

NO: R106

COUNCIL DATE: May 27, 2019

REGULAR COUNCIL

TO: **Mayor & Council**

DATE: **May 21, 2019**

FROM: **General Manager, Parks, Recreation & Culture**

FILE: **0512-02**

SUBJECT: **Climate Action Revenue Incentive Program 2018 Reporting Requirements and 2018 Corporate Greenhouse Gas Emissions Inventory**

RECOMMENDATION

The Parks, Recreation & Culture Department recommends that Council receive this report for information.

INTENT

The purpose of this report is to:

- Fulfill the annual Climate Action Revenue Incentive Program (“CARIP”) grant requirement to report publicly on the plan and progress toward the City’s climate action goals; and
- Provide information on the City’s 2018 Corporate Greenhouse Gas (“GHG”) Emissions inventory.

BACKGROUND

At the 2008 Union of British Columbia Municipalities (“UBCM”) Convention, Premier Gordon Campbell announced the CARIP; a program that would offset the carbon tax paid by local governments committed to the goal of becoming carbon neutral in their corporate operations under the BC Climate Action Charter. Carbon neutral refers to reducing GHG emissions as much as possible and balancing the remaining emissions through purchased offsets or GHG reduction projects. The calculation nets zero but does not mean there are zero emissions released into the atmosphere.

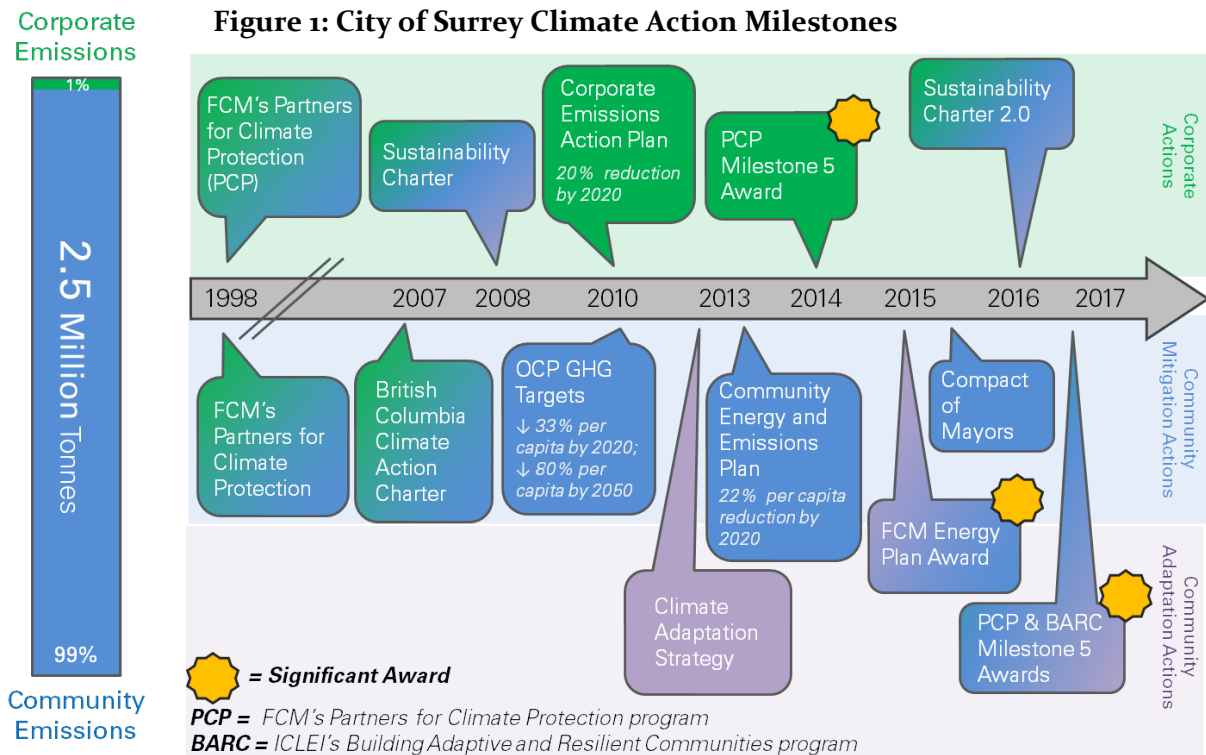
To be eligible for the CARIP conditional grant, local governments were required to:

- Sign on to the BC Climate Action Charter and by doing so commit to the goal of becoming carbon neutral in corporate operations; and
- Report publicly on their plan and progress toward meeting their climate action goals using a set template.

The Carbon Neutral Local Government framework developed by the Province establishes a common approach for local governments to become carbon neutral in four steps: measure GHG emissions, reduce those emissions, offset or balance remaining emissions through investments in British Columbia-based GHG reduction projects (to become ‘carbon neutral’), and report to the public on actions taken. The Province originally required local governments to achieve carbon neutrality in corporate operations by 2012, but subsequently modified this requirement to allow for a “making progress” designation, whereby local governments can work towards carbon neutrality but are not required to achieve carbon neutral status.

At its Regular meeting on October 14, 2010 Council considered Corporate Report No. R214; 2010 (Appendix “I”) titled “City of Surrey Corporate GHG Emissions Action Plan” and approved the City’s Corporate Emissions Action Plan (“CEAP”). The CEAP includes a target to reduce corporate GHG emissions by 20% by 2020 relative to average annual GHG emissions for the five years from 2005-2009. To progress towards this target, the CEAP included 13 actions to reduce emissions in the areas of buildings, fleet and infrastructure, as well as through leadership and public engagement. It was recognized that this target would be challenging due to the City’s rapid population growth and the ensuing need to build new civic facilities and expand the City’s fleet. In implementing the CEAP since 2010, the City has taken important steps to monitor and reduce corporate GHG emissions.

For the 2018 reporting year, the Province requires that the 2018 CARIP Climate Action/Carbon Neutral Progress Survey be completed by June 1, 2019. This Survey, which includes corporate and community-level climate actions, has been completed and is attached as Appendix “II”. For context, Figure 1 illustrates Surrey’s commitments and achievements related to corporate and community climate action over the past decade.



DISCUSSION

Corporate Greenhouse Gas Emissions Inventory 2018

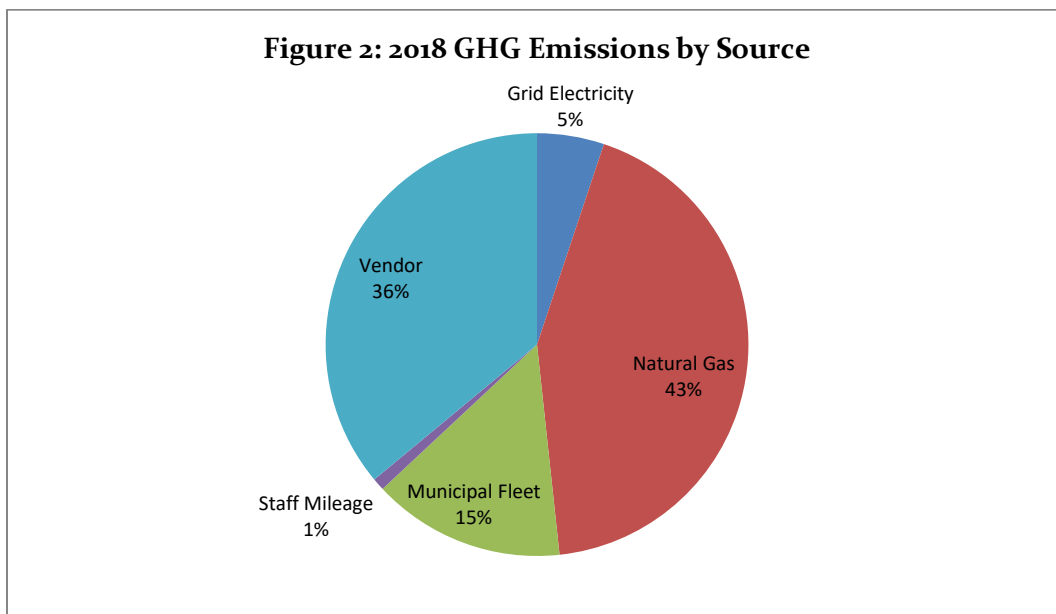
The City produces an annual inventory of corporate fuel usage and resulting GHG emissions. Following provincial guidelines, the inventory is divided into six Service Areas:

1. Fire Protection;
2. Solid Waste Collection, Transportation and Diversion;
3. Arts, Recreation, Parks and Cultural Services;
4. Road and Traffic Operations;
5. Drinking, Storm and Waste Water; and
6. Administration and Governance.

The City's emissions inventory includes fuel usage and resulting GHG emissions from vendors who are contracted to provide traditional services to the City, such as waste collection and streetlight maintenance. Over the past several years, efforts have been made to improve the reporting rate from these "in-scope" vendors, including adding a new functionality to the City's financial management system in 2016 to flag vendors that are required to report.

