

Climate Action Revenue Incentive (CARIP) Public Report for 2017

Local Government: District of Saanich

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The District of Saanich has completed the 2017 Climate Action Revenue Incentive Program (CARIP) Public Report as required by the Province of BC. The CARIP report summarizes actions taken in 2017 and proposed for 2018 to reduce corporate and community-wide energy consumption and greenhouse gas emissions (GHG) and reports on progress towards achieving carbon neutrality.

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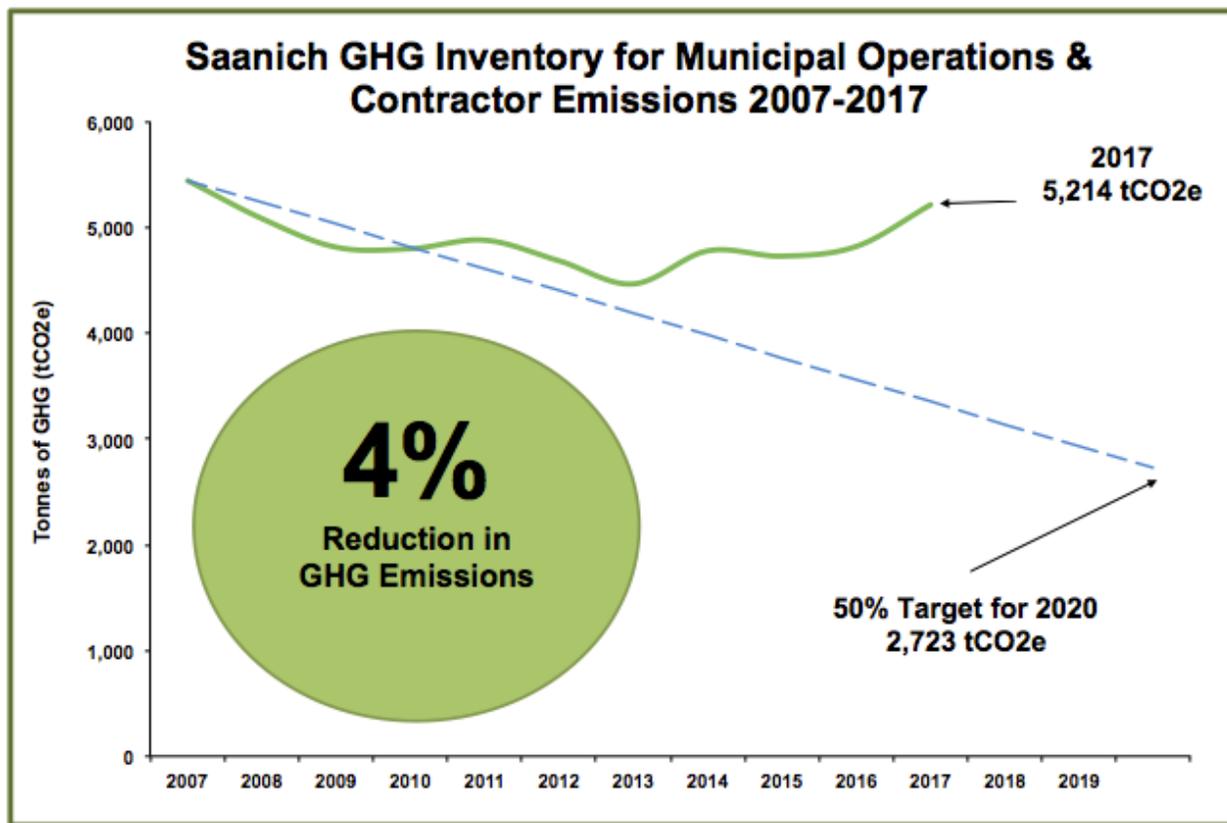
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2017 DISTRICT OF SAANICH CORPORATE GHG INVENTORY

In 2010, the District of Saanich approved the Climate Action Plan, which committed to a GHG reduction target for corporate emissions of 50% by 2020 from 2007 levels. Figure 1 provides the progress made towards the 2020 corporate GHG emissions reduction target from the 2007 baseline. This shows that our corporate GHG emissions reductions are currently at 5,214 tonnes of Carbon equivalent (tCO₂e), which is 4% below 2007 levels (5,446 tCO₂e).

It should be noted that a key change made in the 2017 Corporate GHG Inventory calculation was the inclusion of contractor emissions, not previously included in our corporate inventory. The process for collecting data related to contractor emissions was developed with the purchasing department in late 2017 and focussed on key municipal services that are contracted out and result in fuel use. This required extensive data analysis and discussions with contractors to collect fuel use retrospectively and it is anticipated that this process will improve throughout 2018 to result in a more comprehensive inventory in future years. Contractor emissions represented an increase of approximately 231 tonnes CO₂e that would not have been reported using the past methodology. This provides a more comprehensive inventory of Saanich Corporate GHG emissions, consistent with provincial reporting and aligned with the new reporting platform but does represent an increase from the 2016 GHG inventory.

Figure 1: District of Saanich Corporate GHG Inventory 2007-2017



Our corporate GHG Inventory (or Carbon Footprint) continues to be split quite evenly between vehicle energy use and building energy use. The main GHG contributions from our fleet relate to diesel use in our heavy-duty vehicles and trucks. The reduction in the number of vehicles overall and replacement of smaller (light duty) cars with electric vehicles (EVs) has supported a reduction in our fleet emissions in recent years. Total vehicle fuel use declined in 2017 resulting in a saving of 53 tCO₂e compared with 2016. Staff continue to monitor market options that would enable us to move our heavy-duty fleet and trucks to a low carbon fuel source.

2017 saw a considerable increase in the number of Heating Degree Days (HDD) in comparison to 2016. HDD is a measurement designed to quantify the demand for energy needed to heat a building and relates to the number of degrees that a day's average temperature is below 18°C. This has resulted in a considerable increase in heating fuel use and GHG emissions from corporate facilities in 2017. Despite this, key facilities that have undertaken recent heating system upgrades have seen a decline in their heating fuel requirements, GHG emissions and utility costs. These projects include the installation of an Air Source Heat Pump and condensing boiler at Gordon Head Recreation Centre and the upgraded new condensing boiler at the Municipal Hall. If the weather in 2017 had been the same as that in 2016 (i.e. when normalizing for weather), the building GHG inventory data indicates a savings of 70tCO₂e for 2017 in comparison to 2016.

