



City of Richmond

Report to Committee

To: Public Works and Transportation Committee

Date: August 24, 2016

From: John Irving, P.Eng. MPA
Director, Engineering

File: 10-6125-07-02/2016-
Vol 01

Re: Release of BC Climate Leadership Plan

Staff Recommendation

That a letter be sent to the Premier of BC to express the concerns regarding the Climate Leadership Plan, as identified in the report titled "Release of BC Climate Leadership Plan," dated August 24, 2016, from the Director, Engineering.

John Irving, P.Eng. MPA
Director, Engineering
(604-276-4140)

REPORT CONCURRENCE	
CONCURRENCE OF GENERAL MANAGER 	
REVIEWED BY STAFF REPORT / AGENDA REVIEW SUBCOMMITTEE	INITIALS: DW
APPROVED BY CAO 	

Staff Report

Origin

This report provides an update on the BC Government's Climate Leadership Plan that was released on August 19, 2016. Staff previously presented a report titled "Paris Climate Agreement and BC Climate Leadership Plan Update" at the Public Works and Transportation Meeting on March 23, 2016.

This report supports Council's 2014-2018 Term Goal #4 Leadership in Sustainability:

Continue advancement of the City's sustainability framework and initiatives to improve the short and long term livability of our City, and that maintain Richmond's position as a leader in sustainable programs, practices and innovations.

4.1. Continued implementation of the sustainability framework.

4.2. Innovative projects and initiatives to advance sustainability.

Background

In 2010, Council adopted greenhouse gas (GHG) and energy use reduction targets in Richmond's Official Community Plan. These targets were the same as those committed by the Province's Climate Action Plan: to reduce community greenhouse gas (GHG) emissions 33% below 2007 levels by 2020, and 80% below 2007 levels by 2050. Richmond also committed to reducing energy consumption by 10% at the same time. However, section 2.1 of the OCP also notes that an "effective response" to climate change "will depend upon sufficient action being taken by all sectors of society, including senior governments, businesses and the general public."¹ The Community Energy and Emissions Plan adopted in January 2014 similarly states that the City's targeted reductions "are not achievable without larger shifts including additional Federal and Provincial regulatory change, aggressive industry development or global pricing changes for energy or carbon."²

In May 2015, the Premier announced that the Climate Leadership Team, a panel of 17 experts drawn from academia, business, First Nations, environment and community groups as well as the provincial government, had been given several tasks including "providing advice and recommendations to Cabinet" on:

- "New programs and policies required to meet B.C.'s greenhouse gas reduction targets while maintaining strong economic growth and successfully implementing the BC Jobs Plan, including the liquefied natural gas strategy;" and
- "How to further the Province's collaboration with local governments within the context of mutually-beneficial climate actions."

¹ City of Richmond Official Community Plan (Adoption: November 19, 2012), p.2-3

² Richmond Community Energy and Emissions Plan, p. iv

The Climate Leadership Team subsequently developed 32 recommendations for the Climate Leadership Plan. The Team's report emphasized the importance of increasing BC's proven carbon tax at a steady \$10 per year, starting in July 2018, as a central means of driving GHG emission reductions.³ The Team also noted that since 2012, BC's GHG emissions have been increasing again, making the Province's target of 33% GHG reductions by 2020⁴ "extremely difficult to meet." The Team recommended that a new, achievable 2030 target of 40% GHG reduction below 2007 levels be adopted, including sector-specific targets for industry, transportation, and buildings. The Team's recommendations were released by the Province in November 2015 prior to the Paris Climate Change conference.

The Province released the plan on Friday afternoon, August 19, 2016.