Figure 2 below shows a breakdown of the 2018 corporate GHG emissions by source, with:

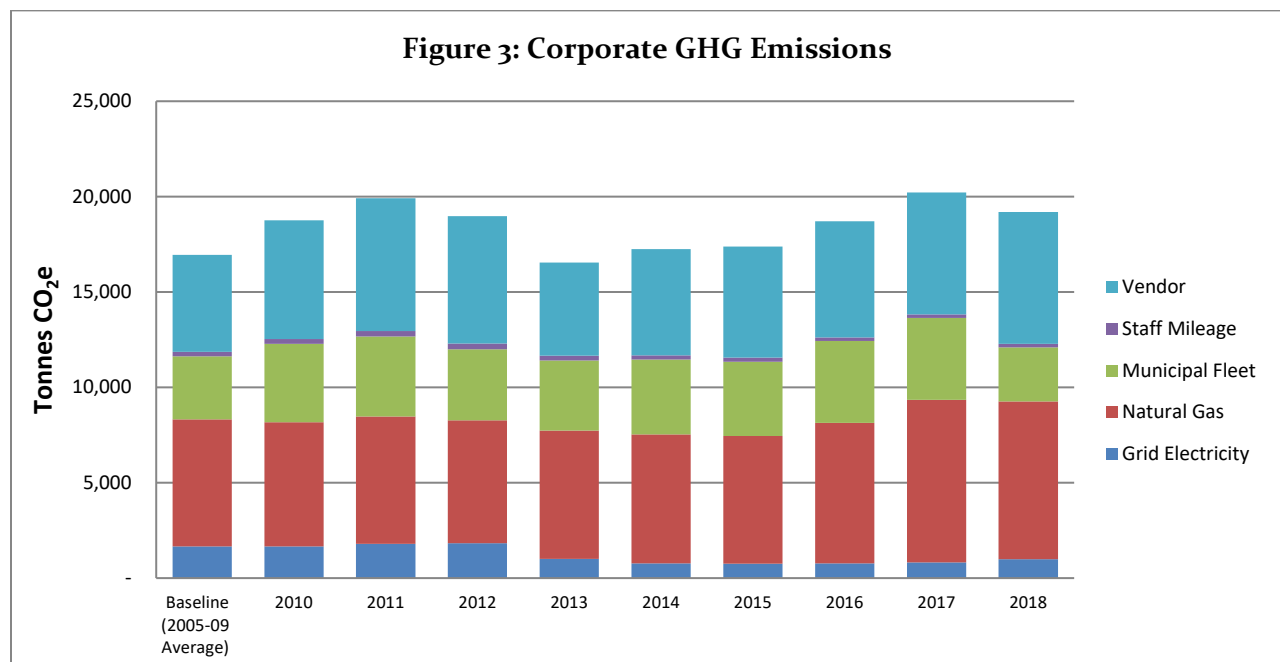
- 43% of City emissions coming from natural gas used to heat City buildings;
- 5% from electricity used in City buildings;
- 15% from fuels used in the municipal fleet;
- 36% from the fuels used by the City's in-scope vendors; and
- 1% from mileage claimed for staff travel.



In 2018, corporate GHG emissions were 19,190 tCO₂e (tonnes of carbon dioxide equivalent, which combines and normalizes the various GHGs). As shown in Figure 3 below, this represents a 5% decrease from 2017 and a 13% increase from the adjusted baseline (a 2005-2009 average).

Corporate GHG emissions in 2018 were a result of:

- The development of civic facilities, particularly the opening of the 18,000 ft² South Surrey Operations Centre, and the 12,000 ft² expansion of the Museum of Surrey;
- Increasing fuel use as reported by City vendors, as additional vendors were retained by all departments to serve growing community needs; and
- The growth in the City fleet, which while increasing overall vehicle efficiency and integrating dual fuel diesel/CNG vehicles, continues to see an increase in overall fuel usage due to increased service demand.



Emissions from City facilities (natural gas and grid electricity usage) in 2018 were 9,268 tCO₂e, which is a 11% increase from the baseline and a 1% decrease from 2017. The rise in emissions since the baseline is attributed to the opening of new facilities and expansion of existing facilities. This is supported by the fact that civic facilities' square footage has increased by 46% while emissions have increased by 11% since baseline. The reduction since last year may be from City-wide conservation efforts due to the Enbridge pipeline incident. The explosion caused a temporary shortage of natural gas and FortisBC urged its customers to reduce consumption to ensure enough supply to all.

Emissions from the City fleet in 2018 were 2,829 tCO₂e, a 34% decrease from 2017 and a 15% decrease from the baseline, reflecting the improved efficiency of the growing fleet. The overall reduction in fleet emissions in the past year can be attributed to the adoption of electric and dual fuel vehicles. These vehicles can operate on compressed natural gas ("CNG") or gasoline to displace diesel, resulting in a reduction of diesel consumption by 56% since 2017.

Emissions from staff mileage claims are only 181 tonnes, but nevertheless have declined by 22% from the baseline due to the expanding and more convenient system of fleet vehicles available, as well as improvements to operational practices that have reduced travel distances for staff.

Total emissions from City vendors (contracted services) in 2018 were 6,912 tonnes, representing an 8% increase from 2017. The main source of these vendor emissions is the waste management contract, which generated 4,082tCO₂e, or 59% of all vendor emissions. The increase in vendor emissions over time is a result of increased vendor services, as well as higher reporting rates and improved data quality. Next year, staff expect to see a significant decrease in the waste vendor's emissions due to the planned fuel switch to renewable natural gas ("RNG") produced by the Surrey Biofuel Facility.

Next Steps & Planned Activities

It is challenging for a fast-growing city like Surrey to reduce its corporate GHG emissions, especially since the number of capital projects exceeds the rest of the Metro Vancouver region combined. The City must continue to reduce corporate GHG emissions to achieve the City's corporate GHG reduction target and continue demonstrating climate action leadership to the community.

Several ongoing actions are moving the City towards reducing its carbon footprint:

- The Surrey Biofuel Facility opened in 2018 and the renewable natural gas ("RNG") it produces from community organic waste will be used in the City's contracted waste collection fleet and the City's own fleet vehicles. This fuel switch is expected to reduce corporate GHG emissions by approximately 40,000 tCO₂e;
- New facilities like the passive house-standard Clayton Heights Community Centre (currently under construction) will set Surrey as a leader in achieving stringent efficiencies in energy performance of commercial facilities and help encourage future developments to continue towards this standard;
- The City adopted the BC Energy Step Code in 2018 for new residential and commercial buildings. The Province is currently developing Step Code targets for civic buildings, and staff will review these and engage with stakeholders to determine the appropriate application to City buildings;
- Surrey Fire Service continues to pilot the use of auxiliary power units ("APUs") as alternative power sources for equipment, preventing engine idling of fire trucks, and recently opted for new fire trucks that include APUs. The City's Fleet Department is also collaborating with Fire Services to right-size the fleet and will look to replace larger vans with smaller and more efficient vehicles;
- Complete the current lighting retrofit of the Grandview Heights Aquatic Centre by Summer 2019 to replace the floodlights with LED fixtures. This project has been approved to receive \$18,480 from BC Hydro and is expected to save over 100,000 kWh in electricity. The new LEDs will last longer and require less maintenance, saving additional time and money;
- Improvements at the Surrey Arts Centre include correcting the power factor performance in summer 2018 to eliminate the monthly surcharges from utility bills;
- Replacing the dressing room lights and the three main air handling units with more efficient models at Surrey Arts Centre in 2019;

- Investigate the opportunity to purchase and operate the City's first 100% electric heavy-duty garbage truck;
- Collect operational data of two By-Laws vehicles to determine the current power requirements and assess whether available electric vehicles are appropriate to support the officers' roles;
- Continue with phase 3 of the LED Streetlighting Upgrade to replace 6,000 high pressure sodium lights with LEDs in Newton and Cloverdale to save an annual 2 GWh of electricity (or 21 tCO₂e);
- City of Surrey has been a member of BC Hydro's Energy Wise Network since 2016. This program offers funding incentives and professional coaching to help local government staff develop behaviour change initiatives that promote energy conservation. The Surrey Energy Smart Team consists of five City staff representatives from various departments who meet monthly. The Team members distribute campaign instructions to a dedicated Energy Champion in each facility, who then shares information with their co-workers for a ground-level integration of energy conservation activities. Some of the past campaigns through the Surrey Energy Smart Team have included the Energy Cup Challenge, Random Acts of Greenness, and Look Good in Layers/Ugly Sweater Day; and
- City of Surrey's Emerging Leaders Program is researching and designing an internal Green Team to expand the existing Surrey Energy Smart Team and address a larger spectrum of sustainability, such as proper waste sorting, developing a waste reduction strategy, and practicing water conservation.

To further the City's corporate climate action, the City is exploring a behavioural change campaign that would support increasing staff usage of the CNG fueling options available at the Operations Centre. This CNG station is currently under construction to improve reliability and efficiency for the growing fleet. The City has applied for additional funding from the CleanBC Communities Fund to expand the electric vehicle charging stations at City Hall dedicated for City staff. The scope includes upgrades to handle future capacity.

It should be noted that while the integration of RNG into the vendor waste collection and the City's own fleet will significantly reduce community GHG emissions by about 40,000 tCO₂e which will be applied as offsets against the corporate emissions, the City is not on track to meet its target of reducing GHGs 20% by 2020. Staff will assess the impact of the above actions over 2019 and consider whether and how to update and extend the CEAP in 2020, as well as consider future GHG reduction targets. Recommendations in this regard would be brought to Council. Future actions that might be considered by the City to reduce emissions include the following ideas:

- Continuing to right-size fleet vehicles, including learning from best practices in right-sizing emergency response vehicles;
- Exploring additional opportunities for staff to use electric vehicles (such as for building inspections);
- Further electrifying the City fleet, including the Fire Service fleet;
- Testing and assessing new technologies for heavy-duty vehicles;
- Continuing to increase RNG use by the fleet, including switching existing dual fuel gasoline/CNG vehicles over to RNG;
- Ensuring that any new City facilities are built to extremely high energy efficiency, such as Passive House standard or similar;

- Reviewing retrofit opportunities for existing City facilities by pursuing utility-funded energy studies to assess existing buildings' current energy performance and recommendations for improvement;
- Working through procurement processes and with City vendors to encourage their own GHG reduction activities, particularly around their fleets; and
- Implementing technologies that would lower energy usage in high energy use facilities (e.g. pools, ice rinks).