Our recreation centres continue to be the main contributors to our building GHG emissions inventory. Saanich Commonwealth Place will be a focus in 2018 for building heating system upgrade and redesign with consideration given to the goal of becoming a 100% Renewable Corporation and Community by 2050.

2016 BROAD PLANNING ACTIONS

Broad Planning Actions

Broad Planning refers to high level planning that sets the stage for GHG emissions reductions, including plans such as Official Community Plans, Integrated Community Sustainability Plans, Climate Action Plans or Community Energy Emissions Plans. Land use planning that focuses on Smart Growth principles (compact, complete, connected, centred) plays an especially important role in energy and GHG reduction.

Community-Wide Actions Taken in 2017	
	In fall 2017, Council received a Climate Progress Report update for information and approved new long-range climate targets for an 80% reduction in corporate and community GHGs by 2050 (from 2007 levels) and to become a 100% renewable energy community in the same timeframe. A Terms of Reference for developing an updated Climate Plan to achieve these targets was adopted by Council at the same meeting.
	In late 2017 the Saanich Eco-city footprint report was completed (final document January 2018). Saanich is one of five municipalities that formed part of the EcoCity Footprint pilot project led by Dr. Jennie Moore at BCIT. This tool addresses a new consumption-based inventory methodology, including emissions released to produce the goods and services consumed within a region, regardless of where they are produced. The Saanich Eco-city footprint report was completed in January 2018 and will help ensure the updated Climate Plan embeds emissions-reduction strategies that maximize global, not just local, reductions and address the impacts of outsourcing the production of goods that we consume to other regions.
	The Shelbourne Valley Action Plan was approved by Council in early 2017. This is a long-range land use plan for a key corridor in the District and region. The primary focus of the Action Plan is to deliver land use and mobility enhancements that seek to fundamentally change the character of the Valley to create vibrant and liveable Centres and Villages and a balanced mobility network where walking, cycling and public transit are inviting options for all ages and abilities.
Community-Wide Actions Proposed for 2018	
	The updated Climate Plan: 100% Renewable and Resilient Saanich is being developed with key stakeholder and public engagement throughout 2018 and into early 2019.
	A detailed and current community emissions inventory and calculator tool has been finalized for Saanich (Spring 2018), compliant with the Global Protocol for Community-Scale GHG Emission Inventories (Basic+). This will form an integral part of the updated Climate Plan and our commitment to reporting our community emissions globally through CDP.
	The Saanich Agriculture and Food Security Plan is in the final stages of completion and will be presented to Council for adoption in 2018. The Plan focuses on themes, objectives and action that the municipality and partners can work on to enhance agriculture and improve food security in the community.
	The Uptown Douglas Corridor Plan has been drafted and will be presented to Council in late 2018 for approval. This integrated land use and transportation plan has progressed through the vision and option exploration stage with considerable public and stakeholder engagement through 2016. The study area represents a critical regional hub that is expected to experience significant growth and change in the near future. This plan forms part of the multi-year program to update the 12 Local Area Plans in line with the Official Community Plan (OSP); the principal legislative tool for guiding future growth and change in Saanich.

	The Cordova Bay and Cadboro Bay Local Area Plans have commenced with considerable public engagement and involvement from the sustainability team. These will be developed over the next 18 months.
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Corporate Actions Taken in 2017	
	Training and refinement of our web-based data system (“SoFi”) for tracking corporate GHG emissions. This tool will help to simplify annual corporate GHG reporting, improve analysis capabilities and minimize staff time required in future years.
	Development and approval of our Strategic Energy Management Plan (with support from BC Hydro Corporate Energy Manager program). This is a 4-year corporate action plan which aims to achieve our 2020 corporate GHG emissions targets, annual energy reduction targets and encompasses all fuel use (electricity, natural gas, propane, oil and fleet fuel use).
	Semi-automated quarterly key facilities energy use reports – utilizing SoFi in order to monitor energy use, project outcomes and identify opportunities for efficiencies or future projects. Incorporate weather analysis and benchmarking.
Corporate Actions Proposed for 2018	
	Communications plan to share information with staff and the public regarding the innovative technologies and energy efficiency/renewables/water conservation projects.
	Develop and seek approval for a Terms of Reference for a Zero Waste Strategy.

Broad Planning	
What is (are) your current GHG reduction target(s)?	33% reduction in Community GHG emissions by 2020 (from 2007 levels) 50% reduction in Corporate GHG emissions by 2020 (from 2007 levels) 80% reduction in Community and Corporate GHG emissions by 2050 (from 2007 levels)
Has your local government used the Community Energy and Emissions Inventory (CEEI) to measure progress?	Yes
What plans, policies or guidelines govern the implementation of climate mitigation in your community? <ul style="list-style-type: none"> • Community Energy and Emissions (CEE) Plan • Community-Wide Climate Action Plan (currently being updated) • Integrated Community Sustainability Plan • Official Community Plan (OCP) • Regional Growth Strategy (RGS) • Do not have a plan • Other: 2011 Climate Adaptation Plan, which is currently being updated as part of the updated Climate Plan, 100% Renewable and Resilient Saanich, and the Saanich Strategic Plan (2015-2018 currently being updated) 	No Yes No Yes Yes N/A Yes
Does your local government have a corporate GHG reduction plan?	Yes
Does your local government have a climate reserve fund or something similar?	Yes

2017 BUILDINGS AND LIGHTING ACTIONS

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.