Analysis

The Climate Leadership Plan diverges from the main recommendations of the Climate Leadership Team in the following areas:

- Emission reductions measures identified in the plan do not achieve either of the Province's legislated 2020 or 2050 GHG targets, and the plan does not reference the Team's recommendation for a new 2030 target.
- The plan contains measures estimated to produce 25 MT of GHG emission reductions by 2050⁵, with almost half coming from temporary forest-sector offsets such as tree-planting to reforest areas impacted by the mountain pine beetle and wildfires, rather than reducing fossil fuel emissions.⁶
- The plan does not include any timetable for increases to the BC Carbon Tax.

The Province has positioned the current Climate Leadership Plan as the initial version of a plan that will be updated every five years, and one which may be amended within the current year with the Province is currently working with other provinces and the federal government on carbon pricing over the coming year as part of the Pan-Canadian Climate Plan.

The plan includes a two-page summary of actions, included below as Attachment 1.

A number of the action items in the Climate Leadership Plan may create new opportunities for the City of Richmond to explore:

- *Increasing resources for BC Hydro and FortisBC energy-efficiency programs.* The City has leveraged its funds by working with BC Hydro and Fortis BC to implement corporate and community energy efficiency programs. Staff will maximize opportunities to leverage new resources.

³ This was the only recommendation not to be unanimously supported: one Team member dissented.

⁴ i.e. the same target as the City of Richmond

⁵ Relative to a business-as-usual emissions trajectory.

⁶ Since reforestation impacted areas simply speeds up regeneration, the "additionality" of these offsets declines over time.

- Supporting increased use of electric and natural gas-fuelled vehicles. Actions include support for fleet fuelling stations, and regulations promoting installation of electric vehicle charging stations,
- Enabling higher levels of energy efficiency in new construction. Provincial staff have been developing “stretch code” standards that local governments could voluntarily adopt for new development. City of Richmond staff have been directly involved in the development of these proposed building standards and will bring a report forward on this matter in 2016.
- Promoting lower-carbon materials. Actions include approving use of Portland-limestone cement in public sector infrastructure, and increasing use of B.C.’s wood products in order to store carbon and reduce emissions.
- Preparing for climate impacts. Actions include developing “guidelines for public sector operations to reduce emissions and plan for climate change adaptation”, and “strengthen[ing] the ability of communities to adapt to the impacts of climate change.”

Other Climate Leadership Plan items will indirectly assist the City’s efforts to increase energy efficiency and reduce greenhouse gas emissions:

- Increasing energy efficiency requirements for gas-fired equipment including boilers, fireplaces, air source heat pumps, space and water heating equipment.
- Shifting BC Hydro towards a 100% “clean or renewable” electricity content for domestic sales. Note that current electricity supply is 97% “clean or renewable” but is only required to achieve a 93% target. “Clean” is defined by the BC Government to include some forms of natural gas generation. There is no timeline for this action.

There are also some aspects of the Climate Leadership Plan that may present new challenges for the City:

- Leaving the Carbon Tax as is will not allow for an increase to the incentive that the City can provide through the Richmond Carbon Marketplace. Engaging with the business community on GHG emissions reduction initiatives is challenging at current incentive levels.
- “Reducing congestion ... [by] replacing the George Massey Tunnel to reduce idling; and optimizing movement through Canada’s Pacific Gateway.” The recent report to Council titled “George Massey Tunnel Replacement – Application to Agricultural Land Commission on Highway 99 Widening for Transportation, Utility and Recreational Trail Use” dated July 12, 2016 notes that the province has not provided any information to substantiate the emissions benefits claimed for the tunnel replacement, and that Metro Vancouver has identified concerns regarding the “insufficient consideration of alternatives to a 10-lane bridge and the negative impacts on transit ridership, greenhouse gas emissions, energy consumption, and air quality of the expanded roadway capacity of the Project that would promote increased single occupant vehicle usage.”

The lack of reference to the Province’s legislated 2020 GHG reduction targets, and of actions sufficient to achieve this target, is noteworthy. Attachment 2 includes an external assessment by Clean Energy Canada of the Climate Leadership Plan’s emission reduction measures relative to the 2020 and 2050 GHG emission reduction targets.

