
Recommendations for a Low Carbon Economy in B.C.

Submission to the Select Standing Committee on Finance and Government Services

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Summary

B.C. has demonstrated leadership in moving towards a clean energy economy by implementing North America's most ambitious carbon tax. The carbon tax is expected to help the province reduce greenhouse gas pollution by sending a clear and increasing signal that investments and choices that are good for the planet will also be good for the pocketbook. However, without continued commitment to improving the carbon tax and implementing other supporting policies, it could become a missed opportunity to effectively address climate change.

The Pembina Institute has five key recommendations for the 2010 budget to support British Columbia's transition to a low-carbon economy.

- 1. Broaden the carbon tax to cover 80% of B.C.'s greenhouse gas emissions by including industrial process emissions from aluminum, lime, cement, and natural gas production.**
- 2. Increase the carbon tax above \$30 per tonne after 2012.**
- 3. Continue to increase protection for low-income families so that they are not adversely affected by the carbon tax as it increases over time.**
- 4. Invest in energy efficiency retrofits through grants to homeowners.**
- 5. Consider investing carbon tax revenues in any outstanding commitments from the Climate Action Plan.**

Each of these five recommendations are outlined in more detail in the following pages.

1. Broadening the carbon tax

B.C.'s carbon tax puts a price on the greenhouse gas emissions from almost all fossil fuel combustion in the province, including those from individuals, businesses, and large industry. The emissions covered by the tax currently account for approximately 72% of B.C.'s emissions as depicted in Figure 1.¹ Because of recent improvements in measurement technologies, it is now possible to measure and cover emissions from cement, lime, and aluminum production and natural gas venting emissions, increasing total coverage to 80% (See Appendix 1 for a detailed breakdown of sources and measurement capability). Figure 2 depicts the carbon tax coverage if these additional sources of emissions are included.

