

February 25, 2016

B.C. Climate Leadership Plan submission: Phase 2 consultation

Pembina Institute comments

Intro

This paper contains the Pembina Institute's comments for the B.C. government's second consultation period toward a new Climate Leadership Plan (CLP). Since our original submission published in August 2015, the Climate Leadership Team (CLT) has released its set of recommendations on what the next phase of the province's climate actions should entail. As well, the Paris climate talks renewed global momentum for climate progress. On March 3, 2016, Canada's first ministers and indigenous leaders will meet to hammer out a federal climate framework and establish principles to move together in a coordinated way to help Canada meet its international commitments to reduce carbon pollution.

While B.C. has seen significant success on the climate file with its initial actions, including the carbon tax, momentum stalled in 2012. B.C. is no longer on track to meet its legislated climate targets and has lost its status as a climate leader. The Climate Leadership Plan is *the* opportunity to get B.C. back on track and reclaim leadership on one of the most critical issues of our time.

It's worth noting that the Canadian context has changed considerably since the provincial government started the CLP process in the spring of 2015. We now have a federal government that wants to deliver strong action on climate. While Ottawa has committed to working with the provinces and promised to respect their autonomy, many parts of the economy would benefit from a national approach. Demonstrating leadership now will uniquely position B.C. to guide the federal-provincial process, and help ensure that B.C.'s interests are met.

The ambition we need

A laudable Climate Leadership Plan must demonstrate bold ambition and commitment, both in terms of approach and resources. The task ahead is monumental: B.C.'s current annual emissions are 62 Mt and must be reduced to 43.5 Mt by 2020, and to 13 Mt by 2050 (the CLT recommends a 2030 target of 39.5 Mt).

In December 2015, the international community came together in Paris for the 21st United Nations Climate Change Conference. All countries agreed to keep temperatures well below a 2°C increase, and pursue efforts to limit warming to 1.5°C to avoid the worst effects of the climate crisis. Canada was a major proponent of this ambitious target. Achieving it will require bold action by everyone. The CLP must be B.C.'s contribution to the global effort.

In this paper, we comment on the CLT's recommendations and give further suggestions on how B.C. can develop an effective CLP that ensures B.C. contributes its fair share to national and global efforts to solve this pressing problem.

The Pembina Institute supports the Climate Leadership Team's recommendations

We agree with the Climate Leadership Team's finding that B.C. should move ahead with strong climate policies. We support the 32 recommendations put forth by the team and encourage the government to implement the package of recommendations as a minimum bar for a strong Climate Leadership Plan. Furthermore, we are supportive of the recommendation to move ahead quickly on implementation and have most of the policies committed to by the end of 2016. Moving forward on an ambitious plan in a timely manner will help get B.C. back on track and ensure that missing targets will not become the dominant narrative regarding climate action in B.C.

While we support the full package of recommendations made by the CLT, we want to highlight some recommendations that have a direct link to cutting carbon pollution and the accompanying recommendations that ensure a robust economy and protection of vulnerable populations. These include:

Carbon tax

- Increase the carbon tax by \$10 per tonne per year starting in 2018 when the current carbon tax freeze ends, and expand the tax coverage to include all accurately measurable sources of carbon pollution. A strengthened carbon tax is the main policy tool recommended by the CLT and is imperative in reducing carbon pollution across all sectors of the economy. (Recommendation 5 and 6)

Carbon tax to fund infrastructure, technology and sales tax cuts

- Incremental revenue from the strengthened carbon tax should fund investments in technology and innovation, community infrastructure, and to reduce the PST from 7% to 6% and eliminate the PST on all electricity rates. (Recommendation 4 and 7)

Targeted support for emissions-intensive, trade exposed sectors

- Develop clear and targeted policies for B.C.'s emissions-intensive, trade-exposed (EITE) sectors to mitigate potential competitiveness concerns from the higher carbon tax, set up in a manner that does not undermine the incentive to reduce emissions. (Recommendation 5-c)

