

# Doing Their Bit: Ensuring Large Industrial Emitters Contribute Adequately to Canada's Implementation of the Kyoto Protocol

---

Prepared by Matthew Bramley, Pembina Institute  
for the Climate Action Network Canada

*June 2003*



## About the Climate Action Network Canada

---

The Climate Action Network Canada (CANet) is made up of more than 100 organizations across Canada working to protect the environment from harmful human interference with the atmosphere resulting in climate change. More information about CANet is available at <http://www.climateactionnetwork.ca>.

## About the Pembina Institute

---

The Pembina Institute is an independent non-profit research, education and advocacy organization that promotes environmental, social and economic sustainability through the development of practical solutions for businesses, governments, individuals and communities. The Pembina Institute provides policy research leadership on climate change, energy policy, green economics, renewable energy, and environmental governance, as well as extensive formal and public education programs. More information about the Pembina Institute is available at <http://www.pembina.org>.

## Acknowledgements

---

The author would like to thank the CANet Steering Committee for the opportunity to produce this report, and CANet members for the helpful comments they offered on earlier drafts. Any errors or omissions are entirely the responsibility of the author.

# Contents

---

1. Introduction and summary.....	1
1.1 <i>The Climate Change Plan for Canada</i> and what it asks of industry.....	1
1.2 The covenants and emissions trading system.....	3
1.3 Position of the Climate Action Network Canada.....	4
1.3.1 Industry must do its fair share.....	4
1.3.2 An effective federal regulatory backstop must be announced as soon as possible.....	4
1.3.3 There must be no double counting of emission reductions.....	5
1.3.4 High-emitting sectors should be required to do more.....	5
1.3.5 Phasing out coal-fired electricity provides emission reduction opportunities that must be maximized.....	6
1.3.6 The co-benefits of domestic GHG emission reductions must be maximized.....	6
1.3.7 We need to ensure that all large emitters start taking action now.....	6
1.3.8 Transparency and the public’s right to know must be safeguarded.....	6
2. The issues in detail.....	7
2.1 Is industry being asked to do enough?.....	7
2.1.1 Industry’s allocation and who pays.....	7
2.1.2 Adjustments to the business-as-usual projection.....	8
2.1.3 The backstop.....	9
2.1.4 The price cap and compliance.....	9
2.1.5 Auctioning of emissions permits.....	10
2.2 Use of emissions intensity targets.....	11
2.3 “Offset” credits for reductions in emissions not covered by covenants.....	14
2.3.1 The threat to environmental integrity.....	14
2.3.2 Offset rules.....	16
2.4 Other measures to reduce emissions from large industry.....	17
2.5 The special case of electricity generation.....	20
2.5.1 Potential for low-cost emission reductions.....	20
2.5.2 Protecting the environmental effectiveness of output reductions.....	21
2.5.3 Incentives for consumer efficiency (demand side management).....	22
2.5.4 Encouraging cogeneration.....	23
2.6 Allocating emission reductions among sectors and companies.....	24
2.6.1 Definition of sectors.....	24
2.6.2 Equity among sectors.....	25
2.6.3 Exemptions from the covenants system.....	27
2.7 Use of international emissions trading mechanisms.....	28
2.8 Timing issues.....	29
2.8.1 Date of implementation of the covenants and emissions trading system.....	29
2.8.2 Covenants extending post-2012.....	30
2.8.3 Timing for offset credit creation.....	30
2.9 Other issues.....	31
2.9.1 Emissions permits.....	31
2.9.2 Emissions measurement, reporting and verification.....	32
2.9.3 Provincial covenants.....	33
2.9.4 Just Transition for workers and communities.....	34
2.9.5 Other air pollutants.....	35



# 1. Introduction and summary

---

“Climate Change. Are you doing your bit?” This slogan, the centrepiece of a recent federal government educational campaign, emphasizes the need for every part of society to accept a fair share of responsibility for reducing the greenhouse gas (GHG) emissions that are a leading cause of climate change. The Kyoto Protocol, ratified by Canada in December 2002, requires a reduction in Canada’s GHG emissions to 6% below the 1990 level during 2008–2012.