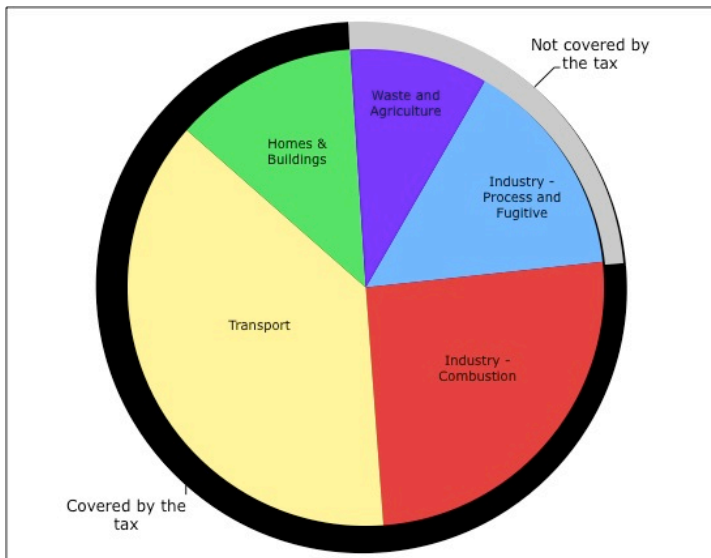


Figure 1: Current coverage of B.C.'s carbon tax.²

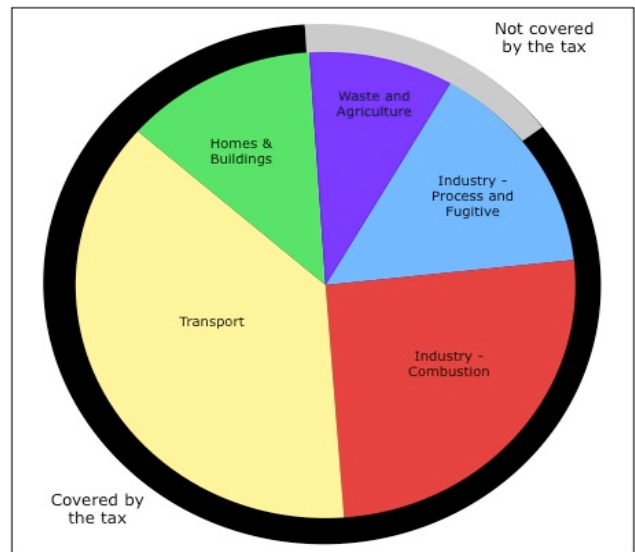


Figure 2: Coverage of B.C.'s carbon tax if non-fossil fuel emissions from cement, lime and aluminum production, and natural gas venting are added.

Broadening the carbon tax base makes sense for three main reasons:

1. It sends an unambiguous message that all pollution has a price – regardless of the source.
2. It would help B.C. move more quickly towards meeting its emission reductions targets and averting dangerous climate change.
3. It helps to build an early potential advantage for B.C. businesses as the province moves towards a cap and trade system.

¹ B.C.'s Greenhouse Gas Inventory, 2007

² Note that Figure 1 and Figure 2 are representations of carbon tax coverage and may not be to scale.

2. Increase the carbon tax above \$30 per tonne after 2012

B.C.'s carbon tax will reach \$30 per tonne in 2012, but no commitment has been made to increase the price after 2012. According to the National Round Table on the Environment and Economy (NRTEE), the price on greenhouse gases needs to reach at least \$75 per tonne by 2020 to reduce national greenhouse gas pollution to 1990 levels. B.C. has committed to reducing its greenhouse gases to 10 per cent below 1990 levels by 2020, so based on the NRTEE analysis, the price on carbon will need to continue increasing after 2012 at between \$5 and \$10 per tonne per year. The current carbon legislation requires the carbon price to be set at least three years in advance, so the price for 2013 will need to be set by 2010 at the latest. Ideally, the government will provide a longer-term schedule of increases or an indication of the anticipated medium-term price (2020). Providing this longer-term certainty helps individuals and businesses make decisions with a better understanding of the opportunities.

3. Increase protection for low-income families

A fair carbon tax protects and supports low-income families and individuals. At a minimum, the carbon tax must not be regressive and accompanying policies and programs should support low-income families to lessen their reliance on fossil fuel.

In order to meet its commitment of a revenue neutral carbon tax, the B.C. government recycles the revenue of the carbon tax through personal and corporate income tax cuts. Because taxes have the potential to be regressive, that is, low-income individuals pay a higher proportion of their annual income in tax, the government also introduced the Low Income Climate Action Tax Credit.

The Low Income Climate Action Tax Credit helps to ensure that the carbon tax does not worsen economic inequality by ensuring that low-income individuals are not disproportionately negatively impacted by the carbon tax. The credit was introduced at \$100 per person in 2008 and increased to \$105 per person in 2009. According to a study by the Canadian Centre for Policy Alternatives, the Low Income Climate Action Tax Credit was predicted to be effective at avoiding a regressive outcome in 2008, and will likely be only just non-regressive in 2009. Since the carbon tax itself increased by 50% from 2008 to 2009 (from \$10/tonne to \$15/tonne) and the credit increased only by 5%, it is not surprising that the credit was predicted to have only marginal success in 2009.

In the 2009 Budget, the government announced that this credit will increase by 10% to \$115.50 in July of 2011.³ By 2011, when the credit will have increased by an additional 10% from 2009, the tax will have increased by an additional 67% from 2009 (from \$15/tonne to \$25/tonne). It follows that by 2010, the credit will likely become insufficient to offset the carbon taxes paid by low-income families.

At a minimum, the 2010 budget should specify the amount of the Low Income

³ http://www.bcbudget.gov.bc.ca/2009/bfp/2009_Budget_Fiscal_Plan.pdf

Climate Action Tax Credit for 2012. The amount of the credit should reverse the trend towards a regressive tax situation and ensure that low-income individuals are not disproportionately impacted by the carbon tax.