Community-Wide Actions Taken in 2017	
	Saanich provided top-up rebates as part of the Home Renovation Rebate Program's Municipal Partner Offer in partnership with BC Hydro and FortisBC. Approximately 350 rebate applications were made in 2017 for home energy improvements ranging from attic and wall insulation to draft-proofing and air source heat pumps.
	In 2017, a draft Home Energy Retrofit Financing program was developed and designed.
	In fall 2017, Saanich, in collaboration with the Capital Regional District, City of Victoria, District of North Saanich commenced engagement on the BC Energy Step Code and potential options for adoption locally. The first phase of engagement with industry and key stakeholders was completed in 2017. For more information, visit http://www.saanich.ca/EN/main/community/sustainable-saanich/bc-energy-step-code.html
Community-Wide Actions Proposed for 2018	
	2018 will see further development of a home energy retrofit program, which may include a municipal funding pilot with a focus on oil to heat pump conversions and associated efficiency improvements to directly benefit Saanich home owners looking to improve the comfort and value of their home.
	Saanich, in collaboration with the Capital Regional District, City of Victoria, District of North Saanich completed the second phase of engagement with industry and key stakeholders on the BC Energy Step Code in early 2018. A final recommended option will be taken to Council in mid 2018.
	Should Council adopt the BC Energy Step Code, the Sustainability Statement (currently 2010) will be reviewed and updated to align with current climate and sustainability goals and considerations.
Corporate Actions Taken in 2017	
	In 2016, Saanich began a 5-year program to convert their 9,000 street lights from High Pressure Sodium (HPS) lamps to energy efficient Light Emitting Diodes (LEDs). The program will result in a 30% reduction in overall electricity use and an annual savings of \$240,000 and 26 tCO ₂ e once fully complete. The LED fixtures also have a longer life span than HPS fixtures reducing the need for maintenance. Phase 3 of our street-light replacement program was implemented in 2017 and saves nearly 200,000 kWh and \$18,000 per year just for this phase of the project.
	In 2017 the Municipal Hall received a high efficiency boiler upgrade with heating coils and controls, resulting in approximately 1,200 GJ of natural gas savings and 60tCO ₂ e savings each year.
	In 2017, the Public Safety Building, Cedar Hill Golf Course and Pearkes Arena saw roof top unit replacements and upgrades, increasing energy efficiency of the buildings. In addition, key facility emergency lighting was standardized and upgraded to LED.
	A suite of lighting audits were completed in 2017 at several of the recreation centres to inform projects for the Strategic Energy Management Plan and 2018 work plan.
Corporate Actions Proposed for 2018	

	The Municipal Hall will receive lighting upgrades in early 2018, anticipated to reduce energy use by approximately 99,500 kWh per year. Nellie McClung Library received lighting upgrades in early 2018 resulting in energy reductions of approximately 85,900 kWh annually. Cedar Hill Recreation centre also received energy upgrades for the gym lighting in early 2018, equating to approximately 43,700 kWh of savings annually.
	Lighting upgrades are also planned for Fire Halls 1, 2 and 3 Truck Bays, Saanich Commonwealth Place potlights, Gordon Head Recreation Centre potlights. These are anticipated to save approximately 110,000 kWh annually.
	Design work will commence in 2018 for heating and energy upgrades and mechanical replacement for Saanich Commonwealth Place recreation centre, using a biomass boiler system to move to renewables, whilst incorporating design measures to improve energy efficiency, reduce emissions and provide redundancy to the building systems.
	An option analysis/feasibility study will be completed for the Pearkes Arena in 2018 to identify major building renovations (heating and energy upgrades and mechanical replacement) to reduce facility GHG emissions by 90% from 2007 levels.
	2018 will see the next phase of LED street lighting project implemented for approximately 1000 units, saving approximately 180,000 kWh.

Building and Lighting	
The Province has committed to taking incremental steps to increase energy-efficiency requirements in the BC Building Code to make buildings net-zero energy ready by 2032. The BC Energy Step Code--a part of the BC Building Code--supports that effort	
Is your local government aware of the BC Energy Step Cost?	Yes
Is your local government implementing the BC Energy Step Code?	TBD Final Council Report expected June 2018

2017 ENERGY GENERATION ACTIONS

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.

Community-Wide Actions Taken in 2017	
	Saanich and the CRD continued to support the provincial Oil to Heat Pump program, which resulted in Saanich receiving the highest number of program participants in BC. By the end of 2017, Saanich had a total of 127 homes registered for Saanich top-up rebates to convert heating oil tanks to Air Source Heat Pumps, providing potential emissions reductions of 1,016 tonnes CO ₂ e per year (up to 8 tonnes per property).
Community-Wide Actions Proposed for 2018	
	Public and stakeholder engagement is underway on the update of the Climate Action and Adaptation Plans with a vision for 100% Renewable Energy by 2050.
	Saanich will continue to support the provincial Oil to Heat Pump program with top-up rebates through 2018.

Corporate Actions Taken in 2017	
	A feasibility study for upgrades at Saanich Commonwealth Place was completed comparing different renewable energy options (including but not limited to geothermal, air source heat pump, and solar photovoltaic) and their capital cost, operating costs, net present value, energy savings, and GHG reductions. The study found biomass to be the best option, combined with efficiency improvements.
Corporate Actions Proposed for 2018	
	Design work will commence in 2018 for heating and energy upgrades and mechanical replacement for Saanich Commonwealth Place recreation centre, using a biomass boiler system to move to renewables, whilst incorporating design measures to improve energy efficiency, reduce emissions and provide redundancy to the building systems.
	An option analysis/feasibility study will be completed for the Pearkes Arena in 2018 to identify major building renovations (heating and energy upgrades and mechanical replacement) to reduce facility GHG emissions by 90% from 2007 levels through the use of renewable energy.

Energy Generation	
Is your local government developing, or constructing: <ul style="list-style-type: none"> • A district energy system • A renewable energy system 	No Yes
Is your local government operating: <ul style="list-style-type: none"> • A district energy system • A renewable energy system 	No Yes
Is your local government connected to a district energy system that is operated by another energy provider?	No

Are you aware of the Integrated Resource Recovery guidance page on the BC Climate Action Toolkit ?	Yes
Are you familiar with the 2017 “List of Funding Opportunities for Clean Energy Projects Led by First Nations and Local Governments?”	Yes

2017 GREENSPACE/ NATURAL RESOURCE PROTECTION ACTIONS

Greenspace 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.

