



To: General Purposes Committee
From: Peter Russell
 Senior Manager, Sustainability and District Energy
Re: BC Clean Growth Intentions Papers

Date: August 10, 2018
File: 10-6125-07-02/2018-Vol 01

Staff Recommendation

1. That City comments on the Provincial *Clean Efficient Buildings and Clean Transportation* “Intentions Papers”, as outlined in the staff report titled “BC Clean Growth Intentions Papers” from the Senior Manager, Sustainability and District Energy, dated August 10, 2018, be forwarded to the Province.
2. That staff evaluate the City’s medium-term GHG reduction targets in light of the new provincial targets, and bring back options for consideration.

Peter Russell
 Senior Manager, Sustainability and District Energy
 (604-276-4130)

Att. 1

REPORT CONCURRENCE		
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER
Fleet	<input checked="" type="checkbox"/>	
Building Approvals	<input checked="" type="checkbox"/>	
Transportation	<input checked="" type="checkbox"/>	
REVIEWED BY STAFF REPORT / AGENDA REVIEW SUBCOMMITTEE	INITIALS: 	APPROVED BY CAO

Staff Report

Origin

On July 20th, 2018, the Province released three editorials collectively referred to as the “Clean Growth Intentions Papers” publicly for stakeholder review. The framework outlined in each Intentions Paper is intended to support and inform the government’s strategy to build a clean growth future for B.C. Stakeholder comments were due August 24, 2018 and the final versions of the Intention Papers are scheduled for release this fall. Staff have confirmed that the City’s comments will be accepted when submitted after this date.

This report summarizes the City’s review of two Intentions Papers (*Clean, Efficient Buildings* and *Clean Transportation*) in relation to the City’s *Community Energy and Emissions Plan (CEEP)* and associated policies adopted by Council, and presents staff recommendations for Council’s endorsement. Staff did not conduct a detailed review of *Clean Growth for Industry*, as this paper focuses on emissions from large industrial operations, largely outside of the scope of municipal government mandates.

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 2007, the Province adopted two long-term GHG emissions reductions targets for BC. The reductions targeted reducing emissions by 33% below 2007 levels by 2020, and 80% below 2007 by 2050. In 2008, the Province released the *Climate Action Plan*, the first provincial strategy to achieve deep GHG reductions from British Columbia as a whole.

The City signed the *Climate Action Charter* in 2008, and on April 26, 2010 adopted the same aggressive long-term GHG reduction targets as the Province. Empowered by supportive provincial policies and programs, and city targets, the City of Richmond has become a leading local government on climate change and energy efficiency in BC through the implementation of the *Community Energy and Emissions Plan (CEEP)* adopted in 2014, which defines strategies and actions to reduce GHG emissions and energy consumption in Richmond. The City has published two CEEP updates since then, highlighting the City’s actions in numerous areas.

In 2016 the Province released the *Climate Leadership Plan*, which committed to “taking incremental steps to make buildings ready to be net zero by 2032.” While the plan did not identify actions sufficient to achieve BC’s GHG reduction targets, it did lead to provincial adoption of the BC Energy Step Code within the BC Building Code in 2017. Council adopted the

Energy Step Code for most new Building Permit applications in July 2018, with entry into force on September 1, 2018.

On May 31, 2018, the provincial government adopted revised GHG reduction targets for BC. The target of reducing GHG emissions by 33% below 2007 levels was replaced by two new targets to:

- Reduce GHGs by 40% below 2007 levels by 2030; and
- Reduce GHG emissions 60% below 2007 levels by 2040.

The original target of reducing GHG emissions by 80% by 2050 remains in place. The new targets are consistent with the 2050 target, and have a comparable level of ambition as the previous 2020 target (at the time this target was set), but allow more time for their achievement.

Over the past decade, the Province has enacted a number of important climate initiatives including the BC Carbon Tax, the Renewable and Low Carbon Fuel Requirements Regulation, and the BC Energy Step Code, but the measures currently in place will not be sufficient to achieve the deep reduction targets set by the Province and by the City of Richmond. In some emission sectors (e.g. existing buildings, automobiles), effective policy measures are now well characterized but have yet to be implemented. In other emission sectors where action is already underway (e.g. new development), there is a need to schedule increased stringency in requirements over time,

Analysis

Staff reviewed the *Clean, Efficient Buildings*, and *Clean Transportation* Intentions Papers. An overview of each paper including a summary of staff feedback is provided below. An expanded set of staff comments is contained in Appendix 1.

