

EAC REVIEW OF WHITE ROCK CLIMATE CHANGE STRATEGY
A PROPOSED STARTING POINT (Updated Oct 2021)

The EAC recommended on 23 September 2021 that the top priority of its 2021-2022 Work Plan be to:

“Follow up on implementation of *Council Resolution 2020-20 of January 13, 2020*, recognizing the ongoing and increasingly pronounced *climate emergency*. The objective would be for the Committee, working with Staff, to develop recommendations on practical measures for the City to help mitigate and adapt to the impacts of climate change on its citizens and contribute to broader regional, provincial and national efforts to address the critical challenges posed by global warming. This work would proceed on the basis of an update of the framework tabled at the Committee’s February 20, 2020 meeting, based on the framework for the province’s Climate Action Revenue Incentive Program (CARIP). “

This recommendation was not addressed at Council’s 4 October meeting due to lack of time, and so will presumably be considered at Council’s next regular meeting on 25 October, along with EAC recommendations regarding the Stormwater Management, and Water Quality & Treatment priorities.

While the BC Government has announced the discontinuance of the CARIP carbon tax rebate scheme, this program’s climate action reporting framework still provides a comprehensive catalogue of powers and policy tools available for municipal climate change mitigation and adaptation efforts. From 2014 to 2020, White Rock reported to CARIP on climate action measures taken or underway under eight CARIP headings:

- Broad Planning including GHG Reduction Targets;
- Building and Lighting;
- Energy Generation;
- Greenspace/Natural Resource Protection;
- Solid Waste;
- Transportation;
- Water and Wastewater; and
- Climate Change Adaptation.

If the climate action workplan priority is approved by Council, the EAC might proceed by considering each of these topics one-by-one in order to zero in on some possible practical measures to combat and adapt to the effects of climate change going forward.

The following pages provide some background that may assist in this process, including:

- Identification of relevant commitments contained in the City’s existing strategic policy documents: Environmental Strategic Plan (ESP 2008), Climate Change Action Plan (CCAP 2010) and Official Community Plan (OCP 2017); and
- highlights of relevant measures reported by the City’s in its annual CARIP reports from 2014 to 2020.

We may also wish in some cases to consider measures undertaken by other jurisdictions, including Metro Vancouver which is developing action roadmaps in several of these policy areas. The attached pages include references to Metro’s relevant Climate 2050 work in several of the above-listed policy areas.

Finally, we might canvas a number of prospective sources of technical support and funding for local governments looking to enhance their climate change efforts. Some potentially promising resources:

- Fraser Basin Council (https://www.fraserbasin.bc.ca/services-programs_ccaq.html),
- BC Climate Action Toolkit (<https://www.toolkit.bc.ca/taking-action>),
- Federation of Canadian Municipalities (eg, <https://data.fcm.ca/documents/programs/MCIP/guide-municipal-climate-change-staff.pdf>, <https://fcm.ca/en/resources/gmf/gmfs-municipal-energy-roadmap>, <https://data.fcm.ca/documents/resources/MCIP/talking-it-through-discussion-guide.pdf>),
- BC Climate Leaders’ Playbook (<https://bcclimateleaders.ca/>, <https://bcclimateleaders.ca/playbook/strategies/>);
- BC Community Energy Association Climate Action Planner (<https://www.communityenergy.ca/cea-launches-new-climate-action-planner-tool/>) and Funding Guide (<https://www.communityenergy.ca/wp-content/uploads/2020/04/FINAL-CEA-BC-Funding-Guide-2020.pdf>).

BROAD PLANNING ACTIONS

“Broad Planning refers to high level planning that sets the stage for GHG emissions reductions Official Community Plans, Integrated Community Sustainability Plans, Climate Action Plans or Community Energy Emissions Plans. Land use planning focused on Smart Growth principles (compact, complete, connected, and centred) plays an especially important role in energy and GHG reduction.”
 Metro Vancouver and its member municipalities are developing a [Climate 2050 roadmap on land use and growth management](#).