The Low Income Tax Credit is only one policy mechanism that can be used to protect low-income individuals. Other policies that encourage and support the shift away from the use of fossil fuels are also necessary. These policies could include specific incentives or programs to address energy poverty through retrofits and energy efficiency and conservation.

4. Investment in Energy Efficiency

Investment in energy efficiency is an essential component of a clean energy economy. Programs and incentives that encourage both conservation and energy efficiency will help British Columbians to reduce their emissions and help them to avoid paying the carbon tax, outcomes that are important not only for low-income households, but for all taxpayers. A key component of a plan to increase energy efficiency is retrofitting existing homes and buildings.

In B.C., homes and buildings account for 12% of our greenhouse gas emissions.⁴ The majority of these emissions are attributable to the use of natural gas. Investment that encourages the retrofit of our building stock could therefore have a significant impact on reducing our emissions and helping taxpayers to avoid the carbon tax.

Investments in energy efficiency can have far reaching economic spin-offs throughout the economy. As we move towards a clean energy economy, these types of investments will be essential to shift away from carbon-intense markets. For example, every \$1,000,000 that is invested in grants for retrofits could have the following impacts:

- leverage \$746,200 from federal programs
- create between 116 and 238 job years of employment
- save \$638,897 in carbon tax
- save \$3,761,577 in energy costs
- reduce 2,072 tonnes of GHG emissions

It is therefore important that the 2010 budget includes specific spending targeted at grants for retrofitting homes and buildings.

5. Consider investing carbon tax revenues in any outstanding commitments from the Climate Action Plan

The carbon tax sends a signal that using fossil fuels has a cost. As that cost increases, taxpayers will ideally begin to choose alternatives to conventional fossil fuel use.

⁴ British Columbia Greenhouse Gas Inventory, 2007.

Government investments in energy saving options, such as energy efficiency grants or investments in transit infrastructure, facilitate these choices away from fossil fuels and will accelerate B.C.'s transition to a low-carbon economy. B.C.'s carbon tax is currently revenue neutral, meaning that all revenue collected through the tax is recycled back to taxpayers through tax cuts. Taxpayers are free to use their tax rebate to invest in energy saving initiatives that will reduce the amount of carbon tax that they will pay in the following year. Alternative models could see portions of the carbon tax invested by the government in unmet commitments in the Climate Action Plan that could support non-fossil fuel choices.

Table 1 shows the potential revenue from emission sources not currently covered by the carbon tax at the different carbon tax rates between 2010 and 2012.

Emissions Source	Revenue at \$20 per tonne (million \$)	Revenue at \$25 per tonne (million \$)	Revenue at \$30 per tonne (million \$)
Cement Production	\$24	\$30	\$36
Lime Production	\$3	\$4	\$5
Aluminum Production	\$20	\$25	\$30
Natural Gas – Venting	\$60	\$75	\$90
Natural Gas – Un-metered Sources	\$49	\$61	\$74
Coal Mining Fugitive Sources	\$10	\$13	\$15
Agriculture	\$48	\$60	\$72
Wastes	\$68	\$85	\$102
Total	\$283	\$353	\$424

Table 1 – Potential revenues from greenhouse gas emissions sources not covered by carbon tax

The carbon tax revenue for 2008/2009 was \$306 million and is expected to generate \$557 million in 2009/2010 and \$748 million in 2010/2011.⁵ Broadening the carbon tax would generate just over \$100 million in new revenue in 2010/2011.⁶

Conclusion

Over time, the use of fiscal mechanisms is one of the strongest means available to shift toward a low carbon economy, and builds on the internationally recognized “polluter pays” principle. Tax and budgetary mechanisms can help us perceive climate change as an economic opportunity, not a burden.

