
TO: CITY MANAGER **DATE:** 2017 January 23

FROM: DIRECTOR ENGINEERING **FILE:** 33000 02
DIRECTOR PLANNING AND BUILDING *Reference:*

SUBJECT: BRITISH COLUMBIA CLIMATE ACTION CHARTER

PURPOSE: To inform Council on actions taken by the City to reduce its corporate greenhouse gas emissions and seek Council's approval in becoming a member of the BC Climate Action Charter.

RECOMMENDATIONS:

1. **THAT** Council approve City membership in the BC Climate Action Charter.
2. **THAT** a copy of this report be sent to:
 - A) The Environment Committee; and
 - B) Ms. Tara Faganello, Assistant Deputy Minister, Local Government Division, Ministry of Community, Sport and Cultural Development, PO Box 9490 Stn Prov Gov., Victoria, BC, V8W 9N7.

REPORT

1.0 INTRODUCTION

The City has received a request from the Province to consider becoming a member of the BC Climate Action Charter (BCCAC). The BCCAC, which is a legally non-binding agreement between the Province, the Union of British Columbia Municipalities and the signatory local governments, was initially launched in September 2007 to demonstrate leadership actions and develop strategies to primarily achieve three goals:

- Being carbon neutral in respect of corporate operations by 2012;
- Measuring and reporting on their community Green House Gas (GHG) emissions; and
- Creating complete, compact and energy-efficient rural and urban communities.

At that time, the Charter also established the joint UBCM-Provincial Green Communities Committee (GCC) to support local governments in achieving their Charter commitments.

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Local governments that signed onto the Charter were eligible to receive a rebate on their paid carbon tax (paid on directly purchased fossil fuels) through the *Climate Action Revenue Incentive Program (CARIP)* to support their climate action efforts. However, at that time the BCCAC also required becoming carbon neutral by 2012. This meant that if signatories could not achieve carbon neutrality through their own operational efforts by 2012, they would be required to purchase carbon credits to become carbon neutral for their corporate emissions. Depending on the corporate emissions and the price of purchasing carbon offsets (from the subsequently established Pacific Carbon Trust), local government could potentially pay more than what it received in the CARIP rebate to achieve carbon neutrality. Based on this and other factors, the City did not sign onto the BCCAC at that time.

Given the subsequent challenges faced by many signatory local governments in achieving carbon neutrality for their carbon emissions, the GCC has now changed the wording of the carbon neutrality commitment and endorsed “making progress towards carbon neutrality”. Given this, and the completion of the City’s Environmental Sustainability (ESS) and the Community Energy and Emissions Plan (CEEP), the City is now well positioned to consider the request by the Province to join the BC Climate Action Charter.

The following report informs Council on actions taken by the City to reduce its corporate GHG emissions and seek Council approval for membership in the BC Climate Action Charter.

2.0 THE CITY’S HISTORIC COMMITMENT TO REDUCE CORPORATE ENERGY USE AND GHG EMISSIONS

Over the past 10 years, Burnaby has made significant gains in building energy optimization to reduce energy usage, GHG emissions and operating costs. The City is also making progress on increasing efficiency within its fleet and in conversion of City street lights to LED.

A) Early Building Energy Optimization

The City retained Honeywell to retrofit 49 buildings between 2004 and 2006. Key retrofits included: improved lighting systems; pool covers; building weather stripping and sealing; power factor correction; boiler replacements; sensors and flush controls to reduce water consumption; low-e ceilings; and building automation.

Following standard Measurement and Verification procedures (M&V), Honeywell measured building energy use and compared it to calculated baselines over 6 years, for 33 of the retrofit buildings. This early retrofit project saved Burnaby \$3,265,040 over 6 years, and generated electrical savings of 22,511,536 kWh, natural gas savings of 142,081 GJ, and GHG savings of 7,842 tonnes of GHG’s.

The early retrofits meant that Burnaby had made significant energy efficiency gains *prior to* the provincial Climate Action Charter: building energy optimization projects from 2004 through 2006 reduced total GHG emissions from facilities by 1,263 tonnes in 2007 (based on project calculations of energy savings).

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The City's early and on-going energy efficiency savings represent significant reductions in total emissions: by 2015, the cumulative calculated GHG savings reduced building emissions by more than 20%. These improvements have been achieved despite population growth and the addition of new facilities, including the new Edmonds Community Centre (2013).