Targeted support for vulnerable populations

- Adjust the existing low-income and northern/rural tax credits to help support vulnerable communities to sustain their disposable income when the carbon tax rate rises. These adjustments should be based on the best available data to ensure appropriate levels of support. (Recommendation 5-b)

Buildings

- Accelerate improvements in the building code's energy efficiency requirements over the next 10 years, and commit to all new public sector buildings being super energy efficient starting in 2016. Accelerating the retrofit of existing building such as to reach a 50% sector-wide emissions reduction by 2030. (Recommendation 20)

Methane

- Implement best practice methane abatement requirements for B.C.'s oil and gas sector to align with leading North American jurisdictions. (Recommendation 15)

Transportation

- Set a 2030 target for the low carbon fuel standard and establish a new zero-emissions vehicle standard that would enable B.C. to join with California, Quebec and an alliance of other states

supporting the transition to electric vehicles, so as to reduce sector emissions by 30% by 2030. (Recommendation 19)

Targets

- Consistent with the commitment of the new federal government, set a 2030 greenhouse gas (GHG) reduction target. For B.C. we recommend this be a legislated target of a 40% greenhouse gas reduction below 2007 levels. (Recommendation 2)

Going further

In addition, we want to highlight where the Pembina Institute recommends going beyond the recommendations made by the CLT:

Broaden the carbon tax earlier

- The Pembina Institute supports the recommendation to broaden the carbon tax to include all accurately measurable carbon emissions. However, we believe this can be done before 2021, as recommended by the CLT, especially considering that much of the reporting infrastructure for these sources is already in place due to B.C.'s GHG reporting requirements. Broadening the carbon tax to include non-combustion emissions is important as the cost of abatement is low for these sources. Furthermore, the EITE recommendations would ensure that the broadening of the carbon tax could happen without impacting the competitiveness of B.C.'s businesses.

Integrated land use planning

- The Pembina Institute identified a gap in the CLT recommendations with respect to integrated land use planning. We recommend linking land use planning with transportation to create more transit-oriented development, investing in transit infrastructure, and supporting integrated land use and transportation planning to encourage location-efficient development.

Improved methane reporting

- Evidence suggests that methane emissions in B.C. are currently underreported. Therefore, we recommend the province evaluate its efforts to measure methane emissions so that emission abatement efforts can be prioritized effectively.

Liquefied natural gas

- The Pembina Institute does not believe that liquefied natural gas (LNG) development should proceed unless the province can demonstrate a credible path to meet the CLT's recommended 2030 target and the province's legislated 2050 target.

A strong CLP that adopts the CLT recommendations — and goes beyond them where specified — is needed to continue the legacy of B.C.'s successful Climate Action Plan that has seen carbon pollution fall while the economy grew.¹ Such a plan will once again establish B.C. as a leader on addressing climate change while also building a stronger economy and a more just society.

¹ Stewart Elgie, "Just the Facts: What's behind B.C.'s whopping fuel use drop?" *Sustainable Prosperity*, July 9, 2014. <http://www.sustainableprosperity.ca/blog/just-facts-what%E2%80%99s-behind-bc%E2%80%99s-whopping-fuel-use-drop>

The Pembina Institute's comments on select Climate Leadership Team recommendations

Carbon tax

We believe that an effective price on carbon must be a centrepiece of any credible Climate Leadership Plan. Since its inception in 2008, B.C.'s revenue-neutral carbon tax has provided a price signal to transition away from fossil fuels and towards a clean energy future. It has been lauded as an environmental and economic success. Independent research found that since the tax's implementation, per capita consumption of fuels subject to B.C.'s carbon tax dropped by 16%, while increasing by 3% in the rest of Canada (from 2007 to 2013). Over the same time frame, B.C.'s economy outperformed the rest of Canada, growing by 9.2%.² According to the Organization for Economic Co-operation and Development, B.C.'s carbon tax is a "text-book" example of how to get carbon pricing right³, and the World Bank and the United Nations have stated that B.C.'s tax is an example to follow.⁴ We believe B.C. should build on the success of the carbon tax. Therefore, we support the CLT's recommendation that "B.C. continue to use our strongest tool to reduce emissions, and recommence the annual increase in the carbon tax..." by \$10/tonne per year starting in 2018, and "expanding the carbon tax to include non-combustion emissions."⁵ A strengthened carbon tax is imperative for reducing carbon pollution across all sectors of the economy.