<p>Corporate Action</p> <ul style="list-style-type: none"> • Relevant Objectives/Commitments from Existing Strategy Documents: nil • Actions Reported 2014-2019 <ul style="list-style-type: none"> - 2014 - East Beach Waterfront Improvements Task Force - 2015 - Updated the Development Cost Charges Bylaw <ul style="list-style-type: none"> - Supported the Great Shoreline Clean Up - 2016 - Replaced fuel powered ice resurfacer with an electric machine - 2017 - Updated OCP includes objective for adopting Province’s new Energy Step Code - 2018 - Continued support for the Coastal Flood Adaption Strategy - 2019 - “Strategic Plan” 	<p>Questions/Comments/Recommendations</p>
<p>Community-Wide Action</p> <ul style="list-style-type: none"> • Relevant Objectives/Commitments from Existing Strategy Documents <ul style="list-style-type: none"> - ESP 8.1.b: Develop education and awareness plan. - ESP 9.1.a: Use "Smart Planning" principles for more compact, energy-efficient development less dependent on cars. - ESP 9.1.b: Identify links between OCP, Neighbourhood & Transportation Plans - CCAP Action 1: Develop Sustainable Design Guidelines to encourage energy efficiency in development & re-zoning applications - OCP 12.5.1: Undertake a study to establish updated ghg emissions targets, including city-wide targets as well as targets for buildings, transportation, and solid waste. Until such targets are updated, reduce emissions in accordance with the recommendations of the CCAP: a. 10% below 2007 levels by 2020; and b. 50% below 2007 levels by 2050. - OCP 12.5.2: Development Permit Areas – Implement DPA guidelines in Part D relating to energy conservation & greenhouse gas emissions reductions through landscaping, siting of buildings & other structures, form & exterior design of buildings and other structures, specific features in development, and machinery, equipment, and systems external to buildings & other structures. • Actions Reported 2014-2019 <ul style="list-style-type: none"> - 2014 - Revised Tree Management Bylaw - 2015 - Began planning to develop of an Urban Forest Management Plan <ul style="list-style-type: none"> - Supported Fraser Basin Council Society regional flood management strategy - Completed and published an updated the Strategic Transportation Plan - Fine-tuned drainage fee model to reflect individual property characteristics - 2017 - Updated OCP includes goals & strategies related to ghg reduction & smart growth principles - 2018 - Completed marine feasibility study 	<p>Questions/Comments/Recommendations</p>

BUILDING AND LIGHTING ACTIONS

“Low-carbon buildings use the minimum amount of energy needed to provide comfort and safety for their inhabitants and tap into renewable energy sources for heating, cooling and power. These buildings can save money, especially when calculated over the long term. This category also includes reductions realized from energy efficient street lights and lights in parks or other public spaces.”

See [Metro Vancouver’s Climate 2050 Draft Buildings Roadmap \(April 2021\)](#)

<p>Corporate Action</p> <ul style="list-style-type: none"> • Relevant Objectives/Commitments from Existing Strategy Documents - ESP 8.1.a <ul style="list-style-type: none"> ○ Use Leadership in Energy and Environmental Design (LEED) standards in City construction; ○ Change City infrastructure to more energy efficient lighting indoors and outdoors; ○ Promote local purchasing and procurement; • Actions Reported 2014-19 <ul style="list-style-type: none"> - 2014 - Energy efficient HVAC and roof replacement at City Hall - 2015 - Completed installation of energy efficient windows at City Hall - Upgraded exterior floodlights to high efficiency in one civic facility - Continued consultation with BC Hydro on energy efficient lighting opportunities in civic facilities - Installed LED streetlights on a section of Marine Drive - 2016 - Upgraded to energy efficient LED streetlights along a portion of the City’s promenade - 2017 - Continued replacing lighting with energy efficient lighting at City facilities - Upgraded arena ice resurfacer bay facility to use recycled water - 2018 - Continued replacing lighting with energy efficient lighting in Civic facilities - Updated windows and added weather stripping to arts building - Work on energy-efficient lighting and heating systems and amenity upgrades to recreation facilities 	<p>Questions/Comments/Recommendations</p>
<p>Community-Wide Action</p> <ul style="list-style-type: none"> • Relevant Objectives/Commitments from Existing Strategy Documents - ESP 8.1.a: Develop support system to encourage energy-efficient developments (e.g., LEED certification) - CCAP Action 2: Develop a revitalization financial incentive to encourage energy efficient buildings - CCAP Action 3: Promote existing energy efficiency programs to residents, businesses & organizations - CCAP Action 9: Ensure City building inspectors trained re alternative energy technologies - OCP 12.5.3: Develop Green Building strategy to enhance environmental & health performance of buildings - OCP 12.5.4: Energy Step Code – Adopt the Province’s new Energy Step Code as means to move toward net-zero energy ready buildings. • Actions Reported 2014-19 <ul style="list-style-type: none"> - 2014 - Energy efficient HVAC and window replacement at Library - 2015 - Supported use of sustainable building construction methods and materials - 2016 - Supported Environmental Master Plan which promotes energy efficiency in City facilities, operational activities and the community - 2017 - Updated OCP includes development of green building strategy <ul style="list-style-type: none"> - Started implementing BC STEP Code - 2018 - Installed energy efficient street lighting as part of several capital projects <ul style="list-style-type: none"> - 7 civic facilities were assessed for accessibility 	<p>Questions/Comments/Recommendations</p>

