

## **The Pembina Institute's Perspective on Carbon Pricing in Canada\***

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### **Importance of carbon pricing**

The most important policy needed to reduce Canada's greenhouse gas (GHG) emissions is the establishment of a "carbon price"<sup>1</sup> applied broadly in the economy. A carbon pricing policy attaches a financial cost to GHG pollution released to the atmosphere, sending a price signal that discourages activities that release GHGs. Carbon pricing is expected to be an effective and efficient way to reduce a large proportion of Canada's GHG emissions. It can be implemented either as a tax, a cap-and-trade system,<sup>2</sup> or a combination of the two. Despite its importance, carbon pricing is not the only policy required; complementary policies needed in addition to carbon pricing are discussed below.

### **Price levels**

Where a carbon price is intended primarily to reduce emissions, rather than to generate revenues, the price must be high enough to reduce emissions by a sufficient amount. Our current analysis<sup>3</sup> is that price levels of *at least* \$30/tonne carbon dioxide equivalent (CO<sub>2</sub> e) by 2008–10, *at least* \$50/tonne by 2015 and *at least* \$75/tonne by 2020 are necessary to obtain the deep GHG reductions needed for Canada to play its part in preventing dangerous climate change. The Pembina Institute intends to update these recommended carbon price levels to align with the evolving understanding of what is needed to achieve deep GHG reductions in Canada.

In addition to setting an initial carbon price, governments must also lay out a schedule of intended future prices.<sup>4</sup> This will provide investors with the certainty they need to make the right choices now about infrastructure that may last for decades. Also, if investors are convinced that future carbon prices will be higher than today's, their decisions will reflect those future prices, thus accelerating investments in low-GHG technology. An effective carbon price schedule must extend to at least the medium term (2020), and must be communicated in a way that carries maximum credibility (e.g., through legislation or regulations).

### **Environmental fairness and economic feasibility**

Carbon pricing policies (including the use of revenues — see below) should be designed to implement two principles of fairness, "polluter pays" and "ability to pay." To prevent dangerous climate change, we must treat the atmosphere's capacity for GHGs as a limited resource. This resource belongs to society; "polluter pays" means that emitters must pay society to use it. Specifically, sectors must make a contribution to meeting Canada's GHG targets that is in keeping with their share of Canada's total emissions and with their share of the recent growth in Canada's emissions.<sup>5</sup>

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\* The views expressed in this document are solely those of the Pembina Institute. They have, however, been informed by the Institute's multi-stakeholder conference on carbon pricing, held in Calgary on October 29–30, 2007. Proceedings of the conference will be available in the near future at <http://www.pembina.org>.

“Ability to pay,” when applied to industry, requires that policies are designed to take into account sectors’ varying situations regarding international competition and profitability. “Ability to pay” must also be applied to individuals: governments must design policies that protect people with low incomes from cost increases caused by the carbon price.<sup>6</sup> Similarly, governments must design transition policies to assist affected workers.

### **Allocation of allowances**

In a cap-and-trade system, the allowances (also known as permits) can be allocated to emitters through an auction, distributed for free, or a combination of the two. A cap-and-trade system should use 100% auctioning as soon as is reasonable — our current view is that this should be no later than 2020. This is because once a carbon price is in effect, allowances have a financial value, and so a free distribution runs counter to the “polluter pays” principle. On the other hand, “ability to pay” can justify free distribution of some allowances to vulnerable sectors on a transitional basis, while the economy adjusts to the carbon price. (The same result can also be achieved in a system with 100% auctioning, if the government returns an equivalent amount of the auction revenue to vulnerable sectors.)

It is also worth noting that a system with 100% auctioning automatically rewards those sectors that took early action to limit their emissions, and is less vulnerable to manipulation by special interests.

### **Use of revenues**

Substantial increases in government spending are needed, at least in the near term, to put Canada on a track towards deep GHG reductions (see “Complementary policies” below). The revenue raised by carbon pricing should therefore be used, for as long as necessary, to ensure that there is a level of total government spending that is adequate both to (i) fund complementary policies needed to meet deep GHG reduction targets and (ii) apply the “ability to pay” principle to people with low incomes, affected workers and vulnerable industry sectors. On the other hand, earmarking all carbon pricing revenue from a particular sector for return to the same sector runs counter to the “polluter pays” principle.

Government spending to reduce GHG emissions should be focused on the most sustainable options, namely energy conservation, energy efficiency and low-impact renewable energy, and should not include subsidies for carbon dioxide capture and storage<sup>7</sup> or spending on nuclear energy. If governments collect sufficient revenue from carbon pricing and other sources, it may be possible to use an increasing portion — and eventually most — of the revenue from carbon pricing for other purposes, such as lowering non-carbon taxes.<sup>8</sup>

### **Complementary policies**

As noted above, carbon pricing is not the only policy required to reduce Canada’s GHG emissions. Complementary federal and provincial regulations are needed to reduce emissions adequately in cases where a price signal alone is insufficient (because emitters do not respond efficiently to it). This is the case in personal transportation and buildings, as well as other areas; the regulations needed include vehicle efficiency or emission standards, fuel standards, building codes, appliance and equipment standards. Provincial governments should also withhold approval of new facilities and developments that are incompatible with deep GHG reductions. In addition, there is a need for government spending on low-carbon infrastructure, such as public transit, and for programs that

provide financial incentives or impose fees. These may be needed to complement regulations or offset the cost of complying with them. (Conditions on government spending were discussed under “Use of revenues” above.)

### **Carbon pricing primarily to raise revenue**

In sectors that do not respond efficiently to a carbon price signal, it may nonetheless be appropriate to use a carbon price primarily to raise revenue, as long as complementary regulations, infrastructure spending and programs that provide financial incentives or impose fees (see above) are also used to cut emissions adequately.

