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## Briefing Note 2011 - 35

7 July 2011

### BC's cap and trade design in the Western Climate Initiative

[Produced by ISIS, Sauder School of Business, UBC](#) – in partnership with the [Pacific Institute for Climate Solutions](#) (PICS)

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#### Issue

As early as January 1, 2012, a cap and trade system may be introduced in British Columbia (BC) through the [Western Climate Initiative](#) (WCI), as a means of reducing greenhouse gases (GHGs) from heavy emitting sources. The aim of cap and trade within BC is to form part of the solution for achieving the province's target of 33% reduction on 2007 levels by 2020.<sup>i</sup> While cap and trade is regarded as a least cost way to obtain emissions reductions, it is also viewed as being complex and controversial due to the potential for participants to manipulate the market and the prospect that large emitters will receive windfall profits.<sup>ii</sup> This Briefing Note will focus on the unique aspects of BC's cap and trade design and compare it to what is regarded as the most successful implementation of cap and trade to date, the [European Union Emissions Trading System](#) (EU ETS).

#### Background

The WCI cap and trade program is a central component of the regional effort to reduce GHG emissions by 15% below 2005 levels by 2020 in partner states and provinces. When fully implemented in 2015, the system is intended to cover nearly 90% of GHG emissions including those from electricity, industry, transportation, and residential and commercial fuel use. The WCI cap and trade program is considered by proponents as the lowest cost method of achieving emission reductions and is intended to “stand alone, provide a model for, be integrated into, or be implemented in conjunction with programs that might ultimately emerge from the federal governments of the United States (US) and Canada.”<sup>iii</sup> In the absence of a nationally regulated cap and trade system, the WCI may look to link with other regional initiatives, namely the Regional Greenhouse Gas Initiative (RGGI) in the North East of the US, and the Midwestern Greenhouse Gas Reduction Accord (MWA), also in the US. Linking with these two systems would result in the coverage of nearly 50% of US GDP under cap and trade. Should the WCI proceed as-is with its current partners, 76% of Canada's GDP will be covered under cap and trade.<sup>iv</sup>

## Comparison with EU ETS

The European Union launched in 2005 the EU ETS, the world's first government mandated GHG cap and trade system. The goal of the EU ETS is to reduce emissions to 20% below 1990 levels by the end of 2020. This is a decline of 1.74% annually starting in 2012. The EU ETS has been structured for implementation over three phases leading up to 2020, with a tightening of the cap during each phase. There have been some teething issues with the EU ETS, as can be expected in a new market. However, the EU ETS is widely regarded as the most successful emissions trading system in the world.<sup>v</sup> The EU ETS offers a strong example for BC's cap and trade system from which the province can observe and learn. In order to provide a foundation for this perspective, ten main observations of BC's design are listed here and compared to the EU approach:

- 1. Scope of GHGs covered:** All six [Kyoto Protocol](#) GHGs will be covered in BC: carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulphur hexafluoride (SF<sub>6</sub>).<sup>vi</sup> This provides more comprehensive GHG coverage than the EU ETS. Further GHG types will be included in phase III of the EU ETS starting in 2013.<sup>vii</sup>
- 2. Entities to be capped:** Starting in 2012, emissions from the following BC sources would be covered: (i) electricity generation (including electricity imported into any WCI partner jurisdiction with the first distributor subject to the cap), (ii) combustion at industrial and commercial facilities, and (iii) industrial-process emission sources, including oil and gas process emissions. In 2015, the beginning of the second compliance period, emissions from residential, commercial, and transport sources will be added, as will industrial fuel combustion operations above 25,000 metric tonnes of CO<sub>2</sub> equivalent annually. When fully implemented in 2015, the WCI is expected to cover nearly 90% of total GHG emissions in WCI Partner states and provinces. The EU ETS currently covers close to half of the EU's emissions of CO<sub>2</sub> and 40% of its total GHG emissions. This coverage will be expanded in Phase III to include the aviation and shipping industries.<sup>viii</sup>
- 3. Cap level:** The emissions threshold for facilities or entities to be covered under the BC cap is 25,000 metric tonnes of carbon dioxide equivalents (tCO<sub>2</sub>e). Each WCI partner jurisdiction will set an individual GHG cap that reflects the best estimate of the expected emissions from included sources in 2012, and its stated GHG reduction goals for 2020. The WCI cap will be the sum of the individual partner caps. The regional cap and all partner caps will decline each year with a straight-line trajectory. The EU ETS places a cap on all entities with a net power excess of 20 MW. This does not account for the type of fuel combusted and hence the amount of CO<sub>2</sub> emitted will vary, making it difficult to draw a direct comparison to the WCI cap. The EU ETS cap also declines each year with a straight-line trajectory.
- 4. Reporting:** Starting in 2010, all facilities or entities in BC that emit 10,000 metric tonnes or more of CO<sub>2</sub> equivalent were required to begin reporting their annual emissions. This is in alignment with EU ETS standards and best practices.
- 5. Percentage of auctioned allowances:** Allowances can be either distributed for free by government or sold at auction. WCI partners will establish a regional auction process for allowances. BC is considering some level of free distribution to mitigate