B.C.'s current carbon tax is revenue-neutral — all money taken in by the tax is returned through tax reductions. The CLT recommends maintaining the tax reductions achieved from the current tax, and to use incremental revenue from increases in the tax to fund community infrastructure projects (e.g. transit) and investments in technology and innovation, protect vulnerable populations through tax credits, support emission-intensive trade-exposed sectors, and cut the PST. We have previously supported rate increases, coverage expansion, and low-income and EITE adjustments. We believe that the CLT's carbon tax and revenue allocation recommendations will achieve positive environmental and economic results and are therefore supportive of the broader set of recommendations.

We want to reiterate that support for emission-intensive, trade-exposed sectors must be targeted, transparent and temporary, set up in a way that does not diminish the incentive to reduce emissions, and only be applied if there is a material gap in the stringency of the climate policy between B.C. and competing jurisdictions.

Based on analysis done by Navius Research, the CLT concluded that if its package of recommendations were implemented, the 2030 target (recommended) and 2050 target would be achieved while a strong economy was maintained.⁶ B.C.'s GDP is projected to keep growing at a rate of 2.1%, the same rate as under the current policy scenario. This will ensure continued opportunity for businesses and jobs for British Columbians.

While we support the CLT's recommendation to rely on the carbon tax as the primary mechanism to address B.C.'s emissions, the proposed rate increase schedule, and the revenue allocation, we believe that the broadening of the carbon tax to include non-combustion emissions should occur earlier than

² "Just the Facts: What's behind B.C.'s whopping fuel use drop?"

³ P.J. Parrington, "A "textbook example" of good climate policy, OECD praises B.C.'s carbon tax," *The Pembina Institute*, October 21, 2013. <http://www.pembina.org/blog/757>

⁴ Jim Yong Kim, "Sending a Signal from Paris: Transforming the Economy to Achieve Zero Net Emissions" speech, Washington, D.C., December 8, 2014. <http://www.worldbank.org/en/news/speech/2014/12/08/transforming-the-economy-to-achieve-zero-net-emissions>

⁵ B.C. Climate Leadership Team Recommendations to Government, October 31, 2015. https://engage.gov.bc.ca/climateleadership/files/2015/11/CLT-recommendations-to-government_Final.pdf

⁶ As stated in the B.C. Climate Leadership Team Recommendations to Government.

recommended (i.e. before 2021). Much of the reporting infrastructure required to accurately measure a large portion of these emissions is already in place due to B.C.'s GHG reporting regulations. Evidence suggests that non-combustion emissions offer some of the most cost effective GHG abatement opportunities available.⁷ This will allow B.C. to meet its climate targets at a lower total cost. Potential competitiveness concerns could be addressed by harmonizing the expansion with the recommended EITE measures to ensure an even playing field for B.C.'s businesses. Earlier implementation would also align the coverage of B.C.'s carbon tax to carbon pricing systems in Alberta, Quebec and California. Therefore, broadening the tax to include those sources already covered by the GHG reporting regulation in the short term, and quickly improving reporting methodologies for sources not covered, should be a priority.

Buildings

We support the CLT's recommendation to reduce emissions from the building sector by 50% by 2030, and the team's recommended measures to reach this target.