Industrial facilities, including electricity generation, accounted for 53% of Canada’s GHG emissions in 2001.<sup>1</sup> Between 1990 and 2001, Canada’s emissions as a whole rose by 18.4% while industrial GHG emissions rose even faster — by 23.3%.<sup>2</sup> Of Canada’s top fifteen GHG-emitting companies that publicly reported their emissions, nine increased them by amounts ranging from 9% to 142% between 1990 and 2000.<sup>3</sup>

For industry, therefore, “doing your bit” clearly means playing a leading role in securing the emission reductions needed for Canada to comply with the Kyoto Protocol.

In November 2002, the federal government issued its *Climate Change Plan for Canada*,<sup>4</sup> a blueprint for Canada’s implementation of the Kyoto Protocol. This report assesses the adequacy of the scenario that the *Plan* lays out for reducing GHG emissions from industry. It also makes recommendations for how that scenario should be interpreted to uphold the environmental integrity and fairness of the *Plan* as a whole.

## 1.1 The *Climate Change Plan for Canada* and what it asks of industry

To comply with the Kyoto Protocol, Canada needs to secure a reduction in its annual GHG emissions of 240 megatonnes of carbon dioxide equivalent (Mt CO<sub>2</sub>e) below the latest official federal government projection of what emissions would be in 2010<sup>5</sup> under a “business-as-usual” scenario in which no deliberate action was taken to reduce emissions. The *Climate Change Plan for Canada* allocates 180 Mt of this 240 Mt so-called “Kyoto gap” to specific types of emissions sources. Of these 180 Mt, the *Plan* allocates 99 Mt to industry.

The *Plan* leaves 60 Mt of reductions unallocated. It suggests that technology research and development investments by the federal government could produce 10 Mt of these reductions by 2010; roughly half of these reductions can be expected to apply to industrial emissions. In addition, the *Plan* proposes a Partnership Fund to achieve an additional 20–30 Mt reduction through shared investments with partners including the private sector, and estimates that a further 10–20 Mt of these reductions will occur as a result of provincial government actions not involving federal partnerships. Presumably some of these 30–50 Mt of reductions will apply to industrial emissions too, although it is difficult to guess how much.

---

<sup>1</sup> Environment Canada (2003), *Greenhouse Gas Emission Summary*, available at [http://www.ec.gc.ca/pdb/ghg/tables\\_e.cfm](http://www.ec.gc.ca/pdb/ghg/tables_e.cfm). This figure excludes emissions from heavy duty and off-road vehicles (used overwhelmingly by industrial operations), agribusiness, commercial buildings, solid waste disposal and domestic aviation, all of which are arguably “industrial” sectors.

<sup>2</sup> *Ibid.*

<sup>3</sup> M. Bramley (2002a), *The Case for Kyoto: The Failure of Voluntary Corporate Action*, Pembina Institute, p. 6, available at [http://www.pembina.org/publications\\_item.asp?id=140](http://www.pembina.org/publications_item.asp?id=140).

<sup>4</sup> Government of Canada (2002), *Climate Change Plan for Canada*, available at <http://www.climatechange.gc.ca>.

<sup>5</sup> The year 2010 is commonly used as a proxy for the entire Kyoto Protocol commitment period of 2008–2012, as it is the middle year of that period.

Overall, then, as shown in Table 1, the *Climate Change Plan for Canada* allocates to industry upwards of 100 Mt of the needed 240 Mt of emission reductions. The *Plan* makes a distinction between large and small industrial emitters. While industrial emitters as a whole emit 425 Mt CO<sub>2</sub>e per year<sup>6</sup> in the business-as-usual projection for 2010, large emitters, according to the federal government's definition, account for 359 Mt<sup>7</sup> or 84% of this total.

