.

Twenty-seven live Christmas Tree Village trees were planted in Esquimalt Gorge Park, Saxe Point Park and Highrock Park.

The Township helped promote the provincial LiveSmart BC: Small Business Program offering free energy assessments to small and medium sized businesses.

The Fairview Road corridor was upgraded with new storm, sidewalk, rail, and road infrastructure. Installed new concrete sidewalks along Arcadia Street and replaced existing sidewalks along Joffre Street, addressing tripping hazards. Replaced 15 stormwater catch basins

2015

Completed work on the West Bay Design Guidelines that include guidelines for the reduction of greenhouse gases.

Continued to encourage greener features and technologies in new developments with the Green Building Checklist.

Council passed a revised declaration of the Right to a Healthy Environment in response to the David Suzuki's Blue Dot Campaign.

Supported Bike Fest which was held in Esquimalt.

Continued with the Environmental Advisory Committee. And the Design Review Committee, comprised of up to 3 members with experience in energy conservation and environmentally sustainable building design.

Promoted 2015 Earth Hour - Esquimalt placed 13 out of 67 participating BC communities with energy savings of 1.9% during the hour.

Collaborated with the Cascadia Green Building Council in organizing an international "Living Building Competition".

As part of the Admirals Road Corridor Upgrade, installed LED street lighting on a trial basis to evaluate the option of LED street lighting for use across the Township.

Installed twenty LED lights along seawall in Esquimalt Gorge Park. Installed motion light sensors inside the park's nursery building and LED flood lights in the compound. All the outdoor lighting at the Archie Browning Sports Centre has been replaced with LED lighting, as was lighting in hockey rink, and new motion sensors were installed in the outdoor storage rooms.

Completed installation of an energy monitoring system to display the effectiveness of the solar ambient hot water system at the Esquimalt Recreation Centre. The purpose of the display is to educate the public on solar technology and its benefits.

Adopted a new Tree Protection Bylaw and began development of an Urban Forest Management Plan. Using *i-Tree Streets* model analysis found that the annual benefits from Esquimalt's urban forest includes: reducing a net 450,007 kg of carbon dioxide; intercepting 11,650 cubic meters of stormwater; savings of \$10,842 in electricity and \$4,386 in natural gas; absorbing and averting 1,679 kg of air pollutants.

Launched the "Branch Out" program; held two events and developed nine educational pamphlets on the following topics: avoiding tree damage during construction, mature tree care, new tree planting, pruning mature trees, pruning: why topping trees hurts, pruning young trees, tree selection and placement, and why hire an arborist.

Hosted the 3rd Annual Earth Day celebration in Highrock Park. Removed invasive species, planted 400 native plants, resurfaced a trail, and planted 10 Garry Oaks.

Planted coniferous trees in Saxe Point Park, Highrock Park, Esquimalt Gorge Park and Macaulay Point Park.

Hosted the 4th annual Bloomin' Beautiful Home and Garden Contest including an award category for best environmental practices.

Continued with the collection of yard and garden waste at transfer station and with residential household organics collection program

Completed construction of Admirals Road Corridor Upgrade, including the addition of bike lanes, street lighting, transit infrastructure and two sidewalk/pedestrian crossing locations; improvements to the storm and sanitary manholes including mechanical storm water treatment and initiated the development of an asset management plan for accessibility ramps.

Continued with implementation of Sidewalk Continuity Plan including second phase of Arcadia new sidewalk construction from Inskip Street to Selkirk Avenue.

Conducted a sidewalk trip hazard survey and constructed sidewalk ramps at 4 locations.

Separated 7 sanitary and storm manholes. Replaced 26 catch basins with new catch basins that meet the latest standards which improve the control of sediment to receiving water bodies.

Developed the Esquimalt Neighbourhood Watershed Map with a mobile 5-foot map display to support awareness and education on source control.

Participated in the CRD's Capital Region Sea Level Rise Planning Approaches Project.

2016

Provided input on the BC Climate Leadership Plan and Federal pan-Canadian framework for combatting climate change.