Prior to the release of these targets, we have worked with partners in the building industry to identify key goals for the sector. The Urban Development Institute, Architecture Canada, and over 100 other organizations representing developers, builders, architects, educational institutions, local governments and civic society see growth in energy efficiency as a key opportunity for carbon reduction and economic development. This coalition supports the following policies, which are consistent with the CLT recommendations and would help achieve the 50% reduction target:

- Set a clear target for the end performance goal for new buildings — for example, for new buildings to be net-zero ready by 2030 — and work with stakeholders to develop, within six months of the release of the plan, a roadmap clarifying the timeline and approach to meet this goal.
- Lead by example by requiring that all new planned public buildings meet this goal starting in 2016, and by setting up an aggressive renovation program for existing public buildings to reduce their carbon emissions by half in the next decade.
- Launch a multi-year exemplary building incentive program to accelerate market transformation for high performance new construction and deep retrofits, prioritizing affordable housing and high visibility projects.
- Develop financing mechanisms to redistribute incremental costs (e.g. financing through property taxes or utility bills, or loans to strata).
- Ensure the construction and real estate industry, the government and the public have access to energy performance data to monitor progress and provide feedback on policies and behaviour (i.e. benchmarking and home energy labelling).
- Support integrated land use and transportation planning to encourage location-efficient development

The coalition also supports strengthening carbon pricing and increasing resources for local governments and the Building Safety and Standards Branch to facilitate code changes, streamline approval of innovative solutions, decrease permitting times and increase code compliance.

We acknowledge the parallel process underway within the province's Energy Efficiency Working Group. A multi-tiered performance-based provincial stretch code will be key to accelerating uptake of energy efficiency in new buildings and facilitating base code evolution. To encourage the use of low-carbon fuel sources to reduce the carbon footprint of our buildings, we recommend integrating a carbon intensity target, alongside a total energy target, in the stretch code performance tiers.

⁷ ICF International, *Economic Analysis of Methane Reduction Opportunities in the Canadian Oil and Natural Gas Industries* (2015). <http://www.pembina.org/pub/economic-analysis-of-methane-emission-reduction-opps-cdn-oil-gas>

Transportation and land use planning

We support the CLT's recommendation to reduce carbon pollution from the transportation sector by 30% by 2030, and the team's package of recommendations to reach this target.

In our opinion, effective policy to address emissions from personal transportation remains a gap in the province's current climate strategy. This is significant as transportation is B.C.'s largest single source of carbon pollution, accounting for 39% of the total. We are very supportive of the CLT's recommendation to establish a zero-emissions vehicle standard for light duty vehicles. Research by Simon Fraser University professor Jonn Axsen shows that an effective zero-emissions vehicle standard is paramount for B.C. to achieve its climate commitments.⁸ We also support the CLT's other transportation-related policy recommendations, including: decreasing carbon pollution by 30% by 2030; increasing the low carbon fuel standard (LCFS) to 20% by 2030; broadening the coverage of the LCFS to include all vehicle fuels (except aviation); enhancing incentives and infrastructure to support commercial transport efficiency and fuel conversions; and establishing a revenue-neutral PST for all vehicles based on grams of CO₂ per km. Lastly, we want to reiterate that a strengthened carbon tax must be a key component to reducing emissions from all sectors, including transportation.

In addition to these approaches that aim to decrease the impact of transportation on B.C.'s emissions, we also identified a gap in the CLT recommendations with respect to integrated land use planning. Without a targeted approach to increase connectivity, walkability and increased transit density in B.C.'s communities, demand for single occupancy vehicles will continue to increase. As the carbon pollution from transportation is forecasted to drop to close to zero if the CLT's recommendations are enacted, the benefits from integrated land use planning on reducing carbon pollution may not be material. However, it would result in a range of co-benefits including healthier populations and more vibrant economies. Moreover, integrated land use planning would provide a level of redundancy if carbon pollution from the transportation sector cannot be reduced as easily as forecasted. Therefore, we recommend including integrated land use planning into the CLP to build more transit-oriented and location-efficient development.