**Table 1. Emission reductions allocated to industry in the *Climate Change Plan for Canada*.**

Policy measures	Reductions in annual emissions (CO <sub>2</sub> e) in 2010	Reductions by large industrial emitters (non-fugitive sources)
Covenants and emissions trading system for large industrial emitters	55 Mt	55 Mt
Programs to support industrial emission reductions previously announced in the <i>Government of Canada Action Plan 2000 on Climate Change</i> (October 2000) and Budget 2001	25 Mt	23 Mt
Target of 10% of new electricity generating capacity from low-impact renewable sources; programs to encourage capture and underground storage of CO <sub>2</sub> from industrial facilities	11 Mt	11 Mt
Programs to encourage emission reductions from small industrial emitters and reductions in fugitive industrial emissions	5 Mt	0 Mt
Programs to improve the energy efficiency of new and existing buildings <sup>8</sup>	3 Mt	3 Mt
<i>Subtotals for reductions explicitly allocated:</i>	<i>99 Mt</i>	<i>92 Mt</i>
Federal government investments in research and development of new technology	~ 5 Mt	~ 5 Mt
Partnership Fund and provincial government actions not involving federal partnerships	? Mt	? Mt

As shown in table 1, the most important policy measure for industry in the *Climate Change Plan for Canada* is a proposed system of covenants (negotiated agreements) and emissions trading for large industrial emitters. Indeed, this is by far the single largest item, in terms of emission reductions, in the *Plan* as a whole. More than anything else, Canada's success in meeting its Kyoto Protocol target will depend on the covenants and emissions trading system delivering at least the intended 55 Mt of emission reductions.

<sup>6</sup> Government of Canada (2002), *op. cit.*, p. 13.

<sup>7</sup> Environment Canada (2002), personal communication. The 359 Mt exclude "fugitive" emissions that are considered too difficult to measure to be included in the covenants and emissions trading system (see Table 1 and subsequent text).

<sup>8</sup> In 2000, the generation of electricity for use in buildings resulted in 57.3 Mt CO<sub>2</sub>e of GHG emissions, compared to 77.3 Mt of emissions from fuel used on-site (Natural Resources Canada (2002), *End-Use Energy Data Handbook — 1990 to 2000*). Assuming that the programs to reduce energy use in buildings target all energy sources equally, then, of the 8 Mt of reductions attributed to these programs, 3 Mt of the reductions will occur at electricity generation facilities, which are overwhelmingly large industrial emitters.

While the government has been slow in beginning to implement most areas of the *Climate Change Plan for Canada*, the covenants and emissions trading system has been a notable exception. A new Large Industrial Emitters Group, headed by an Assistant Deputy Minister, was established in Natural Resources Canada at the beginning of 2003, and it is expected to begin formal negotiations with industry shortly. The key policy decisions about the details of the covenants and emissions trading system will be taken over the next several months. As explained below, if the wrong decisions are taken, they could severely undermine the effectiveness and fairness not only of the system itself, but of the *Climate Change Plan for Canada* as a whole.

This report therefore largely focuses on the key questions that must be answered in the development of the covenants and emissions trading system for large industrial emitters.

## 1.2 The covenants and emissions trading system

The proposed covenants and emissions trading system, as described in the *Climate Change Plan for Canada*, can be summarized as follows:

- The federal government will negotiate GHG emissions targets with large industrial companies. These targets will be enshrined in negotiated, legally binding agreements called covenants. Covenants will need to specify penalties for failing to meet targets.
- Companies will be able to combine three or four different ways of meeting their targets:
  - by reducing emissions from their own facilities;
  - by purchasing “offsets” — credits granted to projects that reduce emissions from sources that are not covered by covenants;<sup>9</sup> and
  - by purchasing emissions units from outside Canada, available through the three international emissions trading mechanisms of the Kyoto Protocol.

It is also likely that companies over-achieving the targets in their covenants will be able to generate emissions permits in respect of the amount by which targets are exceeded; these permits could then be sold to other companies as a fourth way for the latter to meet their targets.