Carbon Neutral Status 2018

The CARIP Survey in Appendix "II" outlines total 2018 corporate GHG emissions and identifies community-based GHG reduction projects that can be used to reduce corporate GHG emissions. In this case, the City is receiving 860 tCO₂e from the protection of forest carbon through park creation for the years 2007 through to 2018. There is 994 tCO₂e of allowable GHG reductions from the City's organics diversion in 2018 (yard waste only) currently pending Province approval. Both sets of credits are calculated using available provincial protocols to be applied as GHG reductions against corporate emissions.

Assuming all offsets credits are approved, these calculations reduce the City's 2018 footprint of 19,190 tCO₂e by 1,854 tCO₂e, leaving an emissions balance of 17,336 tCO₂e for the 2018 reporting year. Thus in 2018, the City will not achieve carbon neutral status. There are no financial implications to this status, as the City is not required to be carbon neutral and will again claim the available designation of "making progress towards carbon neutrality". The City is meeting all the BC Climate Action Charter requirements and continues to receive the CARIP grant.

In addition to reducing GHG emissions by diverting organic waste from landfills, the Surrey Biofuel Facility is intended to generate GHG offsets to achieve carbon neutral status for corporate GHG emissions. The RNG produced by the Facility is intended to be used to fuel the City's waste haul fleet starting in 2019, resulting in a significant decrease in corporate GHG emissions as well as the generation of low carbon fuel standard ("LCFS") credits as a result of supplying a low carbon fuel to BC. This GHG reduction from waste collection vehicles transitioning to RNG as a fuel source will be realized in 2019 moving forward.

The Province recently advised that there may be overlaps with the application of GHG offsets and LCFS credits. City staff are engaged with the Climate Action Secretariat and the BC Ministry of Energy, Mines & Petroleum Resources to gain an understanding of eligibility requirements and Surrey's participation under both programs. Staff are also in discussions with the Province to determine how best to comply with the regulations while achieving the City's carbon neutral objective. Staff will report back in 2020 regarding the approach and still expect City operations to be carbon neutral for the 2019 reporting year and thereafter.

By completing the Survey and making it public through this Corporate Report, the City is fulfilling the annual CARIP grant requirement to report publicly on the City's progress toward the City's climate action goals. The Survey is to be made public on or before June 1, 2019.

SUSTAINABILITY CONSIDERATIONS

The work of this report supports the objectives of the City's Sustainability Charter 2.0. In particular, this work relates to Sustainability Charter 2.0 theme of Built Environment & Neighbourhoods, and Infrastructure. Specifically, this project supports the following Desired Outcome ("DO") and Strategic Direction ("SD"):

- Built Environment & Neighbourhoods DO9: All aspects of planning, design and construction include climate change impacts, greenhouse gas (GHG) mitigation, adaptation, and resiliency strategies; and
- Infrastructure SD5: Work collaboratively with diverse stakeholders to lower greenhouse gases and improve air quality.

CONCLUSION

The City continues to implement the CEAP to pursue a 20% corporate GHG reduction relative to the 2005-2009 average by the year 2020. The City's 2018 corporate emissions of 19,190 tCO₂e, less allowable GHG credits under the Carbon Neutral Local Government framework, results in a carbon balance of 17,336tCO₂e. Providing this public report on the City's climate action progress supports the CARIP grant application and related commitments under the Carbon Neutral Framework. It is recommended that Council receive this report as information.

Laurie Cavan
General Manager,
Parks, Recreation & Culture

Appendix "I": Corporate Report No. R214; 2010

Appendix "II": 2018 CARIP Climate Action/Carbon Neutral Progress Survey

CORPORATE REPORT

NO: *R214*

COUNCIL DATE:

Oct. 18, 2010

REGULAR COUNCIL

TO: **Mayor & Council**

DATE: **October 14, 2010**

FROM: **Sustainability Manager
Deputy City Manager**

FILE: **0512-02**

SUBJECT **City of Surrey Corporate GHG Emissions Action Plan**

RECOMMENDATION

The City Manager's Department recommends that Council:

1. Receive this report as information; and
2. Approve the City of Surrey Corporate Emissions Action Plan, which is attached as Appendix A to this report.

INTENT

The purpose of this report is to obtain Council approval of the Surrey Corporate Emissions Action Plan.

BACKGROUND

In 2008, the City of Surrey signed the BC Climate Action Charter, which signified the City's intention to work with the Province and the Union of BC Municipalities to significantly cut greenhouse gas emissions by 2012. The Charter is a voluntary agreement, and states that local governments will agree to develop strategies and take actions to achieve the following goals:

- (i) **Being carbon neutral in respect of their operations by 2012**, recognizing that solid waste facilities regulated under the Environmental Management Act are not included in operations for the purposes of this Charter;
- (ii) **Measuring and reporting on their community's GHG emissions profile**; and
- (iii) **Creating complete, compact, more energy efficient rural and urban communities.**

Achieving “Carbon neutrality” involves measuring GHG emissions that come from operations such as buildings and fleet vehicles and then either eliminating those emissions, developing projects that offset GHG emissions and/or purchasing offsets for the emissions.

On September 29, 2008, Council received Corporate Report No. R175, titled “Surrey Sustainability Charter”, which introduced for Council’s approval the Surrey Sustainability Charter as the overarching policy document for the City. The Charter included under Action EN11, a commitment to the climate change action plan; particularly to:

1. Develop strategies and take action to achieve the goals of the BC’s Climate Action Charter, to which Surrey is a signatory; and
2. Expedite the completion of the five milestones in the FCM Partners for Climate Protection process, including an inventory of corporate greenhouse gases (GHGs) and setting targets and timelines for GHG reductions.

On March 22, 2010, Council received Corporate Report No. R046, which outlined 2009 accomplishments in relation to the City’s sustainability work plan and key elements of the 2010 work program; particularly the corporate emissions action plan, the sustainability indicators and targets dashboard and work related to community emissions.

DISCUSSION

Corporate Energy and Emissions Inventory

City staff has worked with the Pembina Institute to compile an inventory of the City’s energy use and GHG emissions for the years 2005 through 2008. Energy use focuses on the City’s fossil fuel consumption, particularly natural gas, electricity, propane, gasoline and diesel. A facilitated workshop that was conducted to prepare the inventory helped build internal capacity around GHG emissions tracking. The inventory work was completed using the Province’s guidance document on Carbon Neutral Government, in particular capturing the “traditional municipal service areas” as a means to categorize energy uses.

The emissions inventory was then updated for 2009 with the following results:

- In 2009, the City of Surrey consumed a total of 417,079 GJ of energy and emitted 15,225 tonnes of GHG emissions (expressed as tonnes of carbon dioxide equivalents, CO₂e) in the delivery of its services¹.
- Of this total energy consumption, electricity accounts for approximately 9%; natural gas accounts for approximately 47%, and fuel consumed to run the City’s fleet accounts for approximately 44%.
- The total expenditure on energy in 2009 was \$10,515,984.

¹ Reported GHG emissions are those applicable to the Climate Action Charter carbon neutrality commitment. Emissions resulting from solid waste decomposition are included in the community wide emissions inventory and not in the corporate inventory.

Corporate Emissions Action Plan

Building on the emissions inventory results, the Corporate Emissions Action Plan (CEAP) attached as Appendix A to this report, has been developed to establish targets, strategies and actions to assist the City in reducing the carbon footprint of its operations with a view to achieving carbon neutrality.

The CEAP identifies actions to reduce corporate GHG emissions over the next one to five years and outlines implementation requirements, including roles and responsibilities, monitoring requirements and reporting and financing approaches to assist with plan implementation.

The CEAP identifies actions for the City to take toward reducing its carbon footprint in each of the following areas:

- Buildings;
- Fleet;
- Infrastructure; and
- Leadership and Engagement.

The CEAP also identifies a target for the City's operations for the year 2021 in relation to GHG emissions reduction. This target recognizes that over the period 2005 through 2009, average annual energy consumption for the City of Surrey was approximately 445,000 GJ and average annual GHG emissions were approximately 14,500 tonnes CO₂e. These figures have been established as the baseline from which it is proposed that the City set its GHG emissions reduction targets relative to corporate operations.

GHG Emissions Reduction Target:

The Corporate Emissions Action Plan sets as a target a reduction in GHG emissions by the City's operations by the year 2020 of 20% below the above-referenced baseline levels.

The Plan documents that although this target is a "stretch" target (i.e., in view of the growth that the City will experience between the present and 2020), it is achievable if the City is faithful in implementing the actions identified in the Plan. The City will need to continue to dedicate resources to improve and adjust the City's operations in accordance with the actions outlined in the Plan and to monitor its energy and emissions footprint so that progress toward the target is well understood on an on-going basis.

There are a number of available funding programs (e.g., BC Hydro) outlined in the CEAP to which applications will be submitted for funding in support of the City's actions.

Schedule for CEAP Reviews and Updates

The Plan will be reviewed and updated every three to five years to ensure that it remains current to City priorities and initiatives.

Carbon Liabilities and Opportunities

In the context of the CEAP and in preparing for carbon neutrality, it is important to note that local governments in BC have carbon liabilities and opportunities. These are briefly described in the following paragraphs:

- The “**carbon tax**” associated with the purchase of fossil fuels (e.g. gasoline, diesel, natural gas, propane) was initiated at \$10 per tonne on July 1, 2008, and will reach \$30 per tonne by July 1, 2012. By signing the BC Climate Action Charter and committing to become carbon neutral, local governments are eligible for a rebate on the carbon taxes paid (called the Climate Action Rebate Incentive Program, or CARIP rebate). Based on the City’s 2009 levels of energy consumption, the CARIP rebate should be approximately \$416,200 in 2012.
- There is an opportunity to purchase **carbon offsets** to become carbon neutral. The City of Surrey will need to purchase some amount of carbon offsets to be carbon neutral in 2012 and beyond. The cost to purchase offsets in 2012 is widely expected to be \$25 per tonne. At this price, the cost to the City of Surrey for offsets in 2012 (based on 2009 emissions) would be approximately \$380,500. As such, it is important for the City to continue to review its operations with a view to cost effectively reducing energy consumption and GHG emissions.