Methane emissions from the natural gas sector

Methane emissions from B.C.'s natural gas sector are particularly important and represent a gap in B.C.'s current climate policy framework. We are encouraged by the CLT's recommendation to address these emissions by implementing best practice methane abatement requirements. Such requirements will allow B.C. to catch up to leading North American jurisdictions that are already managing methane more effectively.

Research by the consulting firm ICF International recently found that methane emissions from Canada's oil and gas sector could be reduced by 45% for less than \$3 per tonne of CO₂e. Reaching these low-hanging fruits of emission abatement by broadening the carbon tax, and by requiring best practice leak detection and repair programs and methane management procedures, should be a priority. We encourage the government to act on this as quickly as possible, and not wait until 2021 as recommended by the CLT.

Evidence suggests that methane emissions could be substantially underreported in Canada. If methane emissions are indeed higher, it could alter where the focus on emission abatement should be and could markedly increase the low- and even negative-cost emission abatement opportunities available to the gas sector. We encourage the government to address this issue by undertaking an objective, fact-based and statistically valid analysis of methane emissions from B.C.'s natural gas sector.

⁸ Jonn Axsen, Sustainable Transportation Research Team, "The Importance of a ZEV mandate for B.C." November 18, 2015.

Liquefied natural gas

The Pembina Institute recommends that B.C. not proceed with the development of an LNG industry unless the province can demonstrate a credible path to meet the CLT's recommended 2030 target and the province's legislated 2050 target.

The total impact of the LNG industry in B.C. will be dictated by the strength of the policies that are put in place to limit emissions from the upstream production of natural gas, the transportation of that gas to the terminals on the coast and the emissions associated with the operation of the terminals themselves. We support the CLT recommendations aimed at minimizing impacts from the terminals and upstream production, including the implementation of best practice methane leak detection and repair requirements, transparent reporting mechanisms for methane emissions (see methane section) and the broadening and increase of the carbon tax (see carbon tax section). These recommendations will significantly reduce carbon pollution from existing natural gas operations and any new development that proceeds. Without them, any significant LNG development makes the province's targets unachievable.

Even with these policy actions, we continue to be concerned about the risk that LNG and gas development would make the province's climate targets impossible to attain. Given how important any development is in the province's overall carbon pollution, we think the CLP needs to more transparently articulate how the associated carbon pollution from different levels of LNG development would fit within the overall reduction targets for B.C.

We also challenge the related assertion that LNG can be a global climate solution, as frequently put forth by the B.C. government and LNG proponents. Research we conducted for PICS suggests that LNG from B.C. is not a global climate solution; instead, better global climate policy is needed to reduce global emissions rather than adding more fossil fuel into the energy mix. In addition, the report finds that in a global scenario where temperature increases have a good chance of remaining below 2°C, natural gas demand declines after 2030, dropping below 2000 levels between 2040 and 2050, making investment in new fossil fuel infrastructure questionable from an economic perspective.⁹

Other issues

The above-explored issues are not an exhaustive list. They merely represent the scope of work that the Pembina Institute is familiar with. We recognize the importance of issues not commented on above, including climate adaptation and forestry. We encourage readers to consult subject matter experts for more information on these topics.

Summary

British Columbia showed early climate leadership with the 2008 Climate Action Plan, which is widely seen as an environmental and economic success. But policy momentum slowed thereafter, and recently emissions began rising again — putting B.C.'s 2020 target out of reach. The 32 recommendations put forth by the Climate Leadership Team provide an opportunity to reverse this trend and regain the leadership role on climate that B.C. once held.

The Pembina Institute encourages the B.C. government to implement the CLT's full package of recommendations — and to go beyond them where specified — into the forthcoming Climate Leadership Plan. At a minimum, the plan must include a stronger carbon tax to be credible. Only an ambitious plan will ensure that B.C. contributes its fair share under the renewed global commitments to solve the climate crisis.

Thank you for the opportunity to comment. We are currently conducting our own research into these areas and are happy to provide further input if required.