- If the market price of emissions units (domestic credits or permits and foreign emissions units) rises above \$15 per tonne of CO<sub>2</sub>e, the government will pay for the amount by which that price exceeds \$15.<sup>10</sup>
- The government will establish a “regulatory or financial backstop” to the covenants. The government’s current thinking is to use a regulatory backstop incorporating a default covenant with a default emissions target that would apply to any company that had not negotiated a specific covenant with the government.
- The government will establish a system for mandatory measurement and reporting of emissions from all industrial facilities covered by covenants.<sup>11</sup>

<sup>9</sup> For the most part these are likely to be non-industrial sources, but offset credits could also potentially be granted for reductions in emissions from small industrial emitters or for reductions in fugitive emissions not included in covenants.

<sup>10</sup> This commitment was not made in the *Climate Change Plan for Canada*. It was made in a Natural Resources Canada news release and accompanying ministerial letter to the Canadian Association of Petroleum Producers, dated December 18, 2002, and available at [http://www.nrcan-rncan.gc.ca/media/newsreleases/2002/2002147\\_e.htm](http://www.nrcan-rncan.gc.ca/media/newsreleases/2002/2002147_e.htm).

### 1.3 Position of the Climate Action Network Canada

The reader is referred to Chapter 2 of this report for CANet's positions on the full range of detailed issues raised by the need to ensure large industrial emitters contribute adequately to Canada's implementation of the Kyoto Protocol, especially with regard to the federal government's proposed covenants and emissions trading system. CANet wishes to draw particular attention here to the points listed below, grouped according to the following eight principles:

#### 1.3.1 Industry must do its fair share

- The federal government must stick to its position that industry be required to secure 55 Mt of reductions in annual GHG emissions with no financial incentives or assistance being provided in exchange (Section 2.1.1).
- The policies used to achieve the remaining 44 Mt of reductions explicitly allocated to industry in the *Climate Change Plan for Canada*, the proposed Partnership Fund, and provincial government actions not involving federal partnerships, must all be designed to ensure that industry bears a share of costs, and full financial responsibility for actions that are economic (Section 2.1.1).
- Any increases in industrial emissions in the current official business-as-usual projection must be compensated by equal increases in the 55 Mt of reductions sought through the covenants and emissions trading system (Section 2.1.2).
- To prevent a transfer of liability from industry to taxpayers and others
  - the federal government should actively pursue opportunities to negotiate covenants that set targets for absolute emissions, rather than emissions intensity (Section 2.2);
  - covenants setting emissions intensity targets should include provisions to adjust the targets, within a specified range, to compensate for actual output being different from projected levels (Section 2.2); and
  - covenants should not set binding emissions targets for years later than 2012 (Section 2.8.2).

#### 1.3.2 An effective federal regulatory backstop must be announced as soon as possible

- CANet calls on the government to announce, as soon as possible, a regulatory backstop representing a significantly larger amount of emission reductions than 55 Mt, over and above the more than 42 Mt of reductions that the *Climate Change Plan for Canada* allocates to large industrial emitters outside the covenants and emissions trading system (see Table 1 in Section 1.1), and to proceed quickly to give the backstop legal effect. Given provincial governments' lack of a clear incentive to enforce the amounts of industrial emission reductions needed to fulfil the *Plan*, CANet strongly opposes any delegation of responsibility to provinces for implementing the backstop (Section 2.1.3).

---

<sup>11</sup> This commitment was not made in the *Climate Change Plan for Canada*. It was made in the January 4, 2003 issue of the Canada Gazette, Part I, available at <http://canadagazette.gc.ca/partI/2003/20030104/html/notice-e.html#i2>.