ENERGY GENERATION ACTIONS

“A transition to renewable or low-emission energy sources for heating, cooling and power supports large, long-term GHG emissions reductions. Renewable energy including waste heat recovery (e.g. from biogas and biomass), geo-exchange, micro hydroelectric, solar thermal and solar photovoltaic, heat pumps, tidal, wave, and wind energy can be implemented at different scales, e.g. in individual homes, or integrated across neighbourhoods through district energy or co-generation systems. “

See Metro Vancouver’s Climate 2050 [Energy Discussion Paper](#), [Summary of Energy Discussion paper](#)

<p>Corporate Action</p> <ul style="list-style-type: none"> • Relevant Objectives/Commitments from Existing Strategy Documents - ESP 8.1.a: Develop plan to improve fuel usage in City fleet (alt. fuels, hybrid vehicles, staff car-sharing); • Actions Reported 2012-2019 • 2014 - Replaced 3 City vehicles with more fuel efficient models • 2015 - Added electric vehicles to City fleet - Explore solar hot water use in operations building • 2017 - Updated OCP undertakes to implement Development Permit Area guidelines for energy conservation and ghg emissions reductions through landscaping, siting of buildings and other structures • 2018 - New high efficiency boilers installed at three Civic facilities • Proposed for 2019: Review the use of battery powered outdoor equipment as an alternative to fuel powered equipment to reduce emissions and energy consumption 	<p>Questions/Comments/Recommendations</p>
<p>Community-Wide Action</p> <ul style="list-style-type: none"> • Relevant Objectives/Commitments from Existing Strategy Documents - CCAP Action 7: Conduct a pre-feasibility study of alternative energy opportunities in the community - CCAP Action 8: Promote installation of solar hot water systems - OCP 12.5.5: On-Site Energy Generation – Support the use of on-site renewable energy generation systems to supply electricity, heating, and cooling to buildings and other structures - OCP 12.5.6: District Energy – Explore opportunities to implement a district energy system to distribute thermal energy to consumers in the Town Centre and other areas with supportive residential densities, potentially in collaboration with Surrey where appropriate. Consider supplying the district energy system with renewable energy resources. • Action Reported 2012-2019 - 2014 - Installed 4 solar powered pedestrian walk signals \ - 2017 - Updated OCP includes objective to support on-site renewable energy systems for electricity, heating, and cooling to buildings and other structures - 2018 - Installation of public electric vehicle charging stations 	<p>Questions/Comments/Recommendations</p>

GREENSPACE/NATURAL RESOURCE PROTECTION ACTIONS

“Greenspace/Natural Resource Protection refers to the creation of parks and greenways, boulevards, community forests, urban agriculture, riparian areas, gardens, recreation/school sites, and other green spaces, such as remediated brownfield/contaminated sites as well as the protection of wetlands, waterways and other naturally occurring features.”

See Metro Vancouver’s Climate 2050 Discussion Paper on Nature and Ecosystems (May 2020) [Metro Vancouver Nature and Ecosystems Summary](#), [Nature and Ecosystems Discussion Paper](#)