⁹ The Pembina Institute, *Liquefied Natural Gas and Climate Change* (2014). <http://www.pembina.org/pub/lng-and-climate-change-the-global-context>

APPENDIX 1: Further commentary on climate action in the buildings sector

We would like to stress some key conditions for successfully implementing a plan to curb emissions from buildings. The following recommendations are based on the growing consensus and ongoing conversations we've engaged in during the Climate Leadership Plan consultation process and with the Energy Efficiency Working Group (EEWG) at the Buildings Safety and Standards Branch within the Ministry of Natural Gas Development and Housing.

- 1. On stretch codes:** The current work of the Energy Efficiency Working Group to develop a multi-tiered performance-based provincial stretch code will be key to accelerating uptake of energy efficiency in new buildings and facilitating base code evolution. The province should continue to support this initiative, develop stretch codes based on the EEWG recommendations, and provide information to local governments to facilitate decision-making (costing studies, expected energy/GHG savings, etc.) and implementation (standard language for bylaws/policies, online enforcement checklists, ongoing analysis of reported performance data, etc.)
- 2. On the carbon intensity of energy sources:** Under the current code, most Part 3 buildings are designed to ASHRAE 90.1, which uses energy cost as a performance metric. This encourages the use of natural gas over electricity, thus ultimately increasing the carbon footprint of our buildings. If we are to meet deep carbon reductions in the building sector, we need to invert this relationship and align our evaluation metrics with our objectives. Thus, we recommend integrating a carbon intensity target, alongside a total energy target, in the stretch code performance tiers. Using both metrics will allow us to recognize the value offered by low-carbon district energy systems and other high efficiency low-carbon heat sources, while at the same time ensuring overall gains in energy efficiency to limit electrical load growth.
- 3. On opt-out mechanisms:** Rather than trying to define targets appropriate for all building types and situations, the development of energy efficiency requirements could be greatly accelerated by setting performance criteria for the most common building types (low- to high-rise residential, offices, schools, etc.) and defining a mechanism for relaxation of these requirements when they create unrealistic cost burdens. The use of statistical normalization tools such as EPA's Target Finder and compilation of modelling data from buildings built in B.C. could provide an objective basis to evaluate these requests.
- 4. On incentive programs for new buildings:** Funding for incentives for new construction should be focused on building capacity and demand for transformative projects, rather than supporting modest gains over the status quo. Focus should be on developing low-cost, reproducible design for net-zero ready buildings, rather than supporting marginal efficiency gains on standard designs or one-off signature buildings. Longevity of the program and alignment with future code direction are key to motivate suppliers to source high performance components, companies to implement the required process changes, and trades and professionals to invest in skills training.
- 5. On alignment of demand-side management programs:** While there is currently good collaboration between B.C. utilities, the diversity, geographic limitations, and short-term nature of incentive programs are still a barrier to uptake. B.C. should consider merging the demand-side management (DSM) function of the utilities under a B.C.-wide third-party entity focused on meeting our energy and carbon reduction goals.
- 6. On public sector leadership:** As stated above, the public sector should lead the way in adopting these innovations. The province should set an expectation for new public projects to meet the highest tier of stretch code, starting the year of its release. Projects for which meeting these targets would be cost-prohibitive would be eligible for relaxed targets based on the "opt-out" mechanism described above. A review of procurement policies and the development of procurement language and tools will be required to ensure RFP language and bidding processes can deliver the quality required. A revolving loan fund should also be created to jointly address energy retrofit and deferred maintenance.

7. **On ongoing innovation and coordination:** We see the need for two distinct bodies to ensure ongoing evolution of policy and markets for energy efficiency. The first is a permanent stakeholder advisory council to the Building and Safety Standards Branch/Ministry of Energy and Mines focused on codes and standard evolution. The second is an innovation council for the building sector, including upstream manufacturing, to accelerate sector transformation and seize local economic development opportunities associated with energy efficiency. We believe the first could be funded by the utilities (pending minor DSM regulation revision) and the second by industry/philanthropy, pending seed funding from the province.