### 1.3.3 There must be no double counting of emission reductions

- The targets set by covenants must represent 55 Mt of emission reductions that are fully additional to the following: the reductions that the *Climate Change Plan for Canada* allocates to large industry via programs in *Action Plan 2000* and *Budget 2001*, the target of 10% of new electricity generating capacity from low-impact renewable sources, the programs to encourage capture and underground storage of CO<sub>2</sub> from industrial facilities, and the programs to improve the energy efficiency of new and existing buildings; and the reductions that can reasonably be expected to occur at large industrial facilities as a result of federal government investments in research and development of new technology, the Partnership Fund, and provincial government actions not involving federal partnerships (Section 2.4).
- No activities must be eligible for earning offset credits unless it can be demonstrated that they go clearly beyond the activities needed to meet the emission reduction targets that the *Climate Change Plan for Canada* lays out for transportation, buildings, renewable electricity, small industrial emitters, fugitive emissions, agriculture and landfills (Section 2.3.1).
- The emission reductions that the *Climate Change Plan for Canada* allocates to programs to encourage capture and underground storage of CO<sub>2</sub>, support low-impact renewable electricity, increase interprovincial electricity trade, and improve the energy efficiency of electricity consumers must be fully additional to the emission reductions represented by the targets set by covenants for thermal electricity generators (Section 2.5.2).

### 1.3.4 High-emitting sectors should be required to do more

- To ensure strong disincentives to high-GHG activities and strong incentives for low-GHG activities, the covenants system must define sectors broadly; at a minimum, all facilities producing the same product (e.g., electricity) should be defined as a single sector (Section 2.6.1).
- The following four criteria must be taken into consideration when determining the strength of the financial penalty or relative financial reward created by a given sector's emissions target:
  - sectoral emissions intensity
  - rate of sectoral emissions growth since 1990
  - effort made to limit emissions since 1990
  - the sector's competitive position relative to competitors in countries whose emissions are not restricted as a result of the Kyoto Protocol (Section 2.6.2).
- With regard to Minister Dhaliwal's commitment that "the Government will set the emissions intensity targets for the oil and gas sector at a level not more than 15 percent below projected business-as-usual levels for 2010,"<sup>12</sup> "business as usual" must be interpreted to mean "including the *Action Plan 2000* programs to support industrial emission reductions and the programs to encourage capture and underground storage of CO<sub>2</sub> from industrial facilities, assumed to achieve in full the emission reductions that the *Climate Change Plan for Canada* allocates to those programs; and including the anticipated effects on the oil and gas sector of federal government investments in research and development of new technology, the Partnership Fund, and provincial government actions not involving federal partnerships" (Section 2.4).

<sup>12</sup> See [http://www.nrcan-rncan.gc.ca/media/newsreleases/2002/2002147a\\_e.htm](http://www.nrcan-rncan.gc.ca/media/newsreleases/2002/2002147a_e.htm).

### 1.3.5 Phasing out coal-fired electricity provides emission reduction opportunities that must be maximized

- The covenants system must make the most of the thermal electricity sector's large low-cost emission reduction potential
  - by setting targets that add up, for the sector as a whole, to full exploitation of the low-cost potential for improvements in generation efficiency and substitution of coal by natural gas; and
  - by setting targets for coal-fired and gas-fired facilities specifically that create the incentives needed to ensure a maximal amount of substitution of coal by natural gas (Section 2.5.1).

### 1.3.6 The co-benefits of domestic GHG emission reductions must be maximized

- CANet member organizations will be vigilant in holding the federal government to its commitment to close the majority of Canada's "Kyoto gap" through domestic emission reductions. Beyond this, CANet member organizations will be holding government and companies accountable for the quality of any international emissions units they choose to buy (Section 2.7).

### 1.3.7 We need to ensure that all large emitters start taking action now

- Canada's covenants and emissions trading system should, like the EU system, begin full operation in 2005, with covenants setting less demanding targets for the 2005–2007 period than the targets that would apply to the period 2008–2012 (Section 2.8.1).

### 1.3.8 Transparency and the public's right to know must be safeguarded

- The federal government's system for GHG emissions measurement, reporting and verification, must, starting with reporting of 2004 emissions
  - ensure that both facility- and company-level GHG emissions data for all large industrial emitters, disaggregated to the maximum practicable extent, are made publicly available through the Internet in a timely manner and in a transparent and easily searchable format
  - ensure that output data should be published in the same manner for facilities and companies whose targets are expressed in terms of emissions intensity
  - include a rigorous and transparent verification requirement (Section 2.9.2).