### **Limits on emissions trading**

Emissions trading is an integral part of a cap-and-trade system. Emissions trading can also be integrated into a carbon tax, if the tax rules allow emitters to reduce their “net” emissions, and the tax they have to pay, by purchasing emission allowances or offset credits (see below). Emissions trading for GHGs makes sense environmentally because GHGs contribute equally to climate change wherever in the world they are emitted. It may, however, be appropriate (and in some cases desirable) to design carbon pricing policies so as to limit the volume of allowances or credits that can be purchased from outside Canada or outside the region where an emitter is located. These limits could be set to assure minimum levels of (i) carbon prices; (ii) investment and jobs in emission reduction activities in Canada or in the region in question; and (iii) local environmental benefits such as reductions in pollutants that cause smog. For similar reasons it may also be appropriate to limit the use of offsets in a carbon pricing policy.

However, these limits will increase the cost of compliance and reduce the efficient functioning of the emissions trading market, and so must be chosen carefully.

### **Offset credits**

“Offset credits” are credits for emission reductions that take place outside of the sectors subject to a cap or a tax on emissions. It may be appropriate for a carbon pricing policy to allow emitters to purchase these credits as a way to meet their obligations. Any offset credits recognized under a carbon pricing policy must, however, meet a series of stringent criteria.<sup>9</sup>

The most important of these is that offset credits must be granted only to projects that would not have been implemented without the revenue from credit sales (this is known as the “additionality” or “incrementality” criterion). Granting credits to a project that does not meet this standard constitutes “emissions fraud.” This is because the emission reductions from the project would have occurred anyway, so the act of creating the credits has not reduced emissions below what they would have been otherwise. Worse, the credits will then be sold to emitters, who will use them to meet their obligations without cutting their own emissions. The net result is that granting these credits will have *increased* total GHG pollution.

It is important to note that, to meet the “additionality” standard, offset projects must go beyond activities that are required by regulations or are receiving sufficient financial incentives from governments to proceed. (Granting offset credits for these activities would “double count” the emission reductions.) This means that when governments implement comprehensive and ambitious emission reduction plans, there will be relatively few opportunities to create offset credits.

## Federal and provincial responsibilities

The federal government should take the lead in pricing carbon, firstly because international agreements — notably, the United Nations Framework Convention on Climate Change and its Kyoto Protocol — create a legal obligation on the federal government to reduce Canada’s GHG emissions. Also, according to a recent survey, 70% of Canadians believe that the federal government has “a great deal of responsibility for reducing [GHG] emissions”.<sup>10</sup> In addition, carbon pricing is more economically efficient when all sources of emissions face the same price than when the carbon price varies between sectors or regions.<sup>11,12</sup>

However, in the absence of a sufficiently strong or broad federal carbon pricing policy, provincial governments should implement their own carbon pricing policies, preferably in cooperation with other provinces.

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<sup>1</sup> In this context, the word “carbon” is a shorthand for the six GHGs covered by the Kyoto Protocol (of which carbon dioxide is the most important). “Carbon dioxide equivalent” is a standard measure that incorporates emissions of all six gases into a single number.

<sup>2</sup> In a cap-and-trade system, the government places a regulated cap on total emissions from a group of emitters. Emitters are required to hold allowances (also known as permits) for every tonne they emit, but they are free to trade allowances amongst themselves. The government sets the overall cap by issuing a fixed number of allowances.

<sup>3</sup> Clare Demerse, “Carbon Pricing: Efficiently Stimulating Greenhouse Gas Emission Reductions,” in *Big Steps Forward, Recommendations for Budget 2008* (Ottawa, ON: Green Budget Coalition, 2007), 7–15. Also available online at <http://climate.pembina.org/pub/1549>.

<sup>4</sup> With cap-and-trade systems, governments set the cap and the price is determined by the market, so the price cannot be known in advance. However, governments must still communicate the approximate prices that they intend to reach by tightening the cap in the future.

<sup>5</sup> For example, there is a strong case for taking account of sectors’ emissions growth since 1990, the internationally accepted base year for GHG reduction commitments. The United Nations Framework Convention on Climate Change and its Kyoto Protocol both set targets relative to 1990. Using 1990 as the base year for determining each sector’s contribution to Canada’s GHG targets also helps reward those sectors that took early action to limit their emissions.

<sup>6</sup> A priority for the protection of people with low incomes should be to fund energy conservation and efficiency measures to reduce their energy bills.

<sup>7</sup> See Marlo Reynolds and Matthew Bramley, *The Pembina Institute’s Perspective on Carbon Dioxide Capture and Storage* (Drayton Valley, AB: The Pembina Institute, 2007). Also available online at <http://climate.pembina.org/pub/1542>.

<sup>8</sup> If the revenue from carbon pricing goes into a government’s general revenues, then “using revenue from carbon pricing” for a specific purpose may have little meaning. However, it may be desirable to create a dedicated account for the receipt and use of this revenue, to increase transparency and public acceptance of the policy.

<sup>9</sup> For details, see Johanne Whitmore, Matthew Bramley and Nashina Shariff, *Comments on Industrial Sector Cross-Cutting Issues of the Federal Government’s Regulatory Framework for Air Emissions* (Drayton Valley, AB: The Pembina Institute, 2007), 6–15. Also available online at <http://climate.pembina.org/pub/1499>.

<sup>10</sup> ClimateforChange.ca, summary of Harris/Decima poll conducted August 15–21, 2007, available online at <http://www.climateforchange.ca/?q=MR-09-24-2007>.

<sup>11</sup> An exception to this occurs for sectors that do not respond efficiently to a carbon price.

<sup>12</sup> Also, emissions trading functions more efficiently when there are more participants in the market.