B) Bio-fuels: 10% Ethanol and 5% Bio-diesel starting in 2010

By choosing to aggressively implement low carbon fuels in 2010, Burnaby took an early leadership role in reducing fleet emissions. Burnaby chose to go to the highest possible carbon reduction from the buyer's side, starting in 2010, with 10% ethanol and 5% biodiesel.

The use of E10 fuel, rather than the provincially mandated E5, resulted in a reduction of 91 tonnes of GHGs in 2015. Use of B5 biodiesel further reduced GHG's in 2015 by 36 tonnes, resulting in a total reduction of 127 tonnes of GHG's. This is just over a 1% reduction from the total Burnaby corporate emissions in 2015.

C) Conversion of all 14,600 of the City's streetlights to LED lights, phased implementation, 2015-2018.

Burnaby was the first municipality in the province of BC to commit to replacing all of its streetlights with LED streetlights. The full four phase implementation (2015-2018) across the City will result in all 14,600 streetlights being converted, with total estimated energy savings of over 6,500,000 kWh. During Phases 1-3, 66% of Burnaby's streetlights will be converted, with energy cost savings over 20 years calculated at almost \$12 million dollars. LED lights provide further cost savings in terms of reduced maintenance: the payback on the initial capital investments in Phases 1-3 is calculated to be approximately 6 years.

3.0 BC CLIMATE ACTION CHARTER

As noted elsewhere in the report, the BCCAC is a legally non-binding agreement between the Province, the Union of British Columbia Municipalities and the signatory local governments. In reviewing the BCCAC Commitments and the CARIP Conditional Grant Program and Reporting requirements, staff would comment as follows:

3.1 BCCAC Commitments

a) Being carbon neutral in respect of their corporate operations

The change in BCCAC requirement from being carbon neutral in respect to corporate emissions by 2012 to "making progress towards carbon neutrality" relieves the City from purchasing carbon offsets as a path to carbon neutrality and instead allows the City to develop long-term plan for corporate and community emission reduction projects and work towards reducing its corporate GHG emissions.

b) Measuring and reporting on their community Green House Gas (GHG) emissions

Based on staff discussion with the Provincial officials, the City can use the Provincial Community Energy and Emission Inventory data to report out on the community GHG emissions in Burnaby.

c) Creating complete, compact and energy-efficient rural and urban communities.

The City has on-going and longstanding commitments to developing complete and compact Town Centres and Urban Villages across the City; therefore, the City continues to meet the “complete, compact” commitment and is now progressing on energy efficiency through the ESS and CEEP processes.

3.2.1 CARIP Conditional Grant Program and Reporting Requirements

The CARIP conditional grant program provides 100% of direct carbon taxes paid by local governments back to them provided they:

a) Sign the Climate Action Charter.

b) Complete and submit a signed electronic version of the Carbon Tax Calculation Form.

This form, signed by Burnaby’s Financial Officer, asks for aggregated annual energy use for fuels for which a carbon tax is charged. This data is readily available from Burnaby’s current Fleet and Buildings data.

c) Report publicly on their plan and progress towards meeting climate action goals, including progress towards carbon neutrality (i.e. report publicly on community actions and corporate emissions).

The CARIP reports require qualitative descriptions of community and corporate climate related actions and programs (up to 5 each) for the current year as well as those proposed for the following year. The City is able to meet these requirements by reporting under the required following headings:

- Broad Planning Actions (e.g. climate related sections of OCP, CEEP, Local Area Plans)
- Buildings and Lighting (e.g. low carbon buildings, LED streetlight programs, etc.)
- Energy Generation (e.g. waste heat recovery, solar installations, heat pumps)
- Greenspace/Natural Resource Protection (e.g. creation and upgrading of greenways, parks, etc.)
- Solid Waste (e.g. recycling and household waste programs)
- Transportation Actions (e.g. cycling infrastructure, transit improvements, etc.)
- Water and Wastewater

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- Climate Change Adaptation
- Innovation and Peer-to-Peer Learning

4.0 CONCLUSION

Over the past 10 years, Burnaby has made significant gains in building energy optimization to reduce energy usage, GHG emissions and operating costs. The City is also making progress on increasing efficiency within its fleet and in conversion of City street lights to LED. In addition, the City has now completed its Environmental Sustainability Strategy and Community Energy and Emissions Plan. Given this, the City is now well positioned to respond to the request from the Province to consider becoming a member of the BC Climate Action Charter (BCCAC). Staff recommends that Council authorize the City's membership in the BCCAC.



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