## 2. The issues in detail

---

### 2.1 Is industry being asked to do enough?

#### 2.1.1 Industry's allocation and who pays

The *Climate Change Plan for Canada* allocates 180 Mt of reductions in annual GHG emissions in 2010 to specific types of emission sources (while a further 60 Mt of reductions required to comply with the Kyoto Protocol are left unallocated). Of these 180 Mt, the *Plan* allocates 99 Mt to industry (see Table 1 in Section 1.1). This is very nearly proportional to the 53% of Canada's GHG emissions accounted for by industry in 2001.<sup>13</sup>

There are many different views on what constitutes an appropriate share of reductions to be borne by industry. For example, since industrial emissions rose by 23.3% between 1990 and 2001, while Canada's emissions as a whole rose by "only" 18.4%,<sup>14</sup> there is some merit to the argument that industry should be responsible for significantly more than 53% of the emission reductions that Canada needs to secure to comply with the Kyoto Protocol. On the other hand, there is also some merit to the argument that making excessive demands of industry will, in some cases, simply result in emissions being shifted to countries whose emissions are not restricted under the protocol. Another approach is to use economic modelling to estimate the amount of industrial emission reductions that can be achieved at reasonable cost.

It is important here to make a distinction between emission reductions *physically achieved* by industry (i.e., reductions that occur at industrial facilities), and emission reductions *paid for* by industry. Some reductions occurring at industrial facilities could be paid for in part by incentives provided by governments; conversely, emissions trading can result in some reductions paid for by industrial companies occurring at emission sources other than industrial facilities. When we ask "is industry being asked to do enough?" what matters most is the amount of reductions for which industry assumes financial responsibility. (It should be noted that "financial responsibility" is not necessarily the same as "costs," as there will be many opportunities to reduce emissions at negative cost.)

The allocation of 99 Mt of reductions to industry in the *Climate Change Plan for Canada* was the result of a compromise between the kinds of arguments outlined above, and was shown by the federal government's modelling (as reported in the *Plan*) to be economically reasonable. **Given, as noted above, that this amount is very nearly proportional to industry's share of Canada's GHG emissions, CANet takes the view that it is a reasonable allocation.**

Regarding the even more important question of who assumes financial responsibility for the reductions, the *Climate Change Plan for Canada* indicates that the 55 Mt of reductions to be secured through the covenants and emissions trading system are to be paid for by industry. The *Plan* does not say very much about who will assume financial responsibility for the remaining 44 Mt of the 99 Mt allocated to industry, although in some cases it is clear that incentives will be provided by the federal government.

The *Plan* calculates "illustrative costs" to different industry sectors for achieving the 55 Mt of reductions from covenants, assuming that each sector has to reduce emissions below business-as-usual by the same proportional amount.<sup>15</sup> These costs are generally very modest (e.g., 12 cents per barrel of synthetic crude

---

<sup>13</sup> Environment Canada (2003), *op. cit.*

<sup>14</sup> *Ibid.*

<sup>15</sup> These costs are calculated assuming that the market price for emissions units is \$10 per tonne CO<sub>2</sub>e.

oil for the oil sands sector). In addition, 55 Mt is only 23% of the 240 Mt of reductions that Canada needs to secure to comply with the Kyoto Protocol, compared to industry's 53% share of national GHG emissions. Any emission reductions that Canada needs to comply with the Kyoto Protocol, that involve positive net costs, and that are not paid for by industry, will have to be paid for by taxpayers or consumers. **In light of these considerations, CANet's position is that**

- **the federal government must stick to its position that industry be required to secure the 55 Mt of reductions with no financial incentives or assistance being provided in exchange; and**
- **the policies used to achieve the remaining 44 Mt of reductions allocated to industry in the Plan must be designed to ensure that industry bears a share of costs, and full financial responsibility for actions that are economic.**

The *Climate Change Plan for Canada* also proposes a Partnership Fund to achieve 20–30 Mt of the unallocated 60 Mt of reductions through shared investments with partners including the private sector, and estimates that a further 10–20 Mt of these reductions will occur as a result of provincial government actions not involving federal partnerships. Presumably some of these 30–50 Mt of reductions will apply to industrial emissions. Again, **CANet's position is that the policies used to achieve these further industrial emission reductions must be designed to ensure that industry bears a share of costs, and full financial responsibility for actions that are economic.**

### 2.1.2 Adjustments to the business-as-usual projection

The 55 Mt of emission reductions that the *Climate Change Plan for Canada* seeks to secure through the covenants and emissions trading system are reductions *relative* to the latest official federal government projection of what emissions would be in 2010 under a “business-as-usual” scenario in which no deliberate action was taken to reduce emissions. To comply with the Kyoto Protocol, Canada needs to secure a total of 240 Mt of reductions (the “Kyoto gap”) relative to this projection.