Clean, Efficient Buildings Intentions Paper

This document outlines a strategy to “transform the building market by making energy efficiency and low-carbon building solutions more available, accepted and affordable – creating more clean economy jobs in the process.” This paper sets out a series of high-level “potential actions,” stating that the Province shall:

- Consider a mandatory energy efficiency labelling requirement, to be disclosed when the property is listed for sale or rent;
- Develop new financial incentives for energy efficiency;
- Implement changes to energy efficiency requirements in the BC Building Code;
 - Require new homes to be 20% more efficient by 2022, and 40% more efficient by 2024;
 - Adopt energy efficiency requirements for alterations to existing buildings by 2024;
 - Increase energy efficiency standards for equipment;
 - Consider the development and implementation of GHG intensity metrics;
 - Consider measures to encourage the development of EV charging stations.
- Consider a low-carbon building innovation program; and
- Implement additional training for energy efficient retrofits and the Energy Step Code.

Staff Review

The potential actions identified in this Intentions Paper have a strong potential to achieve GHG emissions reductions. If implemented, any of these intentions would directly benefit City efforts to implement climate action at the local level in terms of new policy tools, expanded regulatory mandates for action and/or additional resources for implementation.

The following comments summarize staff feedback and policy directions in the Intentions Paper:

- **Building Labelling:** Establish annual energy benchmarking requirements for large existing buildings, per Council recommendations of March 27, 2017. Staff are working with other local governments and Metro Vancouver to advance a building benchmarking program, which could support home energy labelling. Richmond has already piloted building energy benchmarking with the Building Energy Challenge program and staff have worked with utilities to streamline uploading of building energy consumption data;
- **Incentives:** Prioritize incentives that shift new construction towards low-carbon options (e.g. heat pumps);
- **PACE:** “Property assessed clean energy” (PACE) tools enable energy efficiency improvements on a given property to be amortized over an extended period by means of a property tax surcharge levied on that property. Enable local governments to use this tool to deploy low-interest financing for energy efficiency projects;
- **BC Building Code (BCBC) and Energy Step Code:** Implement scheduled improvements in BC Building Code (BCBC) minimum requirements for energy efficiency and include new energy efficiency requirements in the BCBC for renovations to existing buildings by 2024. Develop GHG intensity targets, in collaboration with stakeholders, as part of the Energy Step Code.
- **Electric Vehicles:** Broaden EV charging requirements to encourage EV adoption. Richmond is Canada’s first municipality requiring that all residential parking spaces in new developments (excluding visitor parking) feature an energized electrical outlet capable of providing “Level 2” charging.
- **Low Carbon Innovation Fund:** Consider a low-carbon building innovation program for manufacturers, developers and builders, focusing on the research and development, commercialization and demonstration of new building solutions;
- **Training:** Broaden training opportunities to build capacity in the construction of high performance buildings similar to the City funded Airtightness Training Program that covers airtightness techniques courses and pre-drywall blower door tests for buildings under construction.

Clean Transportation Intentions Paper

Cleaner vehicles, cleaner fuels and clean transportation systems are the key focus areas for the transportation sector in British Columbia, which accounts for 39% of greenhouse gas emissions or 25 million tonnes annually.

This paper states that the Province intends to:

- Encourage the use of cleaner vehicles through:

- Incentives and new supply requirements for zero emission vehicles,
- Support for charging and fuel stations for zero emission vehicles including preferred parking and access, and encouraging charging stations in buildings.
- Encourage the use of cleaner fuels by means of:
 - A strengthened low carbon fuel standard,
 - Tax exemptions for renewable blends,
 - Support for commercial production,
 - Programs to promote investment in fuelling infrastructure,
 - Centre of excellence for biofuels.
- Support increased carpooling, vehicle co-ops and the like,
- Continue to invest in transit,
- Integrate transportation and land use planning for interconnected infrastructure, transit and cycling,
- Provide support for electric and/or electric hybrid ferries,
- Increase use of clean electricity and technologies in our ports,
- Encourage cleaner and more efficient shipping corridors (e.g. shift to railways, LNG in larger marine vessels).