Community-Wide Actions Taken in 2017	
	In 2017 Saanich planted over 1100 trees and maintained over 1145 young trees (previously planted).
	For Canada 150, promoted Naturescape principles at multiple community events to encourage incorporating habitat elements in private property landscaping and management.
	2017 saw the continuation of a volunteer program coordinated by Parks & Recreation to remove invasive species and restore disturbed natural areas covering 55 parks with over 17,000 volunteer hours.
	2017 saw the installation of the first solar pathway lighting in Layritz Park.
	The last section of restoration of Douglas Creek in partnership with the Friends of Mount Douglas was completed in 2017.
Community-Wide Actions Proposed for 2018	
	In 2018 the Agriculture and Food Security Plan will be completed ready for council approval.
	2018 will see the ongoing implementation of Cuthbert Holmes Management Plan as well as plans completed for the management and use of Cedar Hill Park and Haro Woods.
	Continued Implementation of the Invasive Species Management Strategy and Urban Forestry Strategy including education for residents, development of best management practices, treatment of invasive species and strengthening of the tree planting program.
	The Streamside Development Permit Area Guidelines and the Pesticide Bylaw will be updated in 2018 in response to the 2014 Ombudsperson of British Columbia Report and new amendments to Provincial regulations.
	Implementation of the Invasive Species Management Strategy and Urban Forestry Strategy including education for residents, development of best management practices, treatment of invasive species and strengthening of the tree planting program is ongoing in 2018.
Corporate Actions Taken in 2017	
Corporate Actions Proposed for 2018	
	To begin a public process of creating a Biodiversity Conservation Strategy for the municipality.

Greenspace	
Does your local government have urban forest policies, plans or programs?	Yes
Does your local government have policies, plans or programs to support local food production?	Yes

2017 SOLID WASTE ACTIONS

Solid Waste Actions

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.

Community-Wide Actions Taken in 2017	
	2017 was the fourth year of the Greener Garbage kitchen scraps program, which started in April 2014. 8,967 tonnes of compostable kitchen scraps, yard and garden waste were collected from households in 2017. In addition, 8,435 tonnes of yard waste were dropped off at our public works yard and 3,028 tonnes of leaf mulch were collected from the roadside to divert from the landfill. In total, this resulted in 7,699 tCO ₂ e reduced in the community.
Community-Wide Actions Proposed for 2018	
	Develop and seek approval for a Terms of Reference for a community wide Zero Waste Strategy.

Corporate Actions Taken in 2017	
	Implementation of an upgraded recycling centre for our main Municipal Hall and Annex to ensure greater diversion of waste.
	Waste audits and walk through site visits completed at Gordon Head Recreation Centre and Saanich Commonwealth Place.
	Discussions with clothing and bottle banks for use of municipal centres for community recycling opportunities.
Corporate Actions Proposed for 2018	
	Implementation of an improved waste management system across all corporate facilities, including recreation centres and public libraries.

Solid Waste	
Does your local government have construction and demolition waste reduction policies, plans or programs?	Yes
Does your local government have organics reduction/diversion policies, plans or programs?	Yes

2017 TRANSPORTATION ACTIONS

Transportation Actions

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, ridesharing, and public transit, can contribute to reductions in greenhouse gas emissions and more livable communities.

Community -Wide Actions Taken in 2017	
	<p><i>Borden Street and McKenzie Cycle Track</i> We have constructed a two-way cycle track on Borden Street and Cedar Hill X Road. This cycle track provides a protected cycling facility from the entrances of the Lochside Regional Trail at the McKenzie Avenue / Borden Street intersection and Cedar Hill X Road / Lochside Drive intersection. This project includes new cycling and pedestrian facilities along Borden Street and Cedar Hill X Road. The goal was to enhance pedestrian safety and mobility, as well as provide facilities that promote alternative modes of transportation by connecting the Lochside Trail across McKenzie Avenue.</p>
	Implementation of bus rapid transit and dedicated bus lanes on Douglas Street through collaboration with BC Transit is ongoing.
	<p><i>McKenzie Ave Upgrade - Cedar Hill to Shelbourne</i> The project completed the gap in cycling facilities and improved pedestrian facilities on McKenzie Avenue from Cedar Hill Road to Shelbourne Street. This project included the construction of a separated concrete sidewalk and one directional eastbound asphalt cycle track on the south side of the road, and installation of a westbound on-road bike lane on the north side of the road with some repairs to existing concrete sidewalk.</p>
Community-Wide Actions Proposed for 2018	
	The Active Transportation Plan: Moving Saanich Forward was drafted in 2017 with further public consultation and refinement and will be finalized for Council approval in 2018.
	Collaboration with BC Transit on the transit exchange design at Uptown Centre, transit priority measures and implementation of bus rapid transit on Douglas Street will continue in 2018.
	<p><i>Tillicum - Burnside to HWY 1</i> - The project will provide 900m of new cycling facilities, 500 meters of improved pedestrian walkways, a new pedestrian and cyclist activated traffic signal at Regina Avenue, and nine new wheel chair drops while maintaining the four travel lanes along Tillicum Road between the Trans-Canada Highway and Burnside Road. In addition to the pedestrian and cycling improvements, the road surface will be re-paved with new asphalt complete with new pavement markings as well as utilizing green epoxy paint in potential cycling/vehicle conflict areas. The new facilities will provide safer and improve access and connectivity along the corridor for pedestrians and cyclists. This cycling project is near completion</p>
	<p><i>Feltham Road Bike Lanes</i> - The planned improvements are to provide dedicated cycling facilities along Feltham Rd. from Shelbourne St. to Tyndall Ave. This project will include road re-laning, buffered bike lanes, planted medians, a full pavement overlay and improvements to the existing curb returns for wheelchair accessibility at Lambrick Way, Larchwood Dr., Cabot Pl., Cavalin Crt. and Tyndall Ave. The design of this short corridor will be compatible with the proposed intersection improvements identified in the Shelbourne Valley Action Plan. This project is anticipated to be completed in Q3</p>
	<p><i>Finnerty Road - McKenzie Ave to Arbutus Road infrastructure project</i> - This project will infill new concrete sidewalks, install dedicated protected bike lanes and place an asphalt overlay between the</p>