Projections of “counterfactual” scenarios (in this case, not implementing the Kyoto Protocol) are notoriously debatable. There has also been a tendency for Canada's official projections of future GHG emissions to be adjusted upwards every time they are revised.<sup>16</sup> It can be expected that, during the covenant negotiations, some industry representatives will argue that the current official business-as-usual projection is too low and that the emissions targets set by covenants should be adjusted upwards accordingly.

CANet accepts that in some industry sectors there may be sound reasons to make adjustments to the current official business-as-usual projection. However, any upward adjustments to the projections for industrial emissions will result in increases to the 240 Mt Kyoto gap. Since these increases are caused by industry, industry should take responsibility for reversing them. **CANet's position is therefore that any increases in industrial emissions in the current official business-as-usual projection must be compensated by equal increases in the 55 Mt of reductions sought through the covenants and emissions trading system.**

The whole *Climate Change Plan for Canada* is constructed with reference to the official business-as-usual emissions projection. Regarding the covenants and emissions trading system specifically, it will be impossible to assess whether the yet-to-be-negotiated targets add up to more or less than 55 Mt without making a comparison with that projection, industry sector by industry sector. Yet the projection has not

---

<sup>16</sup> For example, the previous official federal government projection of the Kyoto gap, published in December 1999, was 199 Mt (National Climate Change Process Analysis and Modelling Group (1999), *Canada's Emissions Outlook: An Update*).

been made publicly available, despite having been used by the federal government since early 2002. **CANet therefore calls on the federal government immediately to publish full details of the business-as-usual emissions projection used in the *Plan*.**

### 2.1.3 The backstop

In the *Climate Change Plan for Canada*, the federal government has made a commitment to establish a “regulatory or financial backstop” to the covenants system. The government’s current thinking is to use a regulatory backstop incorporating a default emissions target that would apply to any company that had not negotiated a specific covenant with the government. An additional likely role for such a backstop is to give the government explicit authority to negotiate specific covenants.

An early credible announcement of an enforceable backstop will be essential to ensure that companies enter into serious negotiations with the federal government. Enforcing the backstop will be essential to ensure that companies that have not negotiated a specific covenant with the government secure, nonetheless, an adequate amount of emission reductions. Companies that negotiate specific covenants should support the implementation of a strong backstop to ensure a level playing field with companies that do not.

Presumably a company will only agree to a specific covenant if it results in the company assuming financial responsibility for a smaller amount of emission reductions than would be the case under the backstop. This means that if the covenants are to add up to 55 Mt, the backstop, when aggregated for large industrial emitters as a whole, must represent a larger amount of emission reductions than 55 Mt.

It is important that development of the covenants and emissions trading system proceed quickly to allow companies to plan their emission reduction activities as soon as possible. At the same time, it is essential that the system deliver at least the planned 55 Mt of reductions. **CANet therefore calls on the government to announce, as soon as possible, a regulatory backstop representing a significantly larger amount of emission reductions than 55 Mt, over and above the more than 42 Mt of reductions that the *Climate Change Plan for Canada* allocates to large industrial emitters outside the covenants and emissions trading system (see Table 1 in Section 1.1), and to proceed quickly to give the backstop legal effect.** The need for the targets set by the covenants and emissions trading system to account fully for the 42+ Mt, in addition to the 55 Mt, is explained fully in Section 2.4.