Staff Review

The potential actions identified are principally sound and appropriately focused on emissions reduction. Additional issues or areas that should be considered as part of clean transportation include:

- **Emissions Reduction Measures:** Implement emission reduction measures for commercial fleets, including incentives, and a shift to nighttime operations;
- **Electric Vehicles:** Use gasoline taxes to fund EV incentives until cost or price parity is reached, allocating incentives to maximise the number of additional EVs purchased (or electrically-powered kilometres travelled). Allocate provincial funding for charging stations based on data on new sales and existing populations of EVs. Enhance access to charging infrastructure in existing developments, e.g. Right to Charge rule within Strata Act, and adopt aggressive ZEV sales targets (e.g. a 30% target for EV's by 2030).
- **Specific Targets and Programs:** Implement specific emission reduction targets for personal, commercial, transit, rail, marine, etc.
- **Low Carbon Fuels:** Support legislation further reducing the carbon intensity of transportation fuel.
- **Data:** Direct ICBC to collect odometer readings annually from drivers renewing their vehicle insurance, per Council's recommendation in October 2016.

GHG Emission Reduction Targets

As noted above, the City's own 2020 GHG reduction target is no longer consistent with that of the provincial government. In 2015, the Province stated that the 2020 GHG reduction target was beyond reach, and in December 2017 released data indicating BC's GHG emissions in 2015 were only 2.1 percent below 2007 levels, having risen since 2010.

Richmond's most recent GHG emission inventory is for 2012. When increased transit ridership on the Canada Line is factored in, this data is consistent with a 6% reduction in GHG emissions between 2007 and 2012, but also shows a small increase in emissions after 2010. Provincial-level trends showing increased GHG emissions from road transportation and manufacturing exceeding reductions from electricity, buildings and waste management since 2010, may well have occurred in Richmond as well.

The Province's new GHG reduction targets remain in line with the long-term deep reduction target of 80% below 2007 levels by 2050, but allow more time for emission reduction measures to take effect. A recommendation is included in this report to direct staff to evaluate changes to the City's own medium-term GHG reduction targets in light of the new provincial targets. This analysis can be completed once the Province has released their final plan.

Financial Impact

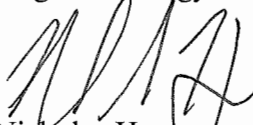
None.

Conclusion

Overall, the directions outlined in the *Intentions Papers* prioritize a number of policy areas where Richmond has already begun to take action. New Provincial policies and resources could greatly assist the City's efforts to improve energy efficiency and reduce GHG emissions on a city-wide basis.

As noted above, staff have identified a number of supportive recommendations for the Province, and note that the new plan would be made even stronger by the consideration of several policies which Council has already endorsed or implemented. Staff also recommend that the City consider changing the GHG reduction targets in the OCP to maintain consistency with the Province's new targets once the final plan is released.

If implemented, the Province's third climate change plan could provide Richmond with critical additional policy support and resources, enabling the City to be even more effective in achieving its long-term energy efficiency and GHG reduction goals.



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NH:nh

Att. 1: Expanded comments on the Intentions Papers

Attachment 1: Expanded comments on the Intentions Papers**Clean, Efficient Buildings Intentions Paper**

The following comments, note parallel initiatives already underway at the local level and additional issues or areas that should be considered by the Province in developing the new clean growth plan:

1. Richmond is already working with other local governments and Metro Vancouver to advance home energy labelling. A similar measure for use with large buildings is building energy benchmarking, which is associated with energy efficiency gains of 7% to 14% in implementing jurisdictions in the United States. Richmond has already piloted energy benchmarking in large office, commercial and residential apartment buildings in 2015-2016 through the Richmond Building Energy Challenge program. Working with utilities, Richmond staff have also streamlined procedures for uploading building energy consumption, greatly easing implementation of this measure. Per recommendations adopted by Council on March 27, 2017, the Province should additionally establish requirements for the annual energy benchmarking (i.e. the reporting of actual energy use) for large existing buildings.
2. Additional resourcing for conventional incentive programs is welcome. Prioritize incentives that shift new construction towards low-carbon options (e.g. heat pumps).
3. Low-interest financing options leverage the owner's own long-term energy savings to finance significant investments in energy efficiency, greatly increasing the reductions achievable through government or utility investments. While "on-bill financing" is a utility-led approach, a second option for low-interest financing called PACE ("property assessed clean energy") is particularly suited to implementation by local governments. PACE enables energy efficiency improvements on a given property to be amortized over an extended period by means of a property tax surcharge levied on that property. Originally conceptualized in BC¹, PACE has been used by local governments across North America to efficiently leverage billions of dollars in homeowner equity for energy efficiency and renewable energy improvements. Include PACE when assessing options for low-interest financing.
4. Comparing the Province's proposed timetable for increasing energy efficiency requirements in the BC Building Code against the City's proposed Energy Step Code timeline for Part 9 buildings suggests that while Richmond and other leading municipalities will continue to "break trail" for more efficient building practices, other local governments will soon be obliged to follow along (see Attachment 1). Announcing this schedule of code changes in advance reinforces the message that leadership on energy efficiency isn't just about builders doing good; it also helps ensure that local builders gain expertise in energy efficient-building critical to their future competitiveness.