⁵ BC Ministry of Finance. September 2009 Budget Update.

http://www.bcbudget.gov.bc.ca/2009_Sept_Update/bfp/Budget_and_Fiscal_Plan_Sept_2009.pdf

⁶ See the Pembina Institute’s 2008 submission to the Select Standing Committee on Finance and Government Services (<http://bc.pembina.org/>) for more detail. Note these estimates are based on B.C.’s 2006 greenhouse gas emissions.

Appendix 1: Assessment of the greenhouse gas emissions not currently covered by B.C.'s carbon tax

Emissions Source	% of B.C.'s 2007 emissions*	Ability to accurately measure emissions source	Are there opportunities to reduce emissions from source? +	Covered in carbon pricing systems outside of B.C.	Should the Source Should be Covered?
Non-combustion emissions from cement production	1.8%	Good – Environment Canada has developed a sector-specific guidance manual for the mandatory emissions reporting requirements (http://www.ec.gc.ca/pdb/ghg/guidance/calcu_pro_e.cfm). The Climate Registry also has a reporting protocol.	Yes	Included in the current scope of the EU's cap and trade system.	Yes – 2010
Non-combustion emissions from lime production	0.2%	Good – Environment Canada has developed a sector-specific guidance manual for the mandatory emissions reporting requirements (http://www.ec.gc.ca/pdb/ghg/guidance/calcu_pro_e.cfm). The Climate Registry also has a reporting protocol.	Not currently	Included in the current scope of the EU's cap and trade system.	Yes – 2010
Non-combustion emissions from aluminum production	1.6%	Good – Environment Canada has developed a sector-specific guidance manual for the mandatory emissions reporting requirements (http://www.ec.gc.ca/pdb/ghg/guidance/calcu_pro_e.cfm). The aluminum production process results in carbon dioxide (CO ₂) and perfluorocarbons (PFCs). The Climate Registry also has a reporting protocol.	Yes for PFCs, but not currently for CO ₂ .	Proposed for both the EU's and WCI's cap and trade systems.	Yes – 2010
Natural Gas – Venting (intentional methane releases)	4.4%**	Good - Until recently, natural gas venting emissions were difficult to measure. With improved measurement techniques, it is now possible to include natural gas venting emissions under the carbon tax.	Yes	Proposed for the WCI's cap and trade system if accurate measurement protocols can be developed.	Yes – 2010
Natural Gas – Un-metered Sources (unintentional methane leaks)	3.8%**	Medium to Poor– No standardized reporting protocols currently exist for these emissions, but accurate measurement of leaks downstream of processing plants should be possible in the near term. Accurate measurement of the emissions from well-heads and collector pipelines will be more challenging. The Western Regional Air Partnership and Climate Registry are developing a reporting protocol that could cover some of this source (http://www.wrapair.org/ClimateChange/GHGProtocol).	Yes	Proposed for WCI's cap and trade system if accurate measurement protocols can be developed.	Unclear
Coal Mining Fugitive Sources	0.8%***	Poor – Continuous monitoring could be used for underground mines, but no protocol is available for open mines.	Unclear	Proposed for WCI's cap and trade system if accurate measurement protocols can be developed.	Unclear
Agriculture	3.5%	Poor – Current estimation methods are not appropriate for individual agricultural operations.	Yes	No	Unclear
Wastes	5.7%	Poor – Current estimation methods are not able to account for the site-specific conditions at a given landfill.	Yes	No	Unclear
Other	An additional 1% of B.C.'s greenhouse gas emissions are categorized under "Solvents" and "Other & Undifferentiated Products" by Environment Canada. These sources have not been included in this analysis.				

*All values are from B.C.'s 2007 emissions as reported in British Columbia Greenhouse Gas Inventory, 2009

** These values were estimated based on the breakdown in flaring, venting, and un-metered emissions reported for Canada. B.C. statistics are not available from Environment Canada.

*** These values were estimated based on 2001 values, which is the most recent year that coal mining fugitive emissions are disaggregated in Environment Canada's reporting.

+ Carbon capture and storage is also a potential medium term solution for these emissions sources.