The City will need to acquire carbon offsets in 2012 for any GHG emissions remaining after carbon reduction activities and the related results are taken into account. The Climate Action Charter does not specify the source of offsets for local governments. However, the Carbon Neutral Working Group of the Green Communities Committee (a joint initiative of the Union of BC Municipalities and the Climate Action Secretariat) is working to develop guidelines related to the purchase of suitable carbon offsets for local governments. A further report will be provided to Council on this matter as additional information becomes available.

The City has been exploring options related to offsets including establishing a reserve fund for the City’s carbon offset dollars that would be used by the City in investing in Surrey-based “carbon offset” projects. The work of the Carbon Neutral Working Group will provide direction on what constitutes a valid and appropriate “community project” for the purposes of offsetting corporate carbon emissions. Staff will continue to monitor the progress of the discussions of the Working Group and are scoping out Surrey-based carbon offset projects that might qualify under the new carbon offset framework.

SUSTAINABILITY CONSIDERATIONS

Through the Sustainability Office, staff continues to pursue sustainability initiatives that further the goals of the Surrey Sustainability Charter. Implementation of the goals of the Sustainability Charter will advance the City towards its 2058 sustainability vision. The Corporate Emissions Action Plan will assist in addressing several of the Actions identified in the Sustainability Charter as follows:

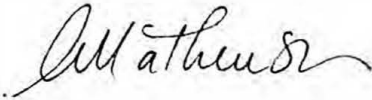
- EN 1: Energy Efficiency, including taking steps to achieve energy efficiency and demonstrate community sustainability leadership by: being carbon neutral by 2012; developing policies related to building energy use; and incorporating alternative energy systems where feasible.

- EN3: Vehicle Fleet Programs, including policies to right-size the City's vehicle fleet, look at the carbon footprint of its equipment, and analyze costs and benefits of alternative fuels.
- EN5: Green Procurement Policies and Practices.
- EN7: Implement and Publicize Green Infrastructure Pilot Projects.
- EN11: Surrey's Commitment to the Climate Change Action Plan.

CONCLUSION

The Sustainability Charter sets out a vision for sustainability in Surrey and acts as an overarching policy document for the City. A key Charter deliverable in 2010 is the Corporate Emissions Action Plan, attached to this report as Appendix A. It acts to establish the City's current state of being from the perspective of energy consumption and GHG emissions, defines corporate greenhouse gas emissions reduction targets and articulates a series of actions that the City should take to achieve the targets.

Based on the above discussion, it is recommended that Council approve the City of Surrey Corporate Emissions Action Plan, which is attached as Appendix A to this report.



Anna Mathewson
Sustainability Manager



Dan Bottrill
Deputy City Manager

AM/mc

q:\admin\managers\corporate reports\2010\corporate emissions action plan -oct 2010.doc MC 10/15/10 1:39 PM

Appendix "A": Corporate Emissions Action Plan (appendix available upon request)



Survey Template

For the *2018 CARIP Climate Action/Carbon Neutral Progress Survey*

Local governments are required to submit the *2018 CARIP Climate Action/Carbon Neutral Progress Survey* on or before June 1, 2019.

Use Template to Collect Information

This Survey Template has been provided to help local governments complete the survey and report its contents. The template can be used to:

- gather and record survey responses before inputting data into the survey; and/or
- create the public report.

Alternatively, a local government may choose to use a template or format of their own design.

Responses entered into this Survey Template can be cut and pasted into the online survey. The survey asks for up to five actions in each category, and there is a place in the survey to report additional actions if desired. In this Survey Template, simply add more lines to the tables to report more than five actions.

Public Reports:

Public reports must contain the same information as submitted in the 2018 Climate Action/Carbon Neutral Progress Survey. Because respondents are unable to generate a report of survey responses, Ministry staff will send each respondent a PDF version of their CARIP report once it has been completed online.

For purposes of the CARIP Survey, the following definitions apply:

COMMUNITY-WIDE ACTIONS

Actions undertaken to reduce GHG emissions in the community at-large (e.g. not related to corporate operations).

CORPORATE ACTIONS

Actions undertaken to reduce GHG emissions produced as a result of a local government's delivery of "traditional services", including fire protection, solid waste management, recreational/cultural services, road and traffic operations, water and wastewater management, and local government administration.

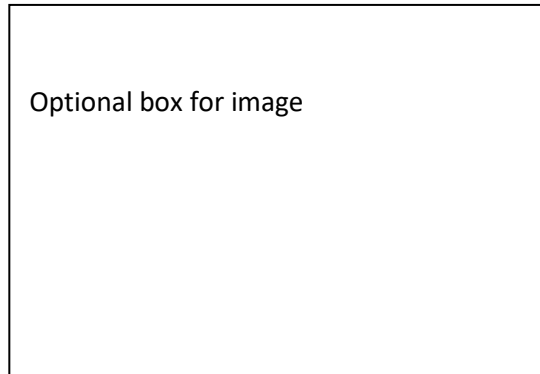
The Government of BC will not collect, use, or disclose personal information using SurveyMonkey®. Please be aware however that IP addresses are collected by SurveyMonkey® itself, and these IP addresses and other information collected will be stored on SurveyMonkey®'s servers located outside of Canada. Please do not provide any third-party information (e.g. refer to others) in your responses to the survey.



Climate Action Revenue Incentive (CARIP) Public Report for 2018

Local Government: City of Surrey

Report Submitted by: Name: Emily Kwok
Role: Climate and Energy Email: Emily.kwok@surrey.ca Phone: 604-592-7027



Date: May 21, 2019

The City of Surrey has completed the 2018 Climate Action Revenue Incentive Program (CARIP) Public Report as required by the Province of BC. The CARIP report summarizes actions taken in 2018 and proposed for 2019 to reduce corporate and community-wide energy consumption and greenhouse gas emissions (GHG) and reports on progress towards achieving carbon neutrality.

2018 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, and centred) plays an especially important role in energy and GHG reduction.

Q 6 + Q 7 Community-Wide Broad Planning Actions Taken in 2018 + Additional Actions	
	Continued implementation of the Community Climate Action Strategy, which includes actions from both the Climate Adaptation Strategy and the Community Energy and Emissions Plan.
	Surrey continued the process of re-certifying for Platinum Certification from the World Council on City Data under ISO 37120, the standard for Sustainable Development of Communities.
	Launched Surrey CityLab, an experimental program for post-secondary students to address important city topics. CityLab is a partnership with City of Surrey, SFU, and KPU, and was identified to find opportunities to enhance Surrey and meet the goals of the Surrey Sustainability Charter.
	Successfully re-oriented Surrey's annual community grants program to support broader community implementation of Sustainability Charter 2.0 goals. Over 80 grants received referenced the themes and desired outcomes for the Charter.
Q 8 Community-Wide Broad Planning Actions Proposed for 2019	
	Complete and adopt the neighbourhood-level Newton: Sustainability in Action sustainability action plan.
	Complete ISO 37120 (Sustainability Development of Communities) re-certification process.
	Continue implementation of the Community Climate Action Strategy, which includes actions from both the Climate Adaptation Strategy and the Community Energy and Emissions Plan.

Q 9 + Q 10 Corporate Broad Planning Actions Taken in 2018 + Additional Actions	
	Implementation of Surrey Excels as Surrey's strategic corporate framework, with alignment to the Sustainability Charter 2.0's strategic directions and indicators.
Q 11 Corporate Broad Planning Actions Proposed for 2019	
	Implementation of Sustainability Office's Surrey Excels "map" of priorities, strategic initiatives and key measures.
	Revisit the 2010 Corporate Emissions Action Plan and set new goals and projects.
	Support the ongoing implementation of the Surrey Excels strategic corporate framework at the

	citywide (Tier 1) level as well as for the Parks, Recreation & Culture department level (Tier 2).

Broad Planning	
Q 12 What is (are) your current GHG reduction target(s)?	Community: 2020: 33% reduction in per capita emissions vs. 2007 2050: 80% reduction in per capita emissions vs. 2007 Corporate: 20% below baseline (2005-09 average) by 2020
Q 13 Are you familiar with your local government's community energy and emissions inventory (e.g. CEEI or another inventory)?	Yes
Q 14 What plans, policies or guidelines govern the implementation of climate mitigation in your community? <ul style="list-style-type: none"> • Community Energy and Emissions Plan • Integrated Community Sustainability Plan • Community- Wide Climate Action Plan • Official Community Plan • Regional Growth Strategy • Do not have a plan • Other: 	Yes Yes Yes Yes Yes Yes Yes
Q 15 Does your local government have a corporate GHG reduction plan?	Yes

2018 BUILDING 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.

Q 16 + Q 17 Community-Wide Building and Lighting Actions Taken in 2018 + Additional Actions	
	The "Empower Me" program was delivered to 167 households, targeting behaviour change and energy retrofits for newcomers living in single family homes. Since the inception of the program in 2012, a total of 3,361 Surrey households have participated.
	Adopted Surrey's BC Energy Step Code requirements, which were developed in consultation with industry stakeholders, the Province, other local governments, and internal staff.
	Adopted home energy labelling requirements for eligible Part 9 residential buildings and building energy benchmarking requirements for eligible Part 3 buildings