¹ As "Energy Efficiency Local Improvement Charges": <http://www.pembina.org/reports/LICProgramFinal-ReportMay27042.pdf>

Richmond supports the Province's intention to increase energy efficiency requirements in the BC Building Code.

5. Richmond's Community Energy and Emissions Plan (CEEP), adopted in January 2014, identified three "Big Breakthrough" priorities identified in the CEEP; sectors with great potential for GHG emission reductions but beyond the scope of municipal climate action in 2014. Through the BC Building Act and the Energy Step Code, Council has since taken significant action on two of these three priorities,² and with an energy efficiency code for existing buildings, Richmond will be able to address the last of these "Big Breakthrough" areas. Richmond supports the Province's intention to implement BC Building Code requirements for energy efficiency in existing buildings.
6. As noted in staff's report to Council on June 27, 2018, regarding Energy Step Code adoption Council on March 27, 2017, "the Energy Step Code alone is unlikely to achieve widespread adoption of very low / zero GHG emissions new buildings which will be necessary to achieve the City's emissions targets ... [because] the Energy Step Code does not directly measure GHG emissions from buildings." In the absence of a GHG intensity target, the City's Energy Step Code implementation framework incents GHG reductions by providing developers of residential high-rises with the option of building to Step 3, or to the less-stringent Step 2 in combination with a "low carbon building energy system." The Province should collaboratively develop GHG intensity targets as part of the Energy Step Code, or as a parallel set of targets that could be adopted in combination with the Energy Step Code.
7. Richmond has taken a decisive lead with regarding to EV charging policy. In December 2017, Richmond became the first municipality in Canada to require that all residential parking spaces in new developments, excluding visitor parking, feature an energized electrical outlet capable of providing "Level 2" charging. This policy, or a variant of it, has since been adopted by several other BC municipalities including Vancouver, West Vancouver, and Burnaby. On November 28th 2016, Council directed "that staff report back regarding the potential installation of community Level 3 charge stations," and in June 2018, Council directed staff to install publicly accessible EV charging infrastructure at City Hall and Olympic Oval. The Province should consider Richmond's EV charging requirements as an option for encouraging the development of EV charging stations.
8. Richmond implemented the Smart Thermostat Pilot in 2016-2017, assessing the local cost-effectiveness of the new smart-phone linked programmable thermostat technology that had recently become available. As part of BC Energy Step Code implementation, the City has also signalled its willingness to work with developers in coming up with incentives that would support the development of showcase buildings achieving the highest steps of Energy Step Code. Richmond supports the Province's intention to implement of a low-carbon building innovation program.
9. Richmond has provided outreach and training as a core component of the City's Energy Step Code implementation strategy. Even prior to formal adoption of the Energy Step

² By adopting the City's own EV charging policy in December 2017, and the BC Energy Step Code in July 2018.

Code, the City had paid for more than 50 builders to attend a one-day airtightness techniques course, and made funding available for more than 60 pre-drywall blower door tests for buildings under construction. The City also hosted builder engagement workshops attended by more than 200 local builders, and held a workshop regarding air tightness testing for larger Part 3 developments. Richmond supports the Province's intention to provide additional training to build capacity.

10. Staff note that under the Energy Step Code, the Province is relying on Energy Advisors to take on important new responsibilities, influencing building design and verifying the energy performance of Part 9 buildings under construction. While Energy Advisors are accredited by Natural Resources Canada (NRCan) and are accountable to NRCan-licensed Service Organizations, there is a recognized need for improved quality assurance, standards of practice and liability protection. The Province has an important role to play in working with NRCan to ensure that Energy Advisors provide consistent and quality work. The Province should prioritize the professionalization of Energy Advisors.

Clean Transportation Intentions Paper

The potential actions identified are principally sound and appropriately focused on emissions reduction. Additional issues or areas that should be considered as part of clean transportation include:

11. The intentions paper focuses heavily on personal transportation; however, commercial fleet vehicle emissions are also substantial. This is particularly important as traditional brick-and-mortar stores become less prevalent, and on-line/shipping becomes more widespread as preferred methods of acquiring goods.

It is suggested that there be greater focus in this area, including incentives for commercial fleets to adopt zero emission units or other cleaner fuel technologies. Policies which support more creative use of existing infrastructure (i.e. moving goods/trucking during the nighttime vs. daytime hours) are other ideas for addressing commercial fleets.