	roundabout at McKenzie Avenue and Arbutus Road. Currently, there are gaps in the curb and sidewalks and no bike lanes on Finnerty Road. The project will also replace and upgrade 510 m of aging water mains to improve fire flows and upgrade to LED streetlights. Project is anticipate to begin fall 2018 extending into early 2019.
	West Saanich (Quadra to Royal Oak Shopping Center) - The District of Saanich is planning to undertake a walking, cycling, and utility upgrade on West Saanich Road from Quadra Street to Royal Oak Shopping center. The project is a final phase of West Saanich Road Streetscape, which fulfills key policies identified in the Districts Official Community Plan and 2015-2018 strategic plan, completes gaps in the cycling and pedestrian facilities along West Saanich Road, provides safe alternate modes of transportation and promotes a more balanced mode share. Construction tentatively scheduled for 2019.
	An Electric Vehicle Strategy is in development with key stakeholder engagement in 2018. The provincial rebates and incentive programs outlined on Plug-in BC to support the uptake of Electric Vehicles (EVs) and charging infrastructure will continue to be promoted by Saanich in 2018.
	Grant application submission and collaboration with partners to pursue a second DC fast charger in Saanich will occur in 2018.

Corporate Actions Taken in 2017

	Design for 10 additional fleet EV charging stations at Municipal Hall/Annex and 5 new EV charging stations at Fire Hall 1 was commenced.
	An E3 fleet review was undertaken to identify opportunities for fleet fuel efficiencies.
	Additional bike parking options for both staff and public were identified and options refined with input from the Heritage committee. Installation is expected 2018.
	A staff survey regarding the use of the corporate EV pool fleet and opportunities for E-bikes and car share was undertaken to identify opportunities for enhancement.

Corporate Actions Proposed for 2018

	Installation of 2 x Level 2 EV chargers at Fire Hall 1 with another 3 stalls electrified ready for future installation. Installation of 4 x Level 2 EV chargers at the Annex (Municipal Hall) with another 6-10 electrified ready for future installation.
	Findings of the 2017 pool fleet survey will be used to identify actions for improvement, including the potential use of an online booking system for the corporate EV pool fleet program.
	An E3 Fleet Program rating will be undertaken in 2018.
	Planning for further corporate fleet replacement with EVs will continue in 2018 with an additional EV for fire in 2018, four fleet EVs expected in 2019 and six EVs expected in 2020.
	Review of EV charging stations at Saanich facilities will be initiated in 2017.

Transportation

Does your local government have policies, plans or programs to support:	
<ul style="list-style-type: none"> • Walking • Cycling • Transit Use • Electric Vehicle Use • Other (please specify): 	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>
Does your local government have a transportation demand management (TDM) strategy (e.g. to reduce single-vehicle occupancy trips, increase travel options, provide incentives to encourage individuals to modify travel behaviour)?	No
Does your local government integrate its transportation and land use planning?	Yes

2017 WATER AND WASTEWATER ACTIONS

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 greenhouse gas emissions.

Community-Wide Actions Taken in 2017	
	Technical support and involvement in the Capital Regional District (CRD) sewage treatment plant development, design and construction provided in 2017.
Community-Wide Actions Proposed for 2018	
	In 2018, Saanich will complete a strategy for delivering a municipal-wide Drainage Master Plan to improve the storm drain network and reduce the risk of flooding. The first step will be to model all drainage basins; priority will be given to drainage basins contained within those neighbourhoods undergoing Local Area Plan bylaw updates and those previously identified in Council's Strategic Plan.
	Technical support and involvement in the Capital Regional District (CRD) sewage treatment plant development, design and construction will continue in 2018.

Corporate Actions Taken in 2017	
	2017 saw the replacement of 5,000 m of water mains, replacement of 3,000 m of sanitary sewers, and replacement or renewal of 2,200 m of storm drain mains.
Corporate Actions Proposed for 2018	
	The Water Master Plan will be completed in 2018 and the recommendations will be incorporated into the 5-year capital plan in addition to the recommendations from the Sewer Master Plan.
Water Conservation	
Does your local government have water conservation policies, plans or programs?	Yes

2017 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.

Please identify the THREE climate impacts that are most relevant to your Local Government.	
Warmer winter temperatures reducing snowpack Changes to temperature and precipitation causing seasonal drought Heat waves impacting population health Increased temperatures increasing wildfire activity Increased temperatures affecting air quality Changing temperatures influencing species migration and ecosystem shifts Extreme weather events contributing to urban and overland flooding Sea level rise and storms causing coastal flooding and/or erosion	
Other: Although we have a Climate Adaptation Plan, we have yet to perform a detailed climate adaptation risk analysis. Seasonal drought, heatwaves, extreme weather events, and flooding are expected to be priority issues.	

In 2017 has your local government addressed the impacts of a changing climate using any of the following?	
Risk and Vulnerability Assessments	No
Risk Reduction Strategies	No
Emergency response planning	No
Asset management	Yes
Natural/Eco asset management strategies	Yes
Infrastructure upgrades (e.g. storm water system upgrades)	No
Beach Nourishment projects	No
Economic diversification initiatives	No
Strategic and financial planning	No
Cross-department working groups	No
OCP policy changes	No
Changes to zoning and other bylaws and regulations	No
Incentives for property owner (e.g. reducing storm water run-off)	No
Public education and awareness	No
Research	No
Mapping	No
Partnerships	No
Other:	