	Initiated internal change management work to integrate the BC Energy Step Code into Surrey's Building Bylaw and relevant systems and processes as well as external capacity building to support the transition for local industry. Planning included airtightness training, builder breakfasts, and a rebate for mid-construction blower door testing.
	Completed Energy Step Code Bulletins for Part 9 Single- and Two-Family Dwellings, Part 9 Multi-Family Residential Buildings, and Part 3 Buildings. Completed 40 energy code compliance plan checking audits for Part 3 buildings. Completed 42 energy code compliance field review audits for Part 9 buildings.
	Hired two UBC Sustainability Scholars. One conducted research and synthesized findings on existing building policies and programs in leading jurisdictions, as part of research underway to develop a foundation for an Existing Building Retrofit Strategy. The other used the BC Energy Step Code metrics (costing) study to identify low-emissions buildings with reasonable energy costs and incremental capital costs.
	Completed Energy Step Code Bulletins for Part 9 Single- and Two-Family Dwellings, Part 9 Multi-Family Residential Buildings, and Part 3 Buildings. Completed 40 energy code compliance plan checking audits for Part 3 buildings. Completed 42 energy code compliance field review audits for Part 9 buildings.
Q 18 Community-Wide Building and Lighting Actions Proposed for 2019	
	Begin enforcing the BC Energy Step Code on April 1, covering all Part 9 and Part 3 building types that currently have Step Code requirements associated with them.
	Host at least two Builder Breakfasts, including a demonstration with the BCIT Airtightness Training Course mobile unit and a tradeshow/meet-and-greet for Energy Advisors.
	Provide a \$400 rebate for Part 9 builders that conduct a mid-construction blower door test, as part of the City's strategy to improve local industry capacity to construct airtight homes.
	Hire a UBC Sustainability Scholar to conduct and synthesize research on local, regional, Provincial, and Federal building policies, programs, regulations, and incentives that the City can access and/or learn from in the development of an Existing Building Retrofit Strategy.
	Initiate the development of a regionally-coordinated program for building energy benchmarking.
	Plan to perform 40 energy code compliance plan checking audits for Part 3 buildings. Plan to perform 40 energy code compliance field review audits for Part 9 buildings.

Q 19 + Q 20 Corporate Building and Lighting Actions Taken in 2018 + Additional Actions	
	Construction of the Clayton Heights Community Centre began, following Passive House standards to pursue significant energy savings compared to traditional buildings of similar capacity. Upon completion it will be the largest Passive House certified facility in Canada, and the first Passive House certified community centre in North America.
	Completion of phase 2 of the five phase LED Streetlight Upgrade in Newton Town Centre. This involved the replacement of 6,189 high pressure sodium (HPS) streetlight fixtures to LED fixtures for an estimated energy savings of 2 GWh.
	A capacitor was installed at Surrey Art Centre to address the poor power factor rating at this site.

	This correction showed immediate improvements and will effectively save an average of \$500 in monthly surcharges.
	Completed lighting retrofits at South Surrey Indoor Pool’s exterior parking, Sunnyside Community Hall, Fire Hall #4, Elgin Hall and Clayton Community Hall for a total electricity savings of 60,000 kWh.
Q 21 Corporate Building and Lighting Actions Proposed for 2019	
	Conduct tours of the Clayton Community Centre’s construction site to showcase the building’s rigorous envelope and insulation requirements as per Passive House standards. A mock-up of the building’s cross section will be on permanent display to allow visual demonstration of this detail even after the construction is complete.
	Proceed with phase 3 of the LED Streetlighting upgrade to replace 5,500 HPS streetlight fixtures to LED fixtures for an estimated 1.5 GWh electricity savings.
	Replace 120 dressing room lights to LEDs at the Surrey Arts Centre for an estimated 16,000 kWh of electricity savings and replace three air handling units (AHUs) for an estimated 1,500 GJ of natural gas savings. Renovate heritage building Strawberry Hill Hall with full replacement of existing T5 and incandescent lights to LED fixtures for an estimated 1,300 kWh annual savings of electricity.
	Replacement 60 metal halide lamps at Grandview Heights Aquatic Centre with LED fixtures for an estimated annual energy savings of 102,000 kWh. Conduct an energy study at Guildford Library, Recreation Centre and Pool as well as at Surrey Sport and Leisure Complex to assess current building performance and find opportunities to improve energy efficiency of both facilities.
	Feasibility study & demonstration of Kaizen software at 5 sites to improve existing building automation system (BAS) with the functionality to address and correct programming errors/faults and improve overall operation of building systems and equipment

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	
Q 22 Is your local government aware of the BC Energy Step Code?	Yes
Q 23 Is your local government implementing the BC Energy Step Code?	Yes

P5 2018 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.

Q 24 + Q 25 Community-Wide Energy Generation Actions Taken in 2018 + Additional Actions	
	Commissioned the West Village Energy Center, a new 15MW gas fired boiler plant. The build-out capacity of the plant is 45MW and it will eventually serve as back-up to future low-carbon energy generating facilities.
	Delivered heat to five new customer buildings, including SFU's new Sustainable Energy Engineering building in City Center.
	Over 15,000 MWh of heat delivered to Surrey City Energy customers, including over 600 MWh of low-carbon energy recovered from the City Hall geo-exchange system.
	Achieved service commencement for the Surrey Biofuel facility and commenced biomethane production.
Q 26 Community-Wide Energy Generation Actions Proposed for 2019	
	Begin using Renewable Natural Gas produced at the City of Surrey biofuel facility. This local, low-carbon resource will support SCE reach its greenhouse gas intensity targets.
	Complete design work on a 3.5 km District Energy Pipe network expansion. Construction is to occur over three years, beginning in 2020.
	Investigate feasibility and establish conceptual design for waste heat recovery from City Center buildings. Focusing primarily on commercial buildings with year-round cooling needs, this work may be supported through funding from BC Hydro or other sources.
	Launch a collaborative study with SFU's Laboratory for Alternative Energy Conversion. The study will focus on thermal energy storage and innovative waste heat recovery technologies.
	Continue operation of the Surrey Biofuel Facility which is expected to produce 100,000 GJ of renewable natural gas annually.

Q 27 + Q 28 Corporate Energy Generation Actions Taken in 2018 + Additional Actions	
	Operation of the Surrey Biofuel Facility to being generating renewable natural gas (RNG).
Q 29 Corporate Energy Generation Actions Proposed for 2019	
	Commenced construction of the compressed natural gas (CNG) refuelling station at Surrey Operations Centre.
	Pursue low carbon electrification opportunities to utilize waste heat from sewage and investigate potential district cooling system pending BC Hydro support.

Energy Generation

Q 30 Is your local government developing, or constructing a <ul style="list-style-type: none"> • district energy system • renewable energy system • none of the above 	Yes Yes
Q 31 Is your local government operating a <ul style="list-style-type: none"> • district energy system • renewable energy system • none of the above 	Yes Yes
Q 32 Is your local government connected to a district energy system that is operated by another energy provider?	No
Q 33 Are you familiar with the 2018 List of Funding Opportunities for Clean Energy Projects Led by First Nations and Local Governments?	Yes

2018 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.

Q 34 + Q 36 Community-Wide Greenspace Actions Taken in 2018 + Additional Actions (Q 35 below Q 41)	
	<p>Launched engagement and consultation for Nicomekl Riverfront Park, currently in planning and development stage. This new park will provide recreational assets, including a 3km long walking pathway network, boat launch and access to the Nicomekl River, social and gathering spaces, children’s play spaces, environmental education and programming, art and heritage interpretations, and natural areas for the benefit of biodiversity and wildlife habitat. The park will also provide flood attenuation capacity (52 acres of flood storage in a 200-year flood event), increased natural tolerance (16.19 acres invasive species control, 2,930 lin. m shoreline restoration, and 34.35 acres native plantings), water quality (2 acres perched wetlands providing water filtration) and enhanced habitat (9.7 ha riparian planting, 2,930 lin. m shoreline restoration, 34.35 acres native plantings, 890 new trees, 0.5 acres amphibian habitat, and 4.94 acres habitat islands).</p>
	<p>Prioritizing Infrastructure and Ecosystem Risk (PIER) in Mud Bay project (currently underway) involved collecting environmental data and evaluating natural processes in coastal areas of Surrey, to better understand ecosystem risks associated with sea level rise, and assess vulnerabilities of intertidal wetland habitats and natural coastal infrastructure. A workshop was organized to bring together city staff, environmental groups and ecosystem specialists to identify largest ecosystem risks and priorities for its protection.</p>
	<p>Launched pilot project to collect information on replacement trees planted on private property to determine survival rates and other impacts affecting long-term tree health. This data will be used to help grow the diversity of the urban forest and help maintain the tree canopy target.</p>

	Completed the third year in support of Young Agrarians to deliver FarmableNOW, an agricultural land matching program for landowners and new or young farmers in Surrey.
	High value habitats are better protected through the use of Streamside Setbacks established in the General Provisions section of the Surrey Zoning By-law 12000 (Part 7A) and through the creation of a new Sensitive Ecosystem Development Permit Area in the OCP. Amendments to the Surrey Tree Protection By-law, 2006 No. 16100 will also be forthcoming to work to implement and enforce the Biodiversity Conservation Strategy by creating new protection measures in Sensitive Ecosystem and Hazard Land Development Permit Areas and by modifying penalties to better protect high value habitats.
	Amendments to the Surrey Soil Conservation and Protection By-Law, 2007 No. 16389 were made to now require Development Permits to be issued and finalized prior to the issuance of a soil permit in sensitive ecosystem and hazardous areas. This ensures full integration of the protection requirements of these areas and reduces the potential for a soil permit to be issued that may not be aligned with the protection guidelines. Amendments were finalized at the end of 2017 and are now in place.
	35 acres of park land were added to the Biodiversity Conservation Strategy's Green Infrastructure Network (GIN) through land development applications (conveyance) and NCP implementation. Total GIN protected as park land is now 5,071 acres.
	An Environmental Planner who is a registered professional biologist ("R.P.Bio"), was hired to support the implementation of the Sensitive Ecosystem Development Permit Area Guidelines.
	Surrey's urban forest and habitat was enhanced with the planting of over 7,071 new shade trees; 17,582 shrubs; 24,653 plants, and the removal of invasive plants from 11.15 ha of park land and road allowance. In addition, over 10,500 m ² of passive or degraded park land was converted to natural area.
	The City-run Surrey Nature Centre continued to offer school programs, family events and children's day camps to increase appreciation and stewardship of the natural environment. The 20th annual Environmental Extravaganza offered free environmental education programs across the City from Earth Day through World Ocean Day in partnership with community groups.
	Two long-standing ecosystem enhancement programs, Surrey's Natural Areas Partnership (SNAP) and the Salmon Habitat Restoration Program (SHaRP), employed post-secondary and high school students to complete riparian and natural areas habitat restoration and deliver public education messaging.
Q 37 Community-Wide Greenspace Actions Proposed for 2019	
	Continue development of Nicomekl Riverfront Park, currently scheduled for construction in summer 2020.
	Complete Prioritizing Infrastructure and Ecosystem Risk (PIER) project, including communication components to educate on the issue of coastal squeeze and inspire collaborative action on coastal ecosystem sea level rise adaptation.