<p>Corporate Action</p> <ul style="list-style-type: none"> • Relevant Objectives/Commitments from Existing Strategy Documents: nil • Corporate Actions Reported 2012-2019 <ul style="list-style-type: none"> - 2015 - Ongoing support of the Lower Mainland Green Team to address local environmental issues that require co-operation and teamwork - Ongoing support of the annual Great Canadian Shore Line Clean Up - 2016 - Installation of new parks signage - Shoreline restoration - Began design for upgrades at Memorial Park - 2017 - Initiated development of City tree planting program - Expanded community gardens - 2018 - Updated the Parks and Recreation Master Plan - Supported community shore line clean ups - Supported local community garden program - Developed a high level conceptual design for public open space/town square - 2019 - Tree-planting, greenspace acquisition, park amenities, invasive species management 	<p>Questions/Comments/Recommendations</p>
<p>Community-Wide Action</p> <ul style="list-style-type: none"> • Relevant Objectives/Commitments from Existing Strategy Documents - CCAP Action-11: Provide space for community gardens to increase opportunities for local food supply • Actions Reported 2014-2019 <ul style="list-style-type: none"> - Enhanced local parks and tree planting - Revised Tree Management Bylaw (2014) - support of community gardens - Centre Street Walkway Improvements Task Force, - Johnston Road Reconstruction & Beautification Task Force - invasive species management and support for native species planting - Shoreline cleanups - Updating Parks and Recreation Master Plan (2016) - Constructed of an all-abilities all-ages playground (2018) - Acquisition of property in town centre to create a public open space (2018) - Liaison with community stakeholders on the protection of Semiahmoo Bay 	<p>Questions/Comments/Recommendations</p>

SOLID WASTE

“Reducing, reusing, recycling, recovering and managing the disposal of the residual solid waste minimizes environmental impacts and supports sustainable environmental management, greenhouse gas reductions, and improved air and water quality.”

See Metro Vancouver’s Climate 2050 [Waste Management Discussion Paper](#), [Summary of Discussion Paper](#)

<p>Corporate Action</p> <ul style="list-style-type: none"> • Relevant Objectives/Commitments from Existing Strategy Documents: Nil • Corporate Actions Reported 2014-2019 <ul style="list-style-type: none"> - 2015 - Implemented solid waste utility - 2016 - Updated recycling receptacles in some civic facilities - 2017 - Resident education and outreach to reduce contamination in recyclables - 2018 - Initiated program to recycle municipal concrete and asphalt - 2018 - Introduced corporate online services for options for paperless/e-billing 	<p>Questions/Comments/Recommendations</p>
<p>Community Action</p> <ul style="list-style-type: none"> • Relevant Objectives/Commitments from Existing Strategy Documents <ul style="list-style-type: none"> - CCAP Action-10: Promote activities to divert waste from landfills • Actions Reported 2014-2019 <ul style="list-style-type: none"> - 2014 <ul style="list-style-type: none"> - Additional recyclables added to collection stream - Solid waste review/audit completed - Continued composter subsidy for residents - East Beach Task Force review of waste receptacles - 2015 <ul style="list-style-type: none"> - Provided education and engagement on the region's ban of organics from waste facilities starting 2015 - Provided kitchen collectors to encourage organics diversion from solid waste - 2016-18 <ul style="list-style-type: none"> - Continued public education and outreach to improve diversion of solid waste - 2017-18 <ul style="list-style-type: none"> - Updated public waste receptacles to encourage recycling and organics diversion in public spaces - 2019 <ul style="list-style-type: none"> - multi-family and commercial waste collection review and analysis 	<p>Questions/Comments/Recommendations</p>

TRANSPORTATION

“Transportation actions that increase transportation system efficiency emphasize the movement of people and goods, and give priority to more efficient modes, e.g. walking, cycling and public transit, can contribute to reductions in GHG emissions and more livable communities.”

See Metro Vancouver’s Climate 2050 [Draft Transportation Roadmap \(May 2021\)](#)

<p>Corporate Action</p> <ul style="list-style-type: none"> • Relevant Objectives/Commitments from Existing Strategy Documents: Nil • Actions Reported 2012-2019 <ul style="list-style-type: none"> - 2014 - Provided pedestrian safety fencing along railway tracks - 2015 - Extended sections of sidewalk to encourage more pedestrian traffic - Public workshops on how to improve vibrancy and functionality of town centre - 2016 - Public engagement in revitalizing the town centre - Installation of overhead pedestrian crosswalk signal for safety - Installation of electric vehicle charging station for new fleet vehicles - 2017 - Updated OCP includes objectives to participate and support Metro Vancouver’s Regional Air Quality Management Plan and follow Regional Growth Strategy policies related to reducing transportation- related pollution - 2018 - Installation of public electric vehicle charging stations - Accessibility improvements at 8 transit stop locations - 2019 - Integrated additional electric vehicles into Civic fleet 	<p>Questions/Comments/Recommendations</p>
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<p>Community-Wide Action</p> <ul style="list-style-type: none"> • Relevant Objectives/Commitments from Existing Strategy Documents <ul style="list-style-type: none"> - ESP 8.1.a: Implement an anti-idling by-law - ESP 9.2.a: Support car-sharing approaches, links between OCP, land usage & Transportation Plan - ESP 9.2.b: Ensure GHG reduction actions are linked with Transportation Plan - CCAP Action 4: Work with TransLink to improve and expand public transit amenities and services - CCAP Action 5: Increase opportunities for residents to use alternatives modes of transportation - CCAP Action 6: Deliver outreach to encourage idling reduction - OCP 12.5.7: Electric Vehicles – Require one electric vehicle charging station for every 10 parking spaces in new multi-unit residential and mixed use buildings. Provide rough-ins for an additional one electric vehicle charging station for every 10 parking spaces, for future use as electric vehicle use increases. • Actions Reported 2012-2019 <ul style="list-style-type: none"> - 2014 - Improved bike lane on Marine Drive - Strategic Transportation Plan updated - 2016 - Updated bicycle network signage and pavement markings - 2017 - Enhanced bicycle network to improve connectivity and increase cycling options - Added new sections of sidewalks to encourage more pedestrian traffic - 2018 - Measures to encourage walking, cycling and transit use, through Johnston Road revitalization 	<p>Questions/Comments/Recommendations</p>
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WATER AND WASTEWATER

“Managing and reducing water consumption and wastewater is an important aspect of developing a sustainable built environment that supports healthy communities, protects ecological integrity, and reduces GHG emissions.”
 See Metro Vancouver’s Climate 2050 [Water and Wastewater Infrastructure Discussion Paper](#), [Water and Wastewater Infrastructure Discussion Paper Summary](#)

<p>Corporate Action</p> <ul style="list-style-type: none"> • Relevant Objectives/Commitments from Existing Strategy Documents: nil • Actions Reported 2012-2019 • 2016 <ul style="list-style-type: none"> - Began pilot study on arsenic and manganese treatment options - Construction to update reservoir and pumping station - Began work to complete secondary disinfection throughout water system • 2017 <ul style="list-style-type: none"> - Updated the city’s Water Master Plan - Implement water leak detection program - Initiated aquifer protection plan - Upgrades to the drinking water distribution system to reduce main breaks - Remote monitoring of pump stations to provide immediate responses, reduce travel time - Improvements in drinking water aesthetics to reduce use of bottled water • 2018 <ul style="list-style-type: none"> - Completed pressure monitoring project in the water distribution system • 2019 <ul style="list-style-type: none"> - Complete construction of water treatment plant - Creation of a community water advisory panel 	<p>Questions/Comments/Recommendations</p>
<p>Community-Wide Action</p> <p>Relevant Objectives/Commitments from Existing Strategy Documents</p> <ul style="list-style-type: none"> • CCAP Action 12: Work with Epcor to encourage water use efficiency • Community-Wide Actions Reported 2012-2019 <ul style="list-style-type: none"> - 2014 - Review best practices for stormwater - 2015 - City acquired the water utility from a private company - Completed Water Services Bylaw - 2016 - Updated Water Conservation Plan - 2016-18 - Held public meetings/open houses on water quality <ul style="list-style-type: none"> - Communicated water use restrictions through digital and social media channels - 2018 - Completed Aquifer Protection Plan - Proposed for 2019 <ul style="list-style-type: none"> - Implement key actions identified in the Aquifer Protection Plan - Finalize updates to the Storm and Sanitary Systems Master Plan 	<p>Questions/Comments/Recommendations</p>

CLIMATE CHANGE ADAPTATION ACTIONS

“This section of the CARIP survey is designed to collect information related to the types of climate impacts local governments are experiencing and how they are being addressed. “

<p>Relevant Objectives/Commitments from Existing Strategy Documents</p> <ul style="list-style-type: none"> - OCP 12.4.1: Risk Assessment – Conduct an assessment of municipal infrastructure to determine the level of risk and impact from rising sea levels, more frequent and larger storms, or other natural disasters, and ensure future development implements adaptation measures. - OCP 12.4.2: Flood Damage Protection – Require that new buildings within the floodplain areas shown in Schedule D are adequately flood-proofed to a standard established by the City and Provincial Government. 	<p>Questions/Comments/Recommendations</p>
<p>Suggested Resources that may be helpful to local government (Reports indicate none used.):</p> <ul style="list-style-type: none"> ○ Adaptation to Climate Change Team (SFU) ○ Columbia Basin Trust ○ Community Emergency Preparedness Fund (UBCM) ○ Climate Adaptation Partner Grants (FCM) ○ Fraser Basin Council 	<p>Questions/Comments/Recommendations</p>