A complementary approach may be to include specific reduction targets in the strategy for the various transportation sectors (personal, commercial, transit, rail, marine, etc.). This would help to level the playing field for performance within each of these sectors as well as provide a basis for measuring against actual performance.

12. Financial incentives will be a key aspect of any momentum to promote alternatives. Proceeds from a tax on the sale of gasoline vehicles (in line with their expected lifetime GHG emissions relative to EVs) could be used to fund greater incentives for ZEV's until they reach price parity. Incentives should not be limited to EVs alone. While incentives for EV's should not be phased out until they reach cost parity with their gasoline-engine equivalents, the Province should also be mindful of regularly adjusting the incentive amount as the cost gap diminishes over time. Similarly, while a PST exemption is a promising option for ZEV's, care should be taken to ensure that the funds allocated to

incentives are deployed so as to maximise the number of additional EVs purchased (or electrically-powered kilometres travelled). Linking the allocation of provincial funding for charging stations to regional data on new sales and existing populations of EVs by region should also support/ensure efficient use of available resources.

13. Emphasis should be placed on linking this strategy to research and development in the education sector in all areas of alternative fuels to incent continuous improvement, as well as ensure life cycle impacts of the various energy alternatives are adequately researched. This will also help to ensure actions which may have positive benefits in one environmental arena do not unknowingly create negative impacts in others.
14. In relation to electric vehicle infrastructure, amendments to the B.C. Utility Act for the reselling of power should be a priority consideration in support of clean transportation, such that private industry can realize a financial return through investments in EV charging infrastructure. Assisting the rapid build-out of charging infrastructure will help to provide confidence that to potential EV buyers in relation to greater charging options.
15. Provincial action to support retrofitting of EV charging stations in existing developments is another potential target area. Amendments to the Strata Act (such as a Right to Charge rule for condo residents), could help support the retrofitting of older buildings to support charging infrastructure. As cities densify, more and more people are moving into multi residential units. Efforts to enhance access to charging infrastructure in these developments will help to incent EV purchases.
16. While the long-term emission reduction benefits EVs will be profound, it will take several decades for BC's automobile fleet to be substantially replaced. As such, there is a need to increase sales of EVs as quickly and efficiently as available resources will allow if we are to achieve the 2050 GHG reduction target. The Province should implement aggressive targets for the percentage of ZEVs sold.
17. Assuming effective implementation, changes in the low-carbon fuel standard should deliver a comparable reduction in fleet-wide GHG emissions almost immediately, and for as long as the standard is maintained. The Province should implement additional reductions in the legislated carbon intensity of transportation fuel as an effective short to medium term emission reduction measure for the transportation sector.
18. Many important aspects of clean transportation policies are not referred to within the Clean Transportation Intentions Paper. Sustainable land use policies in the OCP that minimize transportation needs, promote efficient use of the existing transportation infrastructure; and create more sustainable transportation options (i.e. public transit, etc.) can be very effective in reducing energy use and GHGs over the medium to long term, especially in combination. Similarly, active transportation modes like walking and cycling are only referred to briefly, despite their increasing role within the urban transportation mix.

Other Comments:

19. The Clean Transportation paper does not reference the total lack of accurate vehicle emissions data since the shutdown of the AirCare vehicle emissions testing program at the end of 2014. Because the transportation sector accounts for almost half of community-wide GHG emissions than 40% of Richmond's total GHG emissions, the lack of locally-attributed transportation sector data has prevented most municipalities from tracking their overall GHG emissions in recent years. Per Council's direction on this issue in October 2016, the Province should direct ICBC to collect odometer readings annually from drivers renewing their vehicle insurance.
20. The Community Energy and Emissions Inventory (CEEI) initiative of the Climate Action Secretariat, previously achieved huge efficiencies in simultaneously preparing approximately 200 GHG emission inventories on behalf of all local governments and regional districts in BC. Given the now well-demonstrated effectiveness of local governments in implementing real climate action measures, the CEEI is one of the most practical measures that the Province can take to free up climate action resources at the local level, and ensure that accurate information regarding the effectiveness of actions taken is provided to local governments. The Province should restore adequate resources to the CEEI initiative.
21. As a final comment, staff requested an extension in the deadline for feedback until mid-September to allow input from local elected officials. The Province declined this request, keeping the public comment period to 35 days in July and August, although staff have been assured that the City's comments will be accepted when submitted. Ensure that local governments are provided with effective opportunities to comment on the development of the Province's clean growth plan.