Q 38 + Q 39 Corporate Greenspace Actions Taken in 2018 + Additional Actions
--

	Continued efforts to improve effectiveness of City policies and practices to maximize tree and habitat protection.
	Amendments to the City’s Tree Protection By-law to be undertaken to align with the Biodiversity Conservation Strategy and Sensitive Ecosystems.
	Staff looking to explore the development of an Urban Forest Strategy to assist the City in defining a sustainable urban forest with guidance for both public and private lands.
	Continued implementation of the Shade Tree Management Plan.
	Green roofs on City Hall, City Centre Library, and Surrey Operations Centre and a green wall at City Hall and at the building shared by Semiahmoo Library and RCMP office are maintained to model innovative building greening options and provide energy saving benefits. When combined, these buildings provide over 14,000 ft ² of greenspace on their exterior roof and walls.
Q 40 Corporate Greenspace Actions Proposed for 2019	
	Hire a Biodiversity Conservation Strategy (“BCS”) Coordinator R.P.Bio, who will lead the broader implementation of the BCS.
	Continue implementation of the Shade Tree Management Plan.

Greenspace	
Q 41 Does your local government have urban forest policies, plans or programs?	Yes
Q 35. Does your local government have policies, plans or programs to support local food production?	Yes

2018 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.

Q 42 + Q 43 Community-Wide Solid Waste Actions Taken in 2018 + Additional Actions	
	Achieved service commencement for the Surrey Biofuel facility and commenced biomethane production. Completed over 75 tours at the Surrey Biofuel Facility which included students, members of the public, municipalities, regional districts and industry experts.
	The Biofuel Facility received the following awards in 2018: <ul style="list-style-type: none"> • Envision® Platinum Award from the Institute for Sustainable Infrastructure: The Surrey Biofuel Facility was the 2018 recipient of the Institute for Sustainable Infrastructure (ISI) Envision Platinum award. The facility is the first waste sector infrastructure project in North America and only the third Canadian project overall to earn the prestigious Envision award

	<p>for sustainability infrastructure across the full range of environmental, social, and economic impacts</p> <ul style="list-style-type: none"> • Community Energy Association: Honourable Mention for Corporate Operations to reduce local government’s GHG emissions for the Surrey Biofuel Facility; Public Sector Collaboration Award for our Integrated Sustainability Education Program which comprises of the Rethink Waste Program, Sustainability and Water.
	Successfully piloted education programs which included over 45 workshops with school classes to establish and develop education programs for the Surrey Biofuel facility.
	Successfully completed public consultation, rezoning and land sale to Metro Vancouver for the Surrey Eco-Centre site with construction completed in 2020
	Entered into a new contract for a five-year period with Recycle-BC which includes new financial incentives of approximately \$6 million per year.
	Continued to successfully reduce illegal dumping. Incidents decreased by 10% from 2017 and by 40% from 2015 baseline.

Q 44 Community-Wide Solid Waste Actions Proposed for 2019

	Implement Biofuel Education Centre and associated programs for schools and general public
	Support the launch and operation of Sources Community Resources Society’s Food Hub through the City’s role in the Seeds of Change Surrey collective impact initiative. The Food Hub will directly reduce food waste by establishing a centralized food recovery and distribution centre in Surrey; engaging farmers and retailers to redirect their food waste; and providing a commercial kitchen space to incubate value-added food businesses using rescued produce.
	Reduce recycling contamination to achieve a goal of having the lowest amount of non-targeted packaging and printed paper material for a single- stream curbside program in BC
	Continue to support the implementation of the National Industrial Symbiosis Program (NISP) in Surrey in the next three years
	Continue to develop measures and action plans to become the first city in Canada to achieve Zero Waste in the next 7 years (reduction in waste generation and innovative diversion technologies will be the focus)
	Roll out citywide litter, illegal dumping and Rethink Waste education and awareness campaign
	Work with Metro Vancouver to start construction of RDO/Eco-centre site
	Implement Surrey Disaster Debris Management Plan to ensure that provides an operational framework to manage large volumes of debris after an emergency event

Q 45 + Q 46 Corporate Solid Waste Actions Taken in 2018 + Additional Actions

	Successfully submitted a project proposal to City of Surrey’s internal Emerging Leaders Program (ELP) for participants to design and launch a Green Team of City staff volunteers to spearhead and champion proper waste sorting at all City facilities and develop an overall waste reduction strategy and goal.
	Launch of the eSignLive software (recently rebranded to OneSpan) that allows managers to approve documents via digital signatures to save paper and ink. To date, we have a total of 16 members at City of Surrey using OneSpan to sign 229 completed documents, 172 of which were completed within 2018.

Q 47 Corporate Solid Waste Actions Proposed for 2019	
	Support and assist the ELP team with research and development of an outline to pilot the Green Team with guidelines of the recruitment process, work scope, and expected outcomes. Launch the Green Team with necessary approvals and recruit staff volunteers to merge with the existing representatives of the “Rethink Waste” waste diversion program initiated in 2015.
	Continue implementing OneSpan Sign for City of Surrey managers to continue reducing printer paper consumption. Potentially coordinate with external contacts to follow suite.

Solid Waste	
Q 48 Does your local government have construction and demolition waste reduction policies, plans or programs?	Yes
Q 49 Does your local government have organics reduction/diversion policies, plans or programs?	Yes

2018 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 and public transit, can contribute to reductions in GHG emissions and more livable communities.

Q 50 + Q 51 Community-Wide Transportation Actions Taken in 2018 + Additional Actions	
	Submitted the final bid towards Infrastructure Canada’s Smart Cities Challenge with the City of Vancouver. Surrey and Vancouver will implement Canada’s first two collision-free multi-modal transportation corridors, leveraging autonomous vehicles and smart technologies to demonstrate the plan to safer, healthier and more socially connected communities while reducing emissions, improving transportation efficiency and enhancing livability.
	Completed a study, “Transportation Vehicle Modelling for Policy Analysis” with UBC Data Science students. The project developed and analyzed a spatial passenger vehicle baseline and completed a business-as-usual forecast to 2050 that City staff can use for further modelling and policy analysis.
	Added 8 dedicated workplace EV Charging stations at City Hall; Added new EV Charging Stations at Hemlock Works Yard (2), Hawthorne Park (2), Glades Gardens, (2) and South Surrey Operations Centre (2).
	Introduced new EV charging infrastructure requirements for new developments, including 100% for residential, 50% visitor, and 20% commercial.
	Launched an EV Advisory Group (external) to help guide EV policy development in the City; Hosted a

	CEMA-EV Workshop for City staff (July 2018) and a follow-up Lunch & Learn.
	Continued the development of multi-modal urban transport within Surrey; bike lanes were increased by 4.26 km, greenways were increased by 4.85 km, sidewalks were increased by 16.5 km (13.8km from development and 2.76km from capital project), and 7 new accessible bus stops were established. We anticipate adding 13 new accessible bus stops and approximately 10 km of sidewalks.
Q 52 Community-Wide Transportation Actions Proposed for 2019	
	Carry out a study with UBC Data Science students to conduct exploratory analysis to help City staff better understand key vehicle stock, demographic, and sociotechnical characteristics necessary to ground Surrey's EV Strategy.
	Complete relocation of Cloverdale DC Fast Charger (DCFC) from Surrey Museum to new Off-Street location. Add 2 charging ports at the new North Surrey Sport & Ice Complex.
	Secure funding (Clean BC/NRCan) for expansion of Level 2 and DCFC network City-wide, including preparation for future capacity demands
	Develop a comprehensive Surrey EV Strategy. Target completion date is Spring 2020.
	Refine EV infrastructure requirements in new commercial developments (currently 20%) and explore requirements for institutional and industrial uses.
	Launch process to update the City's Transportation Strategic Plan. This will set a 10-year plan to help define the future of Surrey residents' different modes of transportation.