Climate Change Adaptation Actions Taken in 2017

Please elaborate on key actions and/or partnerships your local government has engaged in to prepare for, and adapt to a changing climate. Add links to key documents and information where appropriate.	
	In 2017 Saanich completed our twenty-year Strategic Facilities Masterplan, which was approved in early 2018. The plan addresses the comprehensive state of our facilities and prioritizes future improvements that ensure we continue to provide dependable, high quality services effectively. The plan integrates both the sustainable performance of the facilities but also considers our resiliency to climate change and emergency preparedness, referencing the need to accommodate our climate projections in all decisions and embedding this within the business case evaluation criteria.
	In 2017, Saanich received council approval for a Terms of Reference for our Updated Climate Plan: 100% Renewable and Resilient Saanich, which has commenced and is due to be completed in Spring 2019. The updated plan will integrate both climate mitigation and adaptation.
	In 2018, Saanich will complete a strategy for delivering a municipal-wide Drainage Master Plan to improve the storm drain network and reduce the risk of flooding. The first step will be to model all drainage basins; priority will be given to drainage basins contained within those neighbourhoods undergoing Local Area Plan bylaw updates and those previously identified in Council's Strategic Plan.
	2017 saw the replacement of 5,000 m of water mains, replacement of 3,000 m of sanitary sewers, and replacement or renewal of 2,200 m of storm drain mains. These upgrades improve the community's resiliency and ability to adapt to climate changes as they relate to rainfall, flooding and major storm events.
	Saanich and the CRD continued to support the provincial Oil to Heat Pump program. Given the cooling capabilities of Air Source Heat Pumps and the projected summer temperature increases in our community, this program plays a key role in climate adaptation in addition to mitigation. By the end of 2017, Saanich had a total of 127 homes registered for Saanich top-up rebates to convert heating oil tanks to Air Source Heat Pumps.
Climate Change Adaptation Actions Proposed for 2018	
	We are currently updating our Climate Plan through 2018-19 – climate mitigation and adaptation will be integrated into the updated plan.
	A risk and vulnerability assessment is planned for later 2018 in collaboration with ICLEI.
	A scope of work is being developed for a Biodiversity Conservation Strategy to commence later 2018. In addition, a grant application is being made to renew the Urban Forest Strategy and incorporate natural capital and valuing of ecosystem services.
	In 2018 Saanich will continue to support and provide top up funding for the provincial Oil to Heat Pump program.
	We are awaiting updated sea level rise mapping and guidelines from the Province before commencing and further sea level rise mapping and associated policy and bylaws – this would follow the risk and vulnerability assessment.
For more information please contact:	
	Rebecca Newlove, 250-475-7118, Rebecca.newlove@saanich.ca

The following are key resources that may be helpful to your local government in identifying climate impacts, as well as, strategies, actions and funding to deal with them. For those resources that you have used, please indicate whether they were useful in advancing your work in climate change adaptation?	
Indicators of Climate Change for British Columbia, 2016	Haven't Used

<p>Plan2Adapt Climate Projections for Metro Vancouver Climate Projections for the Capital Region Climate Projections for the Cowichan Valley Regional District Province of BC's BC Adapts Video Series Preparing for Climate Change: An Implementation Guide for Local Governments The Public Infrastructure and Engineering Vulnerability Committee's (PIEVC) protocol Sea Level Rise Primer BC Regional Adaptation Collaborative Webinars www.ReTooling.ca Water Balance Model The Water Conservation Calculator</p> <p>Funding: National Disaster Mitigation Program (NDMP) Community Emergency Preparedness Fund (CEPF) Municipalities for Climate Innovation Program (MCIP) Climate Adaptation Partner Grants (FCM) Infrastructure Planning Grants (MAH) Federal Gas Tax Fund</p>	<p>Useful Useful Useful Haven't Used Useful Useful Useful Useful Useful Haven't Used Haven't Used Haven't Used</p> <p>Haven't Used Haven't Used Useful Useful Haven't Used Useful</p>
<p>Other:</p>	

2017 OTHER CLIMATE ACTIONS

Other Climate Actions

This section provides local governments the opportunity to report other climate actions that are not captured in the categories above.

Community-Wide Actions Taken in 2017	
	The Cool It! Climate Leadership Training Program has been delivered by the BC Sustainable Energy Association to schools in BC since 2007. In 2016/17 Saanich and the Capital Regional District (CRD) funded 9 school workshops. The students' actions resulted in projected savings of 96 tonnes of carbon dioxide equivalent each year (comparable to 20 passenger vehicles being taken off the road). The success means Saanich and the CRD has committed to funding for 17 school workshops in 2018.
Community-Wide Actions Proposed for 2018	
	The success of the 2017 Cool It! Program means Saanich and the CRD has committed to funding for 17 school workshops in 2018.

Corporate Actions Taken in 2017	
Corporate Actions Proposed for 2018	

Other	
Are you familiar with the Community Lifecycle Infrastructure Costing Tool (CLIC) ?	Yes
Have you used CLIC?	No

INNOVATION AND PEER-TO-PEER LEARNING

Innovation

This section provides the opportunity to showcase an innovative Corporate and/or Community-Wide GHG reduction and/or climate change adaptation activity that your local government has undertaken and that has had, or has the potential to have, a significant impact. You are welcome to repeat an action that has already been listed.

Projects included here may be featured as success stories on the B.C. Climate Action Toolkit and/or shared with other local governments to inspire further climate action. Please add links to additional information where possible.

Communities that have conducted innovative initiatives may want to consider raising their profile through applications to [CEA’s Climate and Energy Action Awards](#), [UBCM Climate and Energy Action Award](#), [FCM Sustainable Communities Awards](#) or through submissions to [FCM’s National Measures Report](#).

Community-Wide Innovative Action
Saanich is one of five municipalities that formed part of the EcoCity Footprint pilot project led by Dr. Jennie Moore at BCIT. This tool addresses a new consumption-based inventory methodology, including emissions released to produce the goods and services consumed within a region, regardless of where they are produced. The Saanich Eco-city footprint report was completed in January 2018 and will help ensure the updated Climate Plan embeds emissions-reduction strategies that maximize global, not just local, reductions and address the impacts of outsourcing the production of goods that we consume to other regions.
Corporate Innovative Action

Programs, Partnerships and Funding Opportunities

Local governments often rely on programs, partnerships and funding opportunities to achieve their climate action goals. Please share the names of programs and organizations that have supported your local government’s climate actions by listing each entry in the box below.

Programs and Funding
Saanich is a core member of the Urban Sustainability Directors Network (USDN), sub-groups CUSP (Canadian Urban Sustainability Professionals) and the Cascadia Network and works closely with ICLEI and FCM Saanich Carbon Fund FCM Green Municipal Fund Municipal Finance Authority of BC BC Hydro Sustainable Communities Program <ul style="list-style-type: none"> - Corporate Energy Manager - Community Energy Manager

- Grants
Provincial
- CEV program
- LED Streetlight incentive program
Fortis BC
- Climate Partners Program
- Grants

2017 CARBON NEUTRAL REPORTING

Local governments are required to report on their progress in achieving their carbon neutral goal under the Climate Action Charter. Working with B.C. local governments, the joint Provincial-UBCM Green Communities Committee (GCC) has established a common approach to determining carbon neutrality for the purposes of the Climate Action Charter, including a Carbon Neutral Framework and supporting guidance for local governments on how to become carbon neutral.

Prior to completing this portion of the survey, please ensure that you are familiar with guidance available on the B.C. Climate Action Toolkit website, especially the [Becoming Carbon Neutral: A Guide for Local Governments in British Columbia](#).

Please note: As a result of the BC Recycling Regulation, local governments are no longer required to account for greenhouse gas (GHG) emissions from vehicles, equipment and machinery required for the collection, transportation and diversion of packaging and printed paper, in their annual Climate Action Revenue Incentive Program (CARIP) reports.

Reporting Emissions

Did you measure your local government's corporate GHG emissions in 2017?	Yes
If your local government measured 2017 corporate GHG emissions, please report the number of corporate GHG emissions (in tonnes of carbon dioxide equivalent) from services delivered <u>directly</u> by your local government:	4,983 tCO ₂ e
If your local government measured 2017 corporate GHG emissions, please report the number of corporate GHG emissions (in tonnes of carbon dioxide equivalent) from <u>contracted</u> services:	231 tCO ₂ e
TOTAL A: CORPORATE GHG EMISSIONS FOR 2017	5,214 tCO₂e

Reporting Reductions and Offsets

To be carbon neutral, a local government must balance their TOTAL corporate GHG emissions generated in 2017 by one or a combination of the following actions:

- undertake GCC-supported Option 1 Project(s)

- undertake GCC-supported Option 2 Project(s)
- purchase carbon offsets from a credible offset provider

If applicable, please report the 2017 GHG emissions reductions (in tonnes of carbon dioxide equivalent (tCO₂e)) being claimed from Option 1 GHG Reduction Projects:

OPTION 1 PROJECTS	REDUCTIONS
Energy Efficient Retrofits	
Solar Thermal	
Household Organic Waste Composting	
Low Emission Vehicles	
Avoided Forest Conversion	
TOTAL B: REDUCTIONS FROM OPTION 1 PROJECTS FOR 2016	0 tCO₂e

If applicable, please report the names and 2017 GHG emissions reductions (in tonnes of carbon dioxide equivalent (tCO₂e)) being claimed from Option 2 GHG Reduction Projects:

OPTION 2 PROJECT NAME	REDUCTIONS
N/A	
TOTAL C: REDUCTIONS FROM OPTION 2 PROJECTS FOR 2016	0 tCO₂e

If applicable, please report the name of the offset provider, type of project and number of offsets purchased (in tonnes of carbon dioxide equivalent (tCO₂e)) from an offset provider for the 2017 reporting year:

(NOTE: DO NOT INCLUDE ANY FUNDS THAT MAY BE SET ASIDE IN A CLIMATE ACTION RESERVE FUND)

OFFSET PROVIDER NAME	OFFSETS
N/A	
TOTAL D: OFFSETS PURCHASED FOR 2016	0 tCO₂e

TOTAL REDUCTIONS AND OFFSETS FOR 2017 (Total B+C+D) = 0 tCO₂e

Corporate GHG Emissions Balance for 2017

Your local government's Corporate GHG Emissions Balance is the difference between total corporate GHG emissions (direct + contracted emissions) and the GHG emissions reduced through GCC Option 1 and Option 2 projects and/or the purchase of offsets.

CORPORATE GHG EMISSIONS BALANCE FOR 2016 = (A – (B+C+D)) = 5,214 tCO₂e

**If your Corporate GHG Emissions Balance is negative or zero,
your local government is carbon neutral.**

CONGRATULATIONS!

If applicable, please record any emissions reductions you will be carrying over for future years and the source of the emissions reductions, including the year they were earned (E.g., Organics diversion, 2016 100 tCO₂e).

SOURCE OF CARRY OVER EMISSION REDUCTIONS (and year earned)	REDUCTIONS
BALANCE OF REDUCTIONS ELIGIBLE FOR CARRY OVER TO NEXT YEAR	0 tCO₂e

Carbon Neutral Reporting	
Does your local government have a climate reserve fund or something similar?	Yes

GCC CLIMATE ACTION RECOGNITION PROGRAM

Green Communities Committee (GCC) Climate Action Recognition Program

The joint Provincial-UBCM Green Communities Committee (GCC) is pleased to be continuing the Climate Action Recognition Program again this year. This multi-level program provides the GCC with an opportunity to review and publicly recognize the progress and achievements of each Climate Action Charter (Charter) signatory.

Recognition is provided on an annual basis to local governments who demonstrate progress on their Charter commitments, according to the following:

Level 1 – Demonstrating Progress on Charter Commitments: for local governments who demonstrate progress on fulfilling one or more of their Charter commitments

Level 2 – Measuring GHG Emissions: for local governments that achieve level 1, and who have measured their Corporate GHG Emissions for the reporting year and demonstrate that they are familiar with their community’s energy and emissions inventory (i.e. CEEI)

Level 3 – Accelerating Progress on Charter Commitments: for those local governments who have achieved level 1 and 2 and have demonstrated undertaking significant action (corporately or community wide) to reduce GHG emissions in the reporting year (i.e.: through undertaking a GHG reduction project, purchasing offsets, establishing a reserve fund).

Level 4 - Achievement of Carbon Neutrality: for local governments who achieve carbon neutrality in the reporting year.