competitiveness concerns of sectors that compete in markets with no carbon price. Subject to applicable laws, each WCI partner will auction at least 10% of allowances from 2012–2020, and 25% of allowances in 2020. Auctioning only 10% at inception is intended to ensure a gradual transition into the system for capped entities, avoiding potential economic constraints on the business. The number of allowances auctioned can gradually increase as the system becomes more integrated into standard business operations. The design recommendations state that partners aspire to establishing a full auction over time.

Partners agree that a portion of the revenue generated from the auctioning of allowances will be devoted to at least one of the following purposes:

- Energy efficiency and renewable energy generation;
- Energy transmission and storage;
- Research and development with a focus on carbon capture and sequestration;
- Promotion of emissions reduction and sequestration in uncapped sectors; and
- Adaptation to the effects of climate change.

In BC, this will recognize pre-existing commitments to action and legislative requirements on use of revenue (e.g. through BC's Climate Action Plan and Carbon Tax).

The EU ETS has come under considerable criticism for over-allocation where the total allocation of allowances exceeded actual emissions<sup>x</sup>, thereby providing some emitters with monetary windfalls at the start of the program. This was a factor in driving the carbon price down to zero in 2007. In January 2013, the EU ETS will likely move from individual country allocation of allowances to a centralized allocation by an EU authority, and may auction up to 60% of allowances. Sectors that are exposed to carbon leakage will receive 100% of the benchmarked allowances for free throughout Phase III. Full auctioning that includes all installations in all sectors will occur by 2027.<sup>x</sup>

**6. Early reduction allowances (ERAs):** WCI partners may issue ERAs in 2012 for voluntary emission reductions by an included source that occur between January 1, 2008, when the system was announced, and January 1, 2012. ERAs will not be counted against a partner's cap. The EU ETS did not issue allowances for early reductions, however early action was viewed upon favorably by many states when decisions were made on the allocation of allowances.<sup>xi</sup>

**7. Types of credits included:** Allowances will be completely fungible across all WCI jurisdictions and WCI partners will encourage the use of offset credits generated in any WCI jurisdiction. From 2012–2020, WCI Partners agree to limit the use of offsets and foreign allowances to at most 49% of total required emissions reductions. WCI partners have prioritized the following project categories for the offset system:

- Agriculture – including soil sequestration and manure management
- Forestry – including afforestation, forest management, forest conservation, and forest products
- Waste management – including landfill gas and wastewater management

[Clean Development Mechanism \(CDM\)](#) and international credits originating from developing countries will be accepted within the system once the program that the credits originate from has been evaluated against WCI's offset criteria, and been deemed necessary for cost containment purposes. The WCI portfolio of allowable offsets is broader than those accepted in the EU ETS, which for Phase III will set tighter limits to exclude HFC and adipic acid credits in an effort to increase the environmental integrity of the system. The use of project-offset credits from outside the EU will be reduced in Phase III to 50% of the required EU ETS emission reductions; down from 226% in Phase II.<sup>xii</sup>

- 8. Banking and borrowing of allowances:** Unlimited banking of WCI allowances for future compliance periods will be permitted; however borrowing of allowances from future compliance periods will not be allowed. Each compliance period will be three years long, starting on January 1, 2012. Banking and borrowing of allowances within each compliance period, but not between periods is permitted in the EU ETS. A likely change in Phase III is that participants will be able to bank allowances from Phase II to help them comply with the tougher cap.
- 9. Linkage:** WCI partners agree to facilitate linking with other mandatory cap and trade programs, e.g. RGGI and MWA. Market linkage occurs when one system recognizes the financial instrument (e.g., allowance or offset credit) operating within another market and allows its use to meet compliance obligations of the first system. The EC has built the potential for linkage to other systems into the EU ETS in order to facilitate the creation of a larger, more liquid carbon market, and wider geographical coverage for reasons of environmental integrity.
- 10. Market oversight:** The WCI has developed its [Market Oversight Draft Recommendations](#) with the intention of ensuring the integrity of the carbon market. Before trading begins, BC should take note of two particular developments in Europe. The EU ETS has been the target of notable fraudulent activity. Earlier in 2011 the spot market for pollution permits was closed after computer hackers stole within a few-day time period 28 to 30 million Euros worth of emissions allowances from the national registries of several European countries. Also, in 2009 Europol announced that VAT fraud had cost the EU 5 billion Euros in lost tax revenue. It is estimated that in some countries, up to 90% of the whole market volume was driven by fraudulent activities.<sup>xiii</sup> These are both significant issues that highlight the need for investment in market infrastructure and security.

## Conclusion

BC and its WCI partners are in the fortunate position of being able to learn from the EU ETS while designing its cap and trade system. A well-designed system in BC can be expected to bring the province similar benefits to those experienced in the EU. Emissions in the EU have decreased by 16% over the last two decades while the economy has grown by 40%. EU climate action to 2020 is expected to create 1.5 million additional jobs. The transition to a cleaner economy will reduce air pollution in European cities. Fewer people are forecast to suffer from respiratory diseases; less money will need to be spent on health care.<sup>xiv</sup> Some of the largest solar and wind plants and manufacturers can be found in Europe and the continent is also pulling ahead in clean technology patents. The cornerstone of the EU's success - particularly in the medium and long term – is regarded to be the EU ETS.

Emissions trading has given Europe more flexibility in its carbon management than direct regulation or a carbon tax would allow. Capping pollution releases a flood of entrepreneurial activity, and helps [spark investment in research and development](#) that will lead to further emissions decreases. When CO<sub>2</sub> has a price, emitting less of it pays.<sup>xv</sup>

## Further Reading

BC Government News Release announcing commitment to join WCI

[http://www2.news.gov.bc.ca/news\\_releases\\_2005-2009/2007OTP0053-000509.htm](http://www2.news.gov.bc.ca/news_releases_2005-2009/2007OTP0053-000509.htm)

Information on the Partners meetings, which are open to the public

<http://www.westernclimateinitiative.org/events-and-meetings/details/55-wci-partners-meeting>

WCI News and Updates

<http://www.westernclimateinitiative.org/news-and-updates>

## Sources

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<sup>i</sup> British Columbia, Climate Action Plan: Climate Action for the 21<sup>st</sup> Century

<sup>ii</sup> Neil Thomson, Independent study at Duke University, Fuqua School of Business: The fundamentals of a carbon market, November 2009

<sup>iii</sup> The WCI cap and trade program information, [Western Climate Initiative website](#)

<sup>iv</sup> WCI and other regional initiatives share lessons and discuss roles, [Western Climate Initiative website](#)

<sup>v</sup> Denny A. Ellerman and Paul L. Joskow, The European Union's Emissions Trading System in Perspective, 2008

<sup>vi</sup> Design information has been directly referenced from Western Climate Initiative, Design recommendations for the WCI regional cap and trade program, March 13, 2009

<sup>vii</sup> World Bank, State and Trends of the Carbon Market 2009, Pg 10

<sup>viii</sup> World Bank, State and Trends of the Carbon Market 2010, Pg 18

<sup>ix</sup> Committee on Climate Change, 2008 Report, Pg 149

<sup>x</sup> World Bank, State and Trends of the Carbon Market 2010, Pg 20

<sup>xi</sup> Barry Anderson and Corrado Di Maria, Environmental and Resource Economics, Abatement and Allocation in the Pilot Phase of the EU ETS, Pg 4

<sup>xii</sup> Carbon Retirement, EU ETS Phase III: the new rules of the game, Synopsis page

<sup>xiii</sup> Leigh Phillips (2009-12-10). EU emissions trading an 'open door' for crime, Europol says. EUobserver. Retrieved 2010-10-28.

<sup>xiv</sup> European Commission Climate Action, [Roadmap for moving to a low carbon economy in 2050](#)

<sup>xv</sup> Jonas Monast, Jon Anda, Tim Profeta, Duke University Nicholas Institute for Environmental Policy Solutions: Regulating emission allowances as financial instruments, February 2009