Q 53 + Q 54 Corporate Transportation Actions Taken in 2018 + Additional Actions	
	Total of 16 new and replacement fleet vehicles purchased have dual fuel engines. Vehicle operators are encouraged to use compressed natural gas (CNG) during the mandatory training sessions for all seasonal and full-time staff.
	Participation in FleetCarma's EV suitability assessment program. City of Surrey is currently gathering data of existing vehicles to build a baseline. This will be analyzed to properly address EV conversion where suitable.
	Replaced 5 "first generation" charging stations with newer units that have upgraded cellular networking and dual ports to double the number of ports on-site for each of these locations.
Q 55 Corporate Transportation - Actions Proposed for 2019	
	Commence construction to rebuild the compressed natural gas (CNG) station at Surrey Operations Centre to improve reliability and range with plans to rezone the station and allow for external commercial users.
	Organize additional EV lunch & learn sessions for staff at various City buildings to provide basic introductory information about EV and charging stations, to raise awareness about available incentives and eligible vehicles, and to address questions via interactive discussions.
	Investigate the opportunity of purchasing and operating a 100% electric garbage truck including necessary infrastructure upgrades.
	Revise the Fleet training session to include anti-idling initiatives; pursue metering options that could track and record changes in idle time and fuel usage.
	As part of the CleanBC funding application, we are also including an expansion of the City of Surrey

“staff only” EV chargers on P2 including upgrades to handle future capacity. Pending approval, this will increase the current 8 spaces to 32 spaces.
--

Transportation	
Q 56 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) 	Yes Yes Yes Yes No
Q 57 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
Q 58 Does your local government integrate its transportation and land use planning?	Yes

2018 WATER AND WASTEWATER ACTIONS

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 GHG emissions.

Q 59 + Q 60 Community-Wide Water and Wastewater Actions Taken in 2018 + Additional Actions	
	Continued to offer the Voluntary Water Meter program, encouraging water conservation behaviour by having residents pay for the water they use.
	Completed water conservation outreach in Cloverdale and Clayton neighbourhoods. The program visited 10,188 single family properties to provide education around the regional water restrictions and water conservation tips. Energy-related conservation tips were also shared as part of the outreach program.
	Completed a leak detection survey of the City, west of 152 Street, piloting a new technology that uses satellite spectral imagery to detect potential leaks.
	Completed cross connection surveys at 342 industrial, commercial and institutionally zoned properties, to protect the City’s water quality.
Q 61 Community-Wide Water and Wastewater Actions Proposed for 2019	
	Deliver a fourth year of the Integrated Environmental Education Program in Surrey classrooms that focuses on waste, water and energy reductions.
	Continue the Water Conservation Program by providing general outreach on the regional water restrictions, waterwise lawn care, and outdoor water conservation. Outreach will include advertisements in City publications and displays at recreation facilities and at local events.
	Continue to offer the Voluntary Water Meter program, encouraging water conservation behaviour by having residents pay for the water they use.
	Conduct a leak detection survey of 250 kilometers of water main, using acoustic listening

	equipment to pinpoint leaks.
	Continue to protect the City's water quality by planning for and conducting cross connection surveys at industrial, commercial and institutionally zoned properties.

Q 62 + Q 63 Corporate Water and Wastewater Actions Taken in 2018 + Additional Actions	
--	--

	Launch of a water meter review to ensure all park fields are equipped to track and monitor water consumption.
	Successfully submitted a project proposal to City of Surrey's internal Emerging Leaders Program (ELP) for participants to design and launch a Green Team of City staff volunteers to spearhead and champion water conservation at the workplace.

Q 64 Corporate Water and Wastewater Actions Proposed for 2019	
--	--

	Review the water consumption of park fields to generate a historic trend and address significant increases.
	Develop an inventory of historic water consumption at all City facilities to assess the trend and address significant increases.
	Pursue potential re-use of greywater from facilities for irrigation purposes. Piloting at the Cloverdale Athletic Park.
	Support and assist the ELP team with research and development of an outline to pilot the Green Team with guidelines of the recruitment process, work scope, and expected outcomes of water conservation.

Water Conservation	
---------------------------	--

Q 65 Does your local government have water conservation policies, plans or programs?	Yes
---	------------

2018 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.

Q 66 Please identify the THREE climate impacts that are most relevant to your Local Government.	
--	--

<ul style="list-style-type: none"> • Warmer winter temperatures reducing snowpack • Changes to temperature and precipitation causing seasonal drought • Heatwaves impacting population health • Increased temperatures increasing wildfire activity • Increased temperatures affecting air quality • Changing temperatures influencing species migration and ecosystem shifts • Changing temperatures influencing ecosystem shifts • Extreme weather events contributing to urban and overland flooding 	
---	--

<ul style="list-style-type: none"> Sea level rise and storms causing coastal flooding and/or erosion 	
Other (please specify):	
Q 67 In 2018 has your local government addressed the impacts of a changing climate using any of the following?	
Risk and Vulnerability Assessments	Yes
Risk Reduction Strategies	Yes
Emergency Response Planning	No
Asset Management	Yes
Natural/Eco Asset Management Strategies	No
Infrastructure Upgrades (e.g. stormwater system upgrades)	Yes
Beach Nourishment Projects	Yes
Economic Diversification Initiatives	Yes
Strategic and Financial Planning	Yes
Cross-Department Working Groups	Yes
Official Community Plan Policy Changes	No
Changes to Zoning and other Bylaws and Regulations	Yes
Incentives for Property Owners (e.g. reducing storm water run-off)	Yes
Public Education and Awareness	Yes
Research	Yes
Mapping	Yes
Partnerships	Yes
Other (please specify):	

Q 68 Climate Change Adaptation Actions Taken in 2018	
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.	
	Continued work on the Coastal Flood Adaptation Strategy (CFAS) to explore options and preferred strategies to adapt to climate impacts, specifically sea level rise, in Surrey’s coastal floodplain area. This work follows priority actions identified in the Community Climate Action Strategy. Technical sea level and flood risk studies previously conducted are being used to inform adaptation options, and preferred options—identified with stakeholder and partner input—are being refined with technical considerations. The three-year process concluded its Phase 3 (of 5) in 2018.
	Participating in the 2-year REFBC-funded project led by UBC Collaborative for Advanced Landscape Planning (CALP): <i>Climate resilience and well-being through neighbourhood-scale green design</i> . The project aims to illuminate co-benefits amongst green infrastructure, climate change adaptation, and human health at a local scale.
	Surrey developed a funding application to Infrastructure Canada’s Disaster Mitigation and Adaptation Fund (DMAF) to support long-term coastal adaptation vision established by CFAS, through implementation of short-term priority sea level rise adaptation needs. The application was prepared in partnership with City of Delta and Semiahmoo First Nation, and includes increasing

	flood resilience of infrastructure assets owned and/or operated by partners such as Metro Vancouver, BC Ministry of Transportation and Infrastructure, and Southern Railway of British Columbia. Besides traditional infrastructure assets, the proposed project includes nature-based infrastructure, such as foreshore enhancements and riverfront park with flood-attenuating features.
	Building upon initial urban heat mapping work done in partnership with Portland State University, Surrey continued forming partnerships and pursuing funding to continue work on additional heat mapping research in the summer and identify opportunities to proactively manage rising urban temperatures through planning, policy and operational practices, by engaging partners, stakeholders and the community.
	Continued involvement in Phase 2 of the Lower Mainland Flood Management Strategy (LMFMS), including assessments of regional mitigation priorities and options, establishment of agreements among partner organizations and developing an action agenda, and participated in the various committees of the LMFMS.
	Surrey was involved in University of the Fraser Valley’s Geography and Environment Department to assist GEOG 304 (Climate Change and Coasts), a course that runs every two years with a focus on Crescent Beach in Surrey. City involvement included a guest lecture, a full-day field trip supporting students with a community survey of coastal adaptation options, and review of final class projects—short videos describing adaptation options from students’ perspectives.
	Surrey was involved in documenting Surrey’s coastal flooding adaptation work featured in Natural Resources Canada and Public Safety Canada’s joint publication of “Case studies on climate change in floodplain mapping, volume 1”, as a case study to demonstrate how sea level rise adaptation can be incorporated into floodplain mapping.
	Surrey staff were featured in a Polytechnique Montréal Massive Open Online Course (MOOC) on Engineers Canada’s Sustainable Development Guidelines “Sustainability in Practice”, as a case study on climate adaptation. The first cohort with close to 1,600 registrants completed the course in December 2018.
	Continued membership and participation in the Green Shores Local Government Working Group facilitated by the BC Stewardship Centre.
	Conducted a review of rainfall climate adaptation strategies implemented in other North American jurisdictions.
Q 69 Climate Change Adaptation Actions Proposed for 2019	
	Pending funding, City will initiate the Urban Heat Landscapes project, which will engage partners, stakeholders, local community and developers to explore the immediate and future needs of extreme heat adaptation in Surrey City Centre and devise actionable land-use interventions for releasing heat stress, especially within Surrey’s vulnerable communities.
	Building on the rainfall assessment still underway, begin consultation internally with City of Surrey staff to solicit feedback on potential implementation strategies to introduce IDF curve changes. Evaluate the impacts of these changes both internally and externally and inform future servicing requirements. Prioritize and finalize on an implementation strategy. Integrated Stormwater Management Plans (“ISMPs”) and Neighbourhood Concept Plans (“NCPs”) continue to be used to enhance stormwater management practices.
	Complete development of Surrey’s Coastal Flood Adaptation Strategy (CFAS), by identifying recommended adaptation options, reporting to Surrey City Council and conducting final engagement and outreach events.

	Pending funding approval under to Infrastructure Canada’s Disaster Mitigation and Adaptation Fund (DMAF), begin with implementation of shovel-ready coastal flood adaptation assets proposed in the funding application.
	Continue participation in Phase 2 of the Lower Mainland Flood Management Strategy.
Q 70 For more information please contact	
	Anna Mathewson

Q 71. 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 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: Implementation Guide for Local Governments Public Infrastructure and Engineering Vulnerability Committee's (PIEVC) Sea Level Rise Adaptation Primer BC Regional Adaptation Collaborative Webinars Retooling for Climate Change Water Balance Model Water Conservation Calculator 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	Haven't Used Useful Useful Haven't Used Haven't Used Useful Useful Useful Useful Useful Useful Useful Useful Useful Haven't Used Useful Useful Haven't Used Haven't Used Useful
Other (please specify)	

2018 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.