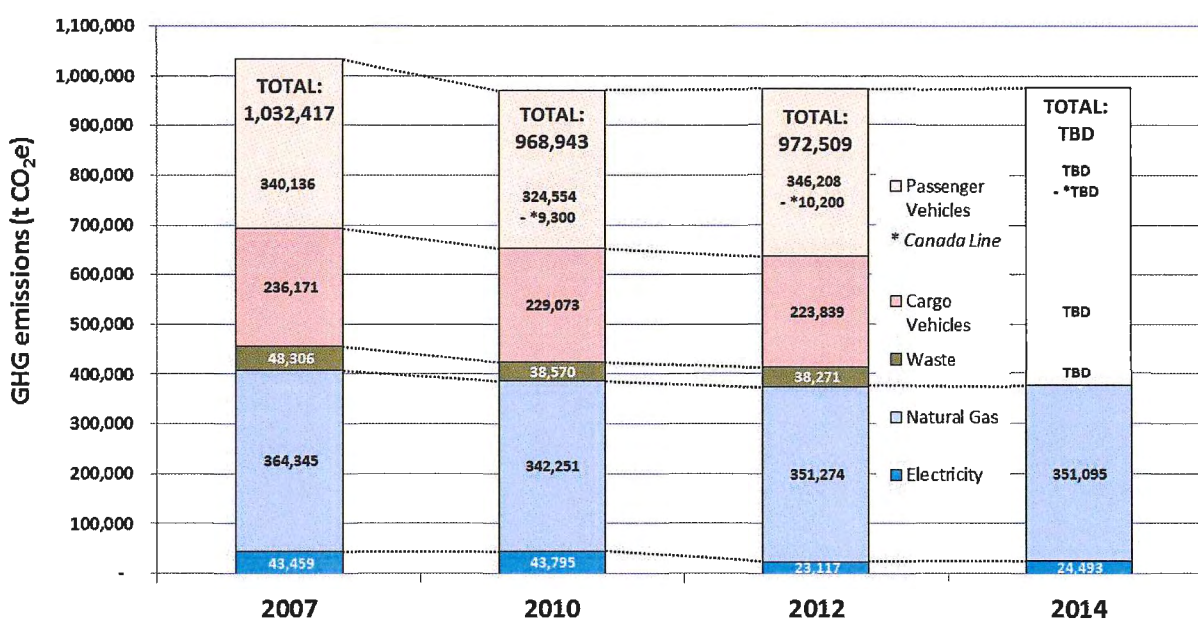
Concerns to be noted in a letter to the Premier and BC Environment Minister

Given that current efforts by the City will not be significantly augmented by new provincial measures included in the current Climate Leadership Plan to achieve its 2020 GHG reduction target, staff recommend that a letter be sent to Premier Christy Clark and Environment Minister Mary Polak stating the following points:

- That the City of Richmond signed the Climate Action Charter in 2008 at the request of the province, and adopted the GHG emissions reduction targets urged by the province, including the that of reducing emissions within the City of Richmond to 33% below 2007 levels by 2020.
- That in order to achieve the 2020 and 2050 GHG reduction targets urged by the Province, the City of Richmond has since developed a Community Energy and Emissions Plan (CEEP), has been actively implementing the policies in the CEEP, and has achieved a 6% reduction from 2007 GHG greenhouse gas emissions by 2012, even as the population of the city has grown by 6.5%.
- That in order to achieve the large additional reductions required, significant additional action must be taken now by the provincial and federal governments.
- That the measures outlined in the Climate Leadership Plan fall far short of achieving the province's legislated GHG reduction targets, and provide inadequate support to local governments diligently seeking to achieve their GHG reduction targets under the Climate Action Charter.
- That the Provincial Government work constructively with other governments to develop a strong Pan-Canadian Action Plan that provides local government with the tools and resources needed to achieve success.