Worked with University of Victoria Law students who drafted guidelines for establishing Development Permit Areas that address climate action through water conservation, energy conservation, and GHG emissions reduction.

Installed LED streetlights along the Admirals Road Corridor and 20 new LED light standards/fixtures in Esquimalt Gorge Park.

Continued with the updating of the Official Community Plan which will include the addition of greenhouse gas reduction targets, policies and actions to help mitigate the impacts of climate change.

Continued with the Environmental Advisory Committee.

Hosted 'Branch Out' events in Highrock Park, Gorge Park, and Macaulay Park with over 100 volunteers assisting in the removal of invasive plants.

Hosted the 4th Annual Earth Day celebration in Highrock Park. The event drew 1000 students to remove invasive plants, improve trails, and plant trees and understory plants.

Hosted the 5th annual Bloomin' Beautiful Home and Garden Contest including an award category for best environmental practices.

Planted 80 new boulevard trees.

Completed the Urban Forest Management Plan.

Installed drainage systems to reduce pathway erosion at Highrock Park and Gorge Park.

Prepared and submitted a brownfield remediation strategy for the Esquimalt Town Square Project to the Ministry of Environment.

Continued with the collection of yard and garden waste at transfer station and the residential household organics collection program.

Updated the Local Grant Policy to include criteria for organizations holding established events to report "green" actions they have taken.

Distributed the Green Event Planning Guide to community groups and organizations that receive financial or in-kind support from the municipality or host an event in municipal buildings or parks.

Continued with Sidewalk Continuity Plan. Asphalt sidewalk was replaced with concrete along Head Street from Wollaston St. to Dunsmuir Rd. Installed 3 sidewalk ramps at Selkirk Ave./Arcadia St. and Lampson St./Bewdley Ave. Completed trip hazard inspection survey and corrected 14 of the 28 identified No. 1 trip hazards. Began the development of an asset management strategy for sidewalk ramps.

Commenced the Colville/Hutchinson intersection upgrade to facilitate pedestrian movement and bus shelters.

Employee driven participation in Greater Victoria Bike to Work Week.

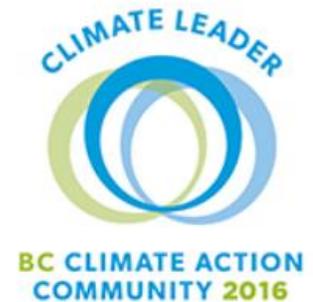
Separated 24 combined manholes. Replaced 17 catch basins.

Participated in the development of various aspects of a sub-regional wastewater treatment system.

Displayed the Esquimalt Neighbourhood Watersheds Map at the Earth Day Celebration as well as the Esquimalt Library Branch, Esquimalt Recreation Centre, and Archie Browning Sports Centre, and distributed resource binders for the local schools on watershed protection.

2017

For the fifth year in a row, the Township of Esquimalt was recognized by the joint Provincial-Union of BC Municipalities (UBCM) Green Communities Committee as a BC Climate Action Community. The Township has been awarded Level 3 recognition "Accelerating Progress on Charter Commitments" by taking significant action to reduce greenhouse gas (GHG) emissions for the 2016 reporting year.



Prepared draft Official Community Plan (OCP) which includes policies and guidelines to reduce GHG emissions in the community, and OCP policies related to heating and cooling in private buildings.

Approved rezoning application for mixed use development in Esquimalt Town Centre, which incorporates energy efficient initiatives including geothermal heating and cooling.

Participated in CRD lead oil to heat pump replacement program; 5 heat pumps installed.

Converted 17 light panels, 44 light strips and 7 pot lights in the Archie Browning Sports Centre (ABSC) to LED: and converted 14 light panels, 27 pot lights and one fixture to LED in the Esquimalt Recreation Centre.

Continued with Environmental Advisory Committee.

Hosted 'Branch Out' events in Highrock Park, Gorge Park, Saxe Point Park, and Macaulay Park with over 100 volunteers assisting in the removal of invasive plants (100 m² in each park) and the planting of 40-50 native trees and shrubs in each park.

Hosted the 5th Annual Earth Day celebration in Highrock Park. The event drew 800 students. Activities included invasive plant pulling, trail repair, Garry Oak tree and understory planting.

Supported eco-champs' program during the summer in Esquimalt Parks. Eco-education for ages 3-6.

Planted 73 full-sized new boulevard trees.

Removal of invasive species within a large area of Macaulay Point Park.

Worked with CRD on development and implementation of common design guidelines for storm water management.

Composting bins and recycling collection provided at all community events.

Continued with the collection of yard and garden waste at transfer station and the residential household organics collection program.

Introduced user fee of \$1/hour for Level 2 electric vehicle charging to improve availability of the station and to achieve cost neutrality.

Continued with Sidewalk Continuity Plan with 502 m of sidewalk replaced or constructed, new sidewalk constructed on Wychbury Ave. between Kinver and Lampson St. Reviewed crosswalk locations between Admirals and Fernhill Roads on Esquimalt Rd.

Two new transit shelters installed.

Colville/Hutchinson Intersection upgrade completed to facilitate pedestrian movements and bus stop shelters.

Met with BC Transit to discuss improvements to public transit in Esquimalt.



Two new solar pedestrian beacons installed on Esquimalt Rd.

Employee participation in Greater Victoria Bike to Work Week.

Bus tickets provided for employee trips to locations within the Greater Victoria area.

Numerous parking variances were approved to reduce the parking requirements associated with development.

Approved state of the art wastewater treatment centre at MacLoughlin Point.

New children's water park filters water through raingarden prior to its release to the storm drain system.

Reducing watering of boulevard and park trees by use of individual tree bags which hold a week's worth of water.

In the fall of 2017, the Cool It! program reached 109 students in the Township of Esquimalt, through 5 workshops at 2 schools. During the program challenge, students committed to several energy saving actions over a 4-week period, resulted in the projected savings of a total of 58.723 tonnes of carbon dioxide (CO₂e) if they continued their actions for one year.

2018

The new Official Community Plan was adopted. New OCP contains a target to strive for carbon neutrality by realizing zero net community Greenhouse Gas emissions by 2050, contains many policies related to densification, and contains policies related to building energy efficiency, low carbon transportation, ferries, passenger vehicle alternatives, advocacy, and partnerships.

New OCP Development Permit Area's for Natural Environment, Energy Conservation and Greenhouse Gas Reduction, Water Conservation, and Protection from Hazardous Conditions.

Designed new library to include energy efficient features.

Started Oil to Heat Pump residential retrofit acceleration program.

Continued with LED light conversion program in the Sports Centre and Recreation Centre.

Hosted 'branch-out events in Highrock Park, Gorge Park, Saxe Point Park, and Macaulay Park with over 140 volunteers assisting in the removal of invasive plants and the planting of 40-50 native trees and shrubs in each park.

Hosted the 6th annual Earth Day celebration in Highrock Park. The event drew 800 students. Activities included invasive pulling of English Ivy and Himalayan blackberry, trail building, Garry oak tree planting, and native plant understory planting.

Supported Eco-Champs' program during the summer in Esquimalt Parks. Eco-education for ages 3-6.

Planted 114 full-sized new boulevard and park trees.

Diversion of 556 t of kitchen scraps from the landfill.

Worked with the CRD on development and implementation of common design guidelines for stormwater management.

Completed inflow and infiltration initial modelling for stormwater system.

Constructed sidewalk on Kinver Street from Wychbury Avenue to Greenwood Avenue.

New crosswalk with solar beacon constructed on Esquimalt Road at Memorial Park.



2019

Esquimalt Council declared Climate Emergency and brought forward their target date for carbon neutrality to 2030. In addition, they set a target of being a 100% renewable community by 2050.

Council made a motion to embed Climate Action Plan and Adaptation Plan within the Strategic Plan for 2019-2023.

Joined Federation of Canadian Municipalities Partners for Climate Protection – achieved Milestone 2 of the corporate milestones.

The Township began a Climate Action Planning Project, which will encompass both a corporate energy and emissions plan and a community climate mitigation plan. The Township participated in a project to create a climate adaption plan in partnership with ICLEI Canada and multiple local municipalities. During 2019, the risk and vulnerability assessment portion of the project was completed. Climate Risk Assessment report completed.