Q 72 Community-Wide Other Actions Taken in 2018	
	Completed community engagement phase for Newton Sustainability in Action, a pilot neighbourhood engagement and empowerment project to develop and implement a community-owned sustainability action plan to further advance the goals of the Surrey Sustainability Charter 2.0.
	Launched Surrey CityLab, a three-year pilot project that brings City staff together with Simon Fraser University and Kwantlen Polytechnic University students and faculty to address complex civic issues. Surrey CityLab is a key community engagement tool that aims to further the goals of Surrey's Sustainability Charter.
	Completed the third year of an integrated environmental education program in Surrey classrooms that focuses on waste, water and energy reductions. 664 classes across Surrey received programs in the 2017/2018 school year. This program received an Honourable Mention through Community

	Energy Association's (CEA) Climate and Energy Action Awards.
	Three farmers markets took place in Surrey where vendors make, bake, grow or raise the products they sell, with an emphasis on the sale of farm products from British Columbia. Markets are organized by the local community and take place in City Centre, Clayton and Cloverdale.
Q 73 Corporate Other Actions Taken in 2018	
	Sustainable procurement guidelines will be developed for Council consideration in 2019 to provide clarity in the procurement of goods and services that align with Federal Government requirements for federally-funded projects. These guidelines will build on the sustainability principles already outlined in the City of Surrey's Purchase and Payment Process Manual and draw from research on social procurement completed in 2018.
	Hosted and Electric Vehicle Lunch and Learn with Emotive to educate staff about EV vehicles and charging requirements.

Other	
Q 74 Are you familiar with the Community Lifecycle Infrastructure Costing Tool (CLIC) ?	Yes
Q 75 Is your local government using the CLIC tool?	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 highlight 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 making applications to [CEA's Climate and Energy Action Awards](#), [FCM Sustainable Communities Awards](#) or to [FCM's National Measures Report](#).

Q 76 Community-Wide Innovation Action
The City of Surrey is leading on climate adaptation, particularly our work around sea level rise and coastal flood adaptation. We have continued to develop the Coastal Flood Adaptation Strategy (CFAS) to

explore options and preferred strategies to adapt to climate impacts, including sea level rise, in Surrey’s coastal floodplain area. Technical sea level and flood risk studies previously conducted are being used to inform adaptation options and preferred options are being refined with stakeholder and partner input. The three-year process completed its second year and approached Phase 3 (of 5) at the close of 2017. To further engagement with other levels of government and public sector organizations, and to improve the coastal flood adaptation approaches developed in CFAS, two collaborative infrastructure vulnerability workshops were hosted to apply the Engineers Canada PIEVC Protocol for the highest risk area of Surrey’s coastal floodplain. Critical national, regional and local infrastructure was assessed in the vicinity of Mud Bay. Over 30 organizations participated and was one of the broadest applications of the Protocol to-date and was an early application of the Protocol’s Triple Bottom Line Module to evaluate economic, environment and social considerations for the preliminary adaptation options developed in CFAS.

For more information contact: Matt Osler (Engineering) or visit www.surrey.ca/coastal

Q 77 Corporate Innovation Action

Surrey has recently opened the Surrey Biofuel facility and commenced biomethane production in 2018. The biofuel facility created the first fully integrated closed-loop organic waste management system in North America that maximizes the diversion of source separated organic waste from the landfill. The biofuel facility has established a new benchmark in sustainable waste management practices that provides environmental and economic benefits to the entire region.

The construction crew at Surrey’s Engineering Operations division has switched to Aspen fuel for two-stroke (weed eaters) and four-stroke engines (generators, pumps). The fuel burns more efficiently than its replacement with virtually no harmful emissions for longer shelf-life of the product as well as the equipment.

Q 78 For more information on actions described above contact

Harry Janda, Waste Manager

Geordie MacInnis, Field Supervisor

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 separated by a forward slash (e.g. program1/program2).

Mitigation

Q 79 Mitigation Programs, Partnerships and Funding

Federation of Canadian Municipalities (FCM) – Municipalities for Climate Innovation (MCIP) for Feasibility study of low carbon resources for District Energy System.

National Resources Canada (NRCan) – Clean Energy Innovation’s Energy Innovation Program (EIP)

BC Hydro – Energy Wise Network, Energy Management Program, Building Energy Specialist Program, Corporate Energy Manager Program, Community Energy Manager Program, Energy Study funding.

FortisBC – Boiler Rebate and water heater programs, Climate and Energy Analyst position, Innovative Natural Gas Technology, Custom Design Retrofit Program, Energy Study funding, Rental Apartment Efficiency Program, Energy Conservation and Assistance Program, Energy Savings Kit, Social Housing Retrofit Support Program

Partnerships – UBC Data Science for Social Good, UBC Sustainability Scholars Program, Strata Energy Advisor program, EV Peer Network, Emotive, Empower Me, KPU and SFU through CityLab, SFU Urban Energy Futures Course

Adaptation

Q 80 Adaptation Programs, Partnerships and Funding

Federation of Canadian Municipalities (FCM) – Municipalities for Climate Innovation (MCIP) is providing financial support to develop Surrey’s Coastal Flood Adaptation Strategy and two related projects:

- Prioritizing Infrastructure and Ecosystems Risks from coastal processes in Mud Bay,
- Improving Coastal Flood Adaptation Approaches in Mud Bay.

Partnerships:

- Seeds of Change Surrey (SOCS) brings together diverse community partners to advance food security work in target communities where need exists. Fraser Health, City, various immigrant and refugee-serving agencies and non-profit staff form the Leadership Table that guides the work.
- Surrey CityLab partnership with SFU and KPU

2018 CARBON NEUTRAL REPORTING

Local governments are required to report on their progress in achieving their carbon neutral goal under the [B.C. 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 [Workbook](#) and [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 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

Q 81 Did your local government measure corporate GHG emissions for 2018?	Yes
Q 82 If your local government measured 2018 corporate GHG emissions, please report the number of corporate GHG emissions from services delivered directly by your local government (in tonnes of carbon dioxide equivalent)	
Q 83 If your local government measured 2018 corporate GHG emissions, please report the number of corporate GHG emissions from contracted services (in tonnes of carbon dioxide equivalent)	
Q 84 TOTAL A: CORPORATE GHG EMISSIONS FOR 2018 (Direct GHGs + Contracted GHGs)	19,190 tCO₂e

Reporting Reductions and Offsets

To be carbon neutral, a local government must balance their TOTAL corporate GHG emissions generated in 2018 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

For more information about options to balance or offset corporate GHG emissions please refer to [Becoming Carbon Neutral: A Guidebook for Local Governments in British Columbia](#).

If applicable, please report the 2018 GHG emissions reductions (in tonnes of carbon dioxide equivalent (tCO₂e)) being claimed from any of the following Option 1 GHG Reduction Projects:

OPTION 1 PROJECTS	REDUCTIONS
Q 85 Energy Efficient Retrofits (in tonnes of carbon dioxide equivalent (tCO₂e))	
Q 86 Solar Thermal (in tonnes of carbon dioxide equivalent (tCO₂e))	
Q 87 Household Organic Waste Composting (in tonnes of carbon dioxide equivalent (tCO₂e))	994 tCO₂e
Q 88 Low Emission Vehicles (in tonnes of carbon dioxide equivalent (tCO₂e))	

Q 89 Avoided Forest Conversion (in tonnes of carbon dioxide equivalent (tCO₂e))	860 tCO₂e
Q 90 TOTAL B: REDUCTIONS FROM ALL OPTION 1 PROJECTS FOR 2018	1,854 tCO₂e

Q 91 If applicable, please report the names and 2018 GHG emissions reductions (in tonnes of carbon dioxide equivalent (tCO₂e)) being claimed from Option 2 GHG Reduction Projects:

Option 2 Project Name	REDUCTIONS
Option 2 GHGs Reduced (tCO₂e)	
Option 2 Project Name	
Option 2 GHGs Reduced (tCO₂e)	
Option 2 Project Name	
Option 2 GHGs Reduced (tCO₂e)	
Q 92 TOTAL C: REDUCTIONS FROM ALL OPTION 2 PROJECTS FOR 2018	tCO₂e

Offsets

Q 93 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 2018 reporting year:

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

Offset Provider Name	OFFSETS
Offsets (tCO₂e)	
Offset Provider Name	
Offsets (tCO₂e)	
Q 94 TOTAL D: OFFSETS PURCHASED FOR 2018	tCO₂e

Q 95 TOTAL REDUCTIONS AND OFFSETS FOR 2018 (Total B+C+D) = 1,854 tCO₂e

Corporate GHG Emissions Balance for 2018

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

Q 96 CORPORATE GHG EMISSIONS BALANCE FOR 2018 = (A – (B+C+D)) = 17,336 tCO₂e

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

Q 97 If your local government was carbon neutral in 2018, please record any emissions reductions you will be carrying over for future years and the source of the reductions, including the year they were earned (e.g. organics diversion, 2018 100 tCO₂e)

SOURCE OF CARRY OVER EMISSION REDUCTIONS (and year earned)	REDUCTIONS
Q 98 BALANCE OF REDUCTIONS ELIGIBLE FOR CARRY OVER TO NEXT YEAR	tCO₂e

Carbon Neutral Reporting	
Q 99 Does your local government set aside funds in a climate reserve fund or similar?	Yes

GCC CLIMATE ACTION RECOGNITION PROGRAM

Green Communities Committee 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 (e.g. 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.

Q 100 Based on your local government's 2018 CARIP Climate Action/Carbon Neutral Progress Survey, please check the GCC Climate Action Recognition Program level that best applies:

	Level 1 – Demonstrating Progress on Charter Commitments	
	Level 2 – Measuring GHG Emissions	
	Level 3 – Accelerating Progress on Charter Commitments	
	Level 4 - Achievement of Carbon Neutrality	
	Not Sure	

Q 101 Related to 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 and/or financial resources and is intended to result in significant GHG reductions:



PROJECT NAME: