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## The challenges of British Columbia's carbon neutral government mandate

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### Issue

British Columbia's (BC's) commitment to "carbon neutral" government operations relies on public sector organizations (PSOs), which are already leading the charge to reduce greenhouse gas (GHG) emissions. While the government's commitment is clearly a step in the right direction, tight timeframes for implementation of carbon neutrality and lack of financial resources and expertise in many PSOs pose concerns about overall GHG mitigation strategies, assessment of trade-offs associated with projects, and the need to explore all viable alternatives. Thus, it is not clear that implementation of the carbon neutrality mandate has been based on the right balance of analysis and action. This briefing note examines the intellectual, practical and financial support mechanisms that may help PSOs adopt optimal or least-cost approaches to reduce GHG emissions while maintaining the capacity to deliver core services in the short and long term.

### Background

In 2007, as part of an aggressive climate action plan, BC announced its commitment to "carbon neutral" government operations by 2010. This was part of a slew of other mitigation strategies, policies and initiatives that included a revenue-neutral carbon tax and enabling legislation for a cap and trade system. Carbon neutrality has been defined as: a) measuring operational greenhouse gas (GHG) emissions; b) reducing these where possible; c) offsetting the remainder to ensure net emissions are zero; and d) demonstrating leadership through public reporting.[i] The impact of this mandate could be far-reaching, affecting not just government operations and services but also related sectors, organizations and individuals. However, to date it has received little systematic assessment.

There are encouraging signs that PSOs are taking this mandate very seriously. For example, the government's latest Carbon Neutral Update reports that 51% of PSOs in 2009 were focused on building energy performance baselines for owned buildings, with another 20%

planning to establish baselines between 2010 and 2012. Additionally, 77% of PSOs either reported ongoing or completed retrofit projects in 2009 or projects in development for 2010-2012.[ii] Large-scale infrastructure projects, such as the $26 million University of British Columbia (UBC) biomass gasification system, have been partly motivated by the desire to avoid projected short and long-term costs of both the carbon tax and carbon neutrality mandate. This project will reduce the university's natural gas consumption by up to 12%, eliminate up to 4,500 tonnes of GHG emissions per year[iii] and help UBC bring down its future carbon tax and offset costs. Otherwise, in the short term, UBC's estimated annual carbon tax (and carbon offsets from 2010) would have increased from $289,000 in 2008 to over $3.3 million by 2013. Over the next 25 years, the net present value of the carbon tax and the cost of offsets under a business-as-usual scenario are $25.5 million and $24.5 million, respectively.[iv]

Notwithstanding these encouraging signs, there are several issues that merit review:

(i) *Appropriateness of policy boundaries* – Currently, GHG emissions covered by the mandate are confined to scope 1 (on-site emissions) and scope 2 (off-site emissions due to purchases of electricity), and some scope 3 emissions (business travel by core government employees and use of paper). Scope 1, 2, and 3 are categories used in a leading accounting tool, the Greenhouse Gas Protocol.[v] For some PSOs, scope 3 emissions (which include a large number of other indirect emissions that are not part of the mandate) make up a significant proportion of their total emissions, and there may be more cost-effective means to reduce these compared to their scope 1 or 2 emissions.

(ii) *Financing and prioritization* – In many cases, substantial funding is needed for PSOs to implement projects that will have a transformative effect on their energy consumption and hence GHG emissions. Some PSOs also face constraints on the amount of debt they can carry, or rules that prevent them from seeking third-party financing for capital projects or financing capital projects using future energy savings. Moreover, no additional funding has been allocated directly to PSOs to help them implement emission reduction measures or purchase offsets. This lack of enabling support for a new mandate has been shown in other contexts to cause state and local governments to divert resources away from other critical areas (Nivola and Shields 2001).[vi] In the absence of a budget for constructive engagement with GHG reduction, PSOs faced with sizeable budget shortfalls will have to weigh various options that may involve trade-offs between short-term cost (offset purchases) and long-term global benefit (climate stabilization), or investing in energy efficiency against the continued provision of core services.

(iii) *GHG intensity of energy alternatives* – PSOs and many other organizations are making fuel choice decisions on the basis of gross averages and incomplete life-cycle GHG intensities. The GHG implications of their decisions will depend upon how they affect energy demand at different times of day, the energy sources called upon and the need for new investments. For example, additional off-peak demand for electric heating would be supplied through coal-based electricity production in Alberta: a decision with a GHG intensity of more than 500 t/GWh or 25 times the average figure reported by BC Hydro. On the other hand, increasing peak demand for electricity will necessitate addition of new generation and transmission resources – the construction and operation of which has significant associated environmental and social impacts. Greater awareness of the lifecycle impacts of all energy

sources, from biomass to natural gas to electricity and various transportation fuels, is critical for the overall emissions in BC to be managed effectively.

(iv) *Availability of expertise* – The diverse nature of operations among PSOs means a standard template cannot meet the needs of all. For example, although UBC can obtain significant energy savings (and GHG reduction) by slightly lowering the temperature setting of its classrooms without much impact on students, the same strategy may have adverse effects on the operations of a hospital. While some PSOs may be better equipped to assess their GHG mitigation options, there are many PSOs that do not have internal expertise to make complex decisions involving fuel selection, capital investment, infrastructure renewal and other factors that may alter their day-to-day operations.

## Recommendations

The province's "carbon neutral government" mandate has potential impacts far beyond the core operations and PSOs. A systematic assessment is needed to address the challenges highlighted above and needs to include the following:

i) *Review the coverage of the mandate*: The potential impact of the carbon neutral government mandate can be extended through widening its coverage, such as targeting scope 3 (indirect) emissions associated with the operations of PSOs. Armed with additional information on all relevant and significant emissions, it will be possible to devise more effective capital and operational campaigns to reduce total GHG emissions by PSOs in the performance of their services (the focus of the following PICS Brief, Expanding the Scope of BC's Carbon Neutral Mandate [BN11-31], by the authors).

ii) *Facilitation of project financing*: The provincial government and PSOs should explore innovative ways to channel other sources of funding to address the financing gap faced by PSOs. It may also be necessary to review the constraints placed on some PSOs that prevent them from seeking third-party financing for capital projects, or financing capital projects using future energy savings. The provincial government and PSOs may benefit from a more explicit discussion on trade-offs among different objectives within the primary mission of the government and PSOs. It would also be beneficial to conduct an assessment of the implications of carbon neutrality expenditures on the provision of core services, since at some point, there will probably be a trade-off between further GHG reductions and capacity to deliver core services.

iii) *Clarification of GHG intensity of energy sources*: This is the focus of the following PICS Brief BN11-32.

iv) *Development of learning networks* – Some studies have shown that unfunded mandates have led to increased training of government officials, better communication among them, and other spillover benefit.[vii] Therefore, PSOs can benefit from sharing experiences, especially among those in similar situations. A better understanding of the importance of support mechanisms and learning networks in the implementation of this mandate may prove to be crucial in overcoming barriers and catalyzing innovative solutions that will enable PSOs to achieve the desired outcomes of the mandate.

**Send relevant comments and queries to picsbp@uvic.ca and hadi.d@ubc.ca.**

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