Greenhouse Gas Emissions for the City of Richmond

In July 2016, the Community Energy & Emissions Inventory (CEEI) initiative of the Provincial Government provided updated greenhouse gas emissions data for the City of Richmond. This new data includes full data for the year 2012, as well as new (higher) estimates of emissions from the transportation sector, and small adjustments to other emissions data going back to 2007. If the effect of the Canada Line on Richmond travel patterns in 2010 and 2012 (as estimated by staff) is also factored in, GHG emissions for the City of Richmond in 2012 were 6.1% less than in 2007, even as the City's population grew by 6.5%. See Attachment 3 for details.



The partial information currently available out to the year 2014 indicates that overall GHG emissions from building energy use (electricity and natural gas) declined by 8%, even as Richmond's population expanded by 10.5% between 2007 and 2014. The City has moved in the right direction, and Richmond's performance has exceeded that of the province as a whole.

Financial Impact

None.

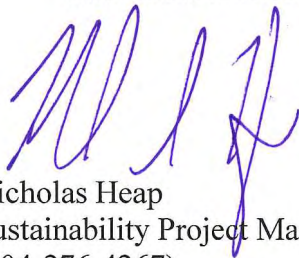
Conclusion

The Province's new Climate Leadership Plan contains commitments for a number of new actions and initiatives that may assist the City's own efforts to reduce its GHG emissions, and may be amended with additional measures in the near future as the federal-provincial negotiations on the Pan-Canadian Climate Action Plan are finalized. However, the actions outlined in the current Climate Leadership Plan are insufficient to achieve the provincial government's legislated emission reduction targets – the same targets adopted by the City of Richmond.

Since current efforts by the City will not be significantly augmented by new provincial measures included in the current Climate Leadership Plan to achieve its 2020 GHG reduction target, staff recommend a letter be sent to Premier Christy Clark and Environment Minister Mary Polak that:

- Notes the City's own efforts to reduce its community GHG emissions;
- Expresses concern that the measures in the Climate Leadership Plan do not achieve the province's legislated GHG reduction targets and do not adequately support climate action by local governments; and

- Urges the provincial government to work constructively with other governments to develop a strong Pan-Canadian Action Plan that provides local government with the tools and resources needed to achieve success.



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Att. 1: Climate Leadership Plan at a Glance

Att. 2: Forecast of BC net GHG emissions with the BC Climate Leadership Plan. Clean Energy Canada, August 2016.

Att. 3: City of Richmond GHG emissions 2007-2014 (updated)

Attachment 1: Climate Leadership Plan at a Glance

Climate Leadership Plan at a Glance



The Climate Leadership Plan is British Columbia's next step to fight climate change. This plan highlights the first set of actions we are taking to help meet our 2050 emissions reduction target of 80 per cent below 2007 levels, while building a clean economy.

These actions are expected to reduce annual greenhouse gas emissions by up to 25 million tonnes below current forecasts by 2050 and create up to 66,000 jobs over the next ten years.



Natural Gas

Natural gas offers an opportunity to grow British Columbia's economy, while helping other jurisdictions reduce their carbon footprint by transitioning to this cleaner burning fuel.

We are taking action in three key areas:

- ☑ Launching a strategy to reduce upstream methane emissions by 45 per cent;
- ☑ Developing regulations to enable carbon capture and storage; and
- ☑ Investing in infrastructure to power natural gas projects with British Columbia's clean electricity.

This action area is expected to reduce annual emissions by up to 5 million tonnes by 2050.



Transportation

Transportation is essential to keep British Columbia moving, but a significant source of our emissions.

The Province is launching new actions to reduce the impact of transportation, including:

- ☑ Increasing the requirements for our Low Carbon Fuel Standard;
- ☑ Amending regulations that encourage switching commercial fleets to renewable natural gas;
- ☑ Expanding support for zero emission vehicle charging stations in buildings; and
- ☑ Expanding the Clean Energy Vehicle program to support new vehicle incentives and infrastructure.

This is in addition to our 10-year transportation plan that will:

- ☑ Invest in infrastructure to reduce congestion;
- ☑ Create new rapid transit lines; and
- ☑ Shift more public transit to low carbon fuels.

In total, this action area is expected to reduce annual emissions by up to 3 million tonnes by 2050.



Forestry & Agriculture

Forestry and agriculture are foundational industries in British Columbia's economy. Our forests also offer incredible potential for storing carbon, so we are taking further action to:

- ☑ Rehabilitate under-productive forests;
- ☑ Recover more wood fibre; and
- ☑ Avoid emissions from burning slash.

Additionally, we are expanding a nutrient management program that will help improve the environmental performance of B.C.'s farms. This action area is expected to reduce annual emissions by up to 12 million tonnes by 2050.



Industry & Utilities

B.C.'s industrial sectors create good jobs for British Columbians, but they also require significant amounts of energy to power production. That is why we are taking action to reduce these emissions, including:

- ☑ Developing new energy efficiency standards for gas fired boilers;
- ☑ Enabling further incentives to promote adoption of efficient gas equipment; and
- ☑ Facilitating projects that will help fuel marine vessels and commercial vehicles with cleaner burning natural gas.

We are working with utilities on their demand-side management programs to make electrification projects and natural gas equipment more efficient. We are also committing to making B.C.'s electricity 100 per cent clean or renewable, with allowances to address reliability. These actions are expected to reduce annual emissions by up to 2 million tonnes by 2050.



Communities & Built Environment

Communities across B.C. play a critical role in the fight against climate change, particularly in the areas of buildings, waste, and planning. To build on progress already made in our communities, we are:

- ☑ Working with local governments to refresh the Climate Action Charter;
- ☑ Identifying tools to focus growth near transit corridors; and
- ☑ Supporting more resilient infrastructure.

We are also amending regulations to promote more energy efficient buildings, developing requirements to encourage net zero ready buildings, and creating a strategy to reduce waste and turn it into valuable resources. This action area is expected to reduce annual emissions by up to 2 million tonnes by 2050.



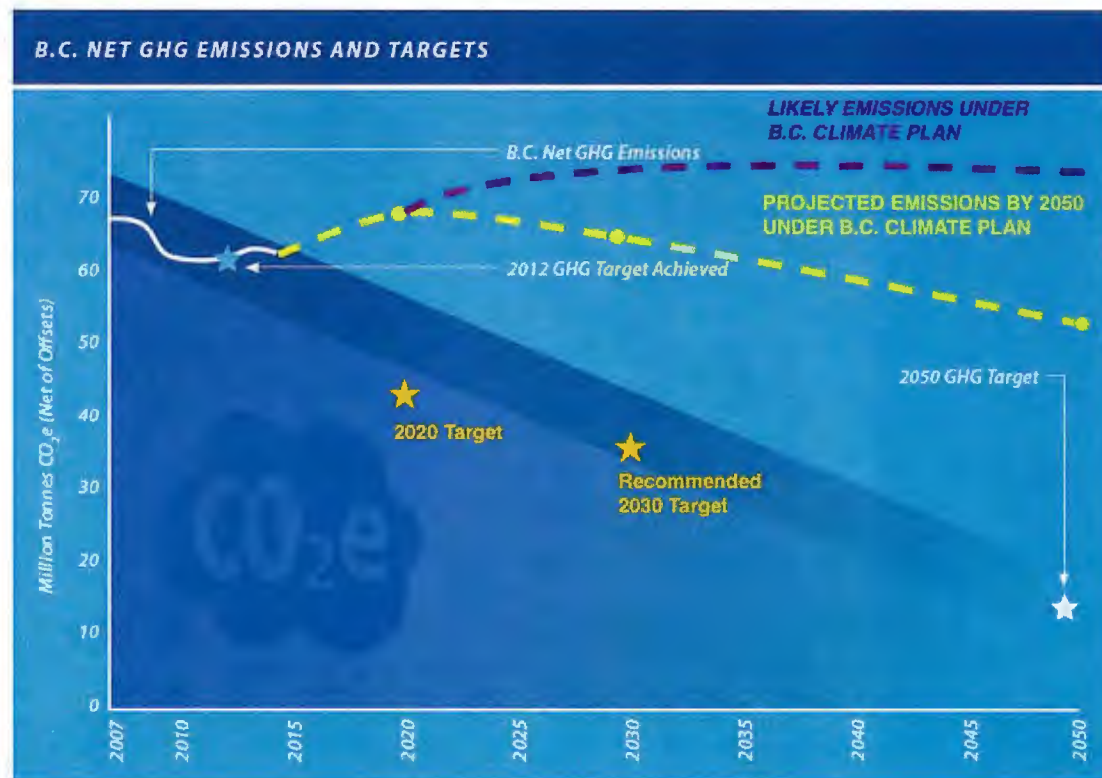
Public Sector Leadership

B.C.'s public sector is already leading the way in demonstrating how climate action can help reduce emissions. To continue this leadership, we are taking action with new strategies, including:

- ☑ Promoting use of low carbon and renewable materials in public sector buildings; and
- ☑ Mandating the creation of 10-year emissions reduction and adaptation plans for provincial public sector operations.

This action area is expected to reduce annual emissions by up to 1 million tonnes by 2050.

This set of 21 actions targets key areas we can act on now. The Climate Leadership Plan will be updated over the course of the following year as work on the Pan-Canadian Framework on climate action progresses.

Attachment 2: Forecast of BC net GHG emissions with the BC Climate Leadership Plan

Source: Clean Energy Canada, August 2016.

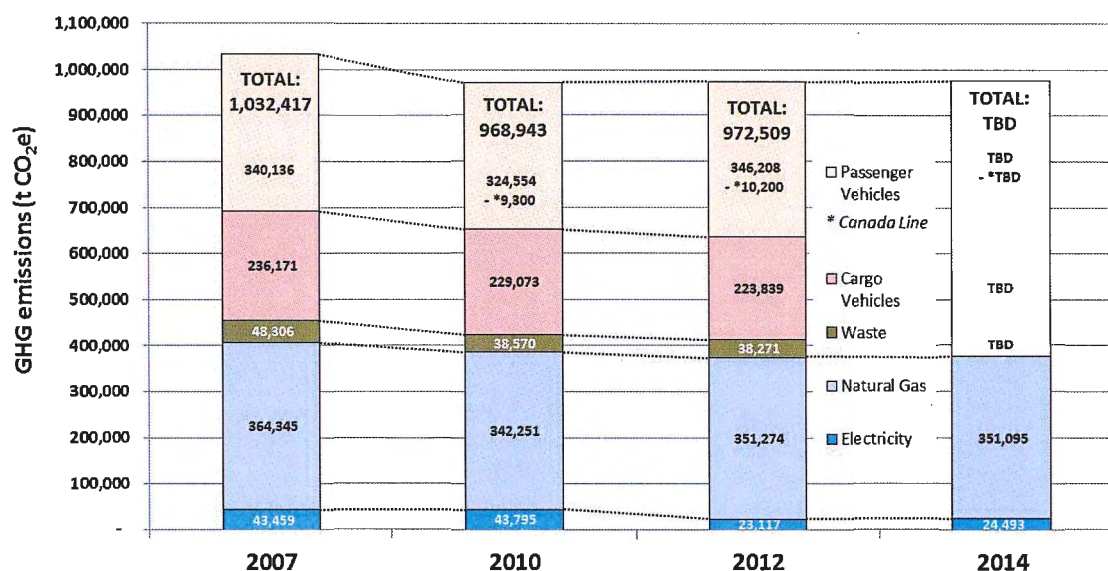
<http://cleanenergycanada.org/three-big-questions-about-british-columbias-climate-plan/>