For purposes of Level 3 recognition, if applicable, please identify any new or ongoing corporate or community wide GHG reduction projects (other than an Option 1 or Option 2 project) undertaken by your local government that reflects a significant investment of time or financial resources and is intended to result in significant GHG reductions:

PROJECT NAME:
<p>There are multiple corporate projects listed within this CARIP report that address GHG reductions. These include building retrofits with an emphasis on efficiency, major boiler upgrades with renewables and electrification of our fleet. These result in a reduction of our measured GHG emissions that are reported annually. Continued investments in such projects aim to significantly reduce the District of Saanich GHG emissions inventory and move us towards becoming Carbon Neutral.</p> <p>From a community perspective, there are multiple projects listed within this CARIP report addressing the key sectors of our GHG emissions inventory; buildings, transportation, waste and food. An example of such a project is our Greener Garbage Collection program which collected 8,967 tonnes of compostable kitchen scraps, yard and garden waste in 2017, resulting in approximately 7,700 tonnes of GHG emissions reduced in the community (not declared as an Option 1 project). Such projects result in a reduction of our community GHG emissions. As such, the focus is on a reduction of our corporate and community GHG emissions, reducing our corporate energy use and producing renewables on site for the remainder.</p>

Based on your local government's 2016 CARIP Climate Action/Carbon Neutral Progress Survey, please check the GCC Climate Action Recognition Program level that best applies:

<input type="checkbox"/>	Level 1 – Demonstrating Progress on Charter Commitments	
<input type="checkbox"/>	Level 2 – Measuring GHG Emissions	
<input checked="" type="checkbox"/>	Level 3 – Accelerating Progress on Charter Commitments	x
<input type="checkbox"/>	Level 4 - Achievement of Carbon Neutrality	
<input type="checkbox"/>	Not Sure	

Appendix A: District of Saanich Carbon Tax Calculation Form 2017

Carbon Tax Calculation Form
Under the Climate Action Revenue Incentive Program

Local Government Name:	The Corporation of the District of Saanich			
Contact Information:				
Name:	Bernard Tso			
Position:	Accountant			
Telephone Number:	250-475-6494 Ext. 3624			
Email address:	bernard.tso@saanich.ca			
Calculation of carbon tax paid directly by the local government for fuel purchased between January 1 and December 31, 2017				
Fuel Type	Unit measure	Units	Tax Rate per unit, January 1, 2017 to December 31, 2017	Carbon Tax paid
Most common fuels in a local government context:				
Gasoline	Litre	369061.88	0.0667	24616.4274
Diesel	Litre	616847.86	0.0767	48346.23086
Bio-Diesel*	Litre	13518.31	0.0767	2570.854377
Natural Gas	Gigajoules	43671	1.4898	65061.0358
Natural Gas	m ³		0.057	0
Propane	Litre	29233.4	0.4862	1350.58308
Other fuels which are taxed:				
Heating Oil	Litre	2664.5	0.0767	204.36715
Locomotive Fuel	Litre		0.0767	0
Heavy Fuel Oil	Litre		0.0945	0
Aviation Fuel	Litre		0.0738	0
Jet Fuel	Litre		0.0783	0
Kerosene	Litre		0.0783	0
Naphtha	Litre		0.0765	0
Medurcil	Litre		0.0327	0
Butane	Litre		0.0528	0
Ethane	Litre		0.0294	0
Refinery Gas	m ³		0.0528	0
Coke Oven Gas	m ³		0.0483	0
Coal - Low Heat Value*	Tonne		53.31	0
Coal - High Heat Value*	Tonne		62.31	0
Coke	Tonne		74.61	0
Petroleum Coke	Litre		0.1101	0
Tires - shredded	Tonne		71.73	0
Tires - whole	Tonne		62.4	0
Peat	Tonne		10.66	0
Total Carbon Tax Paid:				142649.5187
<p>1. Only list fuels that were purchased for the local government's own use, on which carbon tax was paid, and where that carbon tax was not refunded or recovered from another party (e.g., through a lease arrangement). Also do not include any fuels that were exempted from carbon tax (for more information see the CARIP website).</p> <p>2. Bio-diesel blends must be presented in order to claim the diesel and bio-diesel portions on the appropriate line. The proportion of the blend (B5, D10, D15 etc.) that is conventional hydrocarbon-based diesel is included on the diesel line; consequently, the bio-diesel proportion amount must be entered on the bio-diesel line. For example, a 10,000 litre purchase of H10, which is 10% bio-diesel and 90% hydrocarbon-based diesel, would be recorded as 9,000 litres hydrocarbon-based diesel (90% of 10,000) and 1,000 litres bio-diesel (10% of 10,000).</p> <p>3. Multi-state Natural Gas may be recorded at either Gigajoules or m³.</p> <p>4. Low Heat Value Coal includes Sub-Bituminous Coal; High Heat Value Coal includes Bituminous Coal.</p> <p>5. Only include tires if they are combusted.</p>				
<p>I declare that the information contained in this Carbon Tax Calculation Form is true and correct and based on actual accounting records and not estimates. I am also aware of the requirement to report publicly by June 1st.</p> <p style="text-align: center;"><i>Jana Tinney</i> Signature of Financial Officer</p> <p style="text-align: right;">MAY 17 15</p>				

Appendix B: District of Saanich Public Report Attestation Form 2017



2017 CARIP Climate Action/Carbon Neutral Progress Survey Public Report Attestation

As per the CARIP guidance, the Financial Officer is required to submit this attestation form to attest that:

- On or before **June 1, 2018**, the information reported in the 2017 CARIP Climate Action/Carbon Neutral Progress Survey submitted online to the Province has been made public.

The Financial Officer must complete and sign this attestation form by the applicable deadline and email a scanned copy to the Province at infra@gov.bc.ca.

2017 CARIP Climate Action/Carbon Neutral Progress Survey Public Report Attestation Form — DUE on or before June 1, 2018

I declare that the information contained in the 2017 CARIP Climate Action/Carbon Neutral Progress Survey submitted online to the Province on May 24, 2018 for The District of Saanich was made public on May 25, 2018

Name, Title: Valla Tinney, FCPA, FCGA Director of Finance (CFO)

Signature: *Valla Tinney*

Date: May 25, 2018