Esquimalt is participating in a project evaluating the potential for sea level rise and Tsunami to impact the Township with several other CRD municipalities. The project will provide us with updated mapping and impact information for the entire region.

The Parks and Recreation Department began the process to design and permit the future construction of a Net Zero Community Centre for Esquimalt Gorge Park.

Engineering and Public Works helped facilitate the construction of a new electrical service to the Graving Dock which will reduce the amount of emissions produced by diesel generators and ship engines.

The Public Works department increased maintenance of bicycle lanes to help encourage cycling.

Just over 500 trees and native shrubs were planted on boulevards and within Esquimalt Parks during 2019 as well as the restoration of a significant portion of Esquimalt Gorge Park.

The Township launched a new public alert system to notify residents of emergencies and traffic.

Negotiated car share coop cars and/or memberships for at least two private developments.

Signed agreement with U Bike to allow bike sharing in Esquimalt for one a year period.

2020

Phase one of the Community Climate Mitigation Plan was completed with the delivery of the Climate Emergency Response Report, with eight recommendations for immediate actions to reduce greenhouse gas emissions in Esquimalt. Work continued throughout the summer, fall, and winter as the consultant team and staff met with community stakeholders and the Environmental Advisory Committee.

Together for Climate Project wrapped up in September 2020, resulting in the draft Adaptation Planning Guide, providing strategies for adaptation to the changing climate.

Inflow and infiltration program and bylaw development continued

New sidewalk ramps on Constance Avenue, and the Esquimalt Road and Head Street intersection

New sidewalk completed along Admirals Road between the Constance Avenue and Bewdley Avenue

Replacement of 19.6 metres of storm drain across Paradise Street

321 metres of sidewalk installed

Lighting upgrade along Colville Road

58 new boulevard trees were planted

Walking paths in Macaulay Point Park improved

Recreation Centre Direct digital control systems replaced to improve heating system energy efficiency

Recreation Centre and Sports Centre receive new LED indoor lighting

Virtual Earth Week event held to replace annual Highrock Park Earth Day event due to COVID19 pandemic

Continued with Yard and Garden waste collection area for residents at Public Works yard

Climate Action Planning Project begins – contract awarded to Community Energy Association

Continued work on the Adaptation Planning Guide with community engagement virtual workshops

Offered “Bring it Home 4 Climate” rebates to Esquimalt homeowners for switching from natural gas or oil, to heat pump systems.

2021

Esquimalt Council adopted a new Bylaw to prohibit the use of plastic checkout bags.

Advanced “shop local” messaging in digital communications, advertisements, and Current community newsletter.

Emergency Program began adapting policy and best practices in the Emergency Management program with the Climate Action Plan.

Emergency Program responded to and monitored the July 2022 heat dome, began working with the communities in the regional to increase capacity to respond to future events.

Council adopted a zoning bylaw amendment to allow Detached Accessory Dwelling Units (DADU) providing compact growth, increased density, greater selection of housing types, and more resilient households.

Worked with the Residential Retrofit Acceleration Project (RRAP) to encourage homeowners to switch from fossil fuel heating to a heat pump. The Township provided 28 – \$350 top-ups to eligible homeowners who made the switch.

Parking Bylaw was amended to require new residential developments to be electric vehicle (EV) ready, with charging infrastructure.

Continued with the Environmental Advisory Committee (EAC), who provided review of the Adaptation Planning Guide and the Community Climate Mitigation Plan.

Designed and constructed five new access ramps on Highrock Avenue near Rockheights Middle School

Developed the Inflow and Infiltration Management Plan

Completed two rounds of public engagement, a baseline conditions report and a plan summary document for the Active Transportation Network Plan (approved in 2022)

Participated in Ready Step Role at Macaulay Elementary School with the CRD

A natural area management plan was created for Saxe Point Park

400 municipal trees were planted in natural areas, 86 boulevard trees were planted, and 3779 sq. m of invasive species were removed from Parks