Attachment 3: City of Richmond GHG emissions (2007-2014): updated

The province prepares the Community Energy and Emissions Inventory (CEEI) for local governments. The latest data from CEEI, received by City of Richmond staff in July 2016, includes complete data up to 2012. The new data incorporates small adjustments to estimated emissions for all years from electricity, natural gas and waste, and significant increases in estimated emissions from the transportation sector, relative to the emissions inventory presented to Council in March 2016.⁷

According to the July 2016 CEEI data, total GHG emissions from the City of Richmond in 2012 were 982,709 t CO₂e (i.e. 0.98 MT CO₂e), a 4.9% decrease from the updated 2007 estimate of 1,032,417 t CO₂e.⁸ The new data indicates that 2012 emissions increased by only 4,466 t CO₂e (i.e. less than 0.5%) from the 978,243 t CO₂e emitted in 2010. Note, however, that the 5.25% reduction in emissions between 2007 and 2010 indicated by the new CEEI data is smaller than the 6% drop (based on previous CEEI data) that was reported to Council in March 2016.

In the March 2016 report to Council, staff noted that the CEEI method for calculating transportation sector emissions is unable to reflect the local shift in transportation mode share which resulted from the start of service on the Canada Line in 2009. Staff estimate that travellers shifting from automobile use to the Canada Line resulted in an emissions reduction of approximately 9,300 tonnes annually in 2010, with annual reductions increasing by a further 10% to 10,200 t CO₂e in 2012 – equivalent to about 3% of total passenger vehicle emissions in Richmond.⁹ When the GHG emission totals are amended by this amount to reflect the influence of the Canada Line, the amended results indicate that overall GHG emissions in Richmond did drop by 6% between 2007 and 2012; from 1,032,417 t CO₂e to 972,509 t CO₂e.



⁷ Compare with the emissions inventory numbers presented in “Paris Climate Agreement and BC Climate Leadership Plan Update,” Public Works and Transportation Meeting, March 23, 2016.

⁸ Not including 2,999 t CO₂e of net emissions from land use change, which were reported only for the year 2012.

⁹ Estimate derived by staff from a comparison of Richmond B-Line boardings from 2008 compared with Lulu Island Canada Line boardings during 2010 and 2012, using average trip distances from 2011 TransLink trip diary results.

The province and BC Hydro have also provided staff with 2014 data for total Richmond electricity and natural gas consumption only (i.e. the buildings sector).¹⁰ These totals indicate that overall emissions for the buildings sector in 2014 increased by only 0.3% over 2012 levels, despite a population growth of 3.6% in Richmond during 2012-2014.

Between 2007 and 2014, BC Statistics estimates Richmond's population to have increased by 10.5%.¹¹ During this time, however, natural gas consumption has actually declined by 4% (a 13% decrease on a per capita basis), while electricity consumption increased by only 1% (a 9% per capita decline). The City's compact urban development policies, combined with the numerous energy efficiency programs including district energy, are influencing this result. Total community GHG emissions from natural gas also declined by 4% during this time, while GHG emissions from electricity use declined by 43% (because of higher use of zero-emission electricity generation sources during this time).¹² The City's success in diverting community solid waste from landfills appears to have played a significant role in declining waste sector emissions, which were down a remarkable 21% (28% on a per capita basis) between 2007 and 2012.¹³

¹⁰ Excluding large industry. Data provided by CEEI to Richmond staff in December 2015 and January 2016, and by BC Hydro in January 2016.

¹¹ 2006 population: 185,818; 2014 population: 205,262; 2007-2014 increase: 10.5%. Source: http://www.richmond.ca/_shared/assets/Population_Hot_Facts6248.pdf

¹² New data on the GHG intensity of BC Hydro's electricity means this is less than the 60% decline reported in March 2016.

¹³ New data from CEEI means this is considerably larger than the 9% decline between 2007 and 2010 reported in March 2016.