The federal government is confident that it has the necessary constitutional powers to implement a backstop that would regulate industrial GHG emissions. Provinces also undoubtedly could do likewise. However, only the federal government will be held responsible internationally for complying with the Kyoto Protocol, which means that provincial governments do not have a clear incentive to enforce the amounts of industrial GHG emission reductions needed to fulfil the *Climate Change Plan for Canada*. **CANet therefore strongly opposes any delegation of responsibility to provinces for implementing the backstop.**

### 2.1.4 The price cap and compliance

In Section 2.1.1, it was stated that the *Climate Change Plan for Canada* indicates that the 55 Mt of reductions to be secured through the covenants and emissions trading system are to be paid for by industry. In fact, the federal government has since qualified this position. In an open letter to the Canadian Association of Petroleum Producers, dated December 18, 2002, Minister of Natural Resources Dhaliwal gave an undertaking that “the Government will ensure that, during the first commitment period [2008-2012], Canadian companies will be able to meet their emission reduction responsibilities at a price no

greater than \$15 per tonne.”<sup>17</sup> This implies that if the market price of emissions units (domestic credits or permits and foreign emissions units) rises above \$15 per tonne of CO<sub>2</sub>e, the government will pay, subject to some restrictions (see below), for the amount by which that price exceeds \$15.

Most experts expect prices in 2010 to be lower than \$15 per tonne,<sup>18</sup> which suggests that this price cap is unlikely ever to actually take effect. Nonetheless, the price cap represents a transfer of liability for the risk of high carbon prices from industry to taxpayers. As noted in Section 2.1.1, the estimated costs to different industry sectors for achieving the 55 Mt of reductions from covenants are generally very modest (e.g., 12 cents per barrel of synthetic crude oil for the oil sands sector) if the market price for emissions units is \$10 per tonne. **CANet therefore believes that, while some kind of price cap could be defended on the grounds of industry’s legitimate need for certainty, the cap that has been promised is excessively generous.** (For example, a cap of \$25 per tonne could have been used, with government covering only a percentage of the price in excess of \$25.)

To fully define the price cap, the government will need to specify

- when and for how long market prices must exceed \$15 for the price cap to apply; and
- if that first criterion is satisfied, how the government will additionally determine that companies have exhausted their internal opportunities to reduce emissions at a cost of less than \$15 per tonne, before applying the cap.

The first of these criteria is important to ensure that companies that need to purchase emissions units from the market do so in a prudent and timely fashion, rather, for example, than waiting for the eleventh hour before the compliance deadline when prices may have risen above \$15. **CANet’s position is that the price cap must provide no assistance to companies that have failed to make prudent and timely use of the emissions trading market or that have not provided a clear, independently verified demonstration that they have exhausted international emission reduction opportunities at less than \$15 per tonne.**

The price cap effectively sets a limit on the consequences of failure to meet the emissions targets set by covenants, as any company seeing that it is heading for non-compliance will be able to buy its way back into compliance at a maximum of only \$15 per tonne (assuming that it satisfies the criteria for application of the price cap). **Nonetheless, CANet’s position is that covenants and/or the backstop must specify a penalty for non-compliance of significantly more than \$15 per tonne to ensure that targets are met.**<sup>19</sup> **Covenants and/or the backstop must also specify strong financial penalties for failure to comply with other requirements, such as emissions measurement, reporting and verification.**

### 2.1.5 Auctioning of emissions permits

The federal government is likely (but see Section 2.9.1) to operationalize the covenants and emissions trading system by providing each participating company, free-of-charge, with an amount of tradeable emissions permits equal to the emissions target in that company’s covenant. The permits will therefore be “rights to emit” an amount of GHGs equal to the target. A company will only have to assume financial responsibility for emissions in excess of its target.

---

<sup>17</sup> See [http://www.nrcan-rncan.gc.ca/media/newsreleases/2002/2002147a\\_e.htm](http://www.nrcan-rncan.gc.ca/media/newsreleases/2002/2002147a_e.htm).

<sup>18</sup> Government of Canada (2002), *op. cit.*, p. 43.

<sup>19</sup> For example, the Directive on GHG emissions trading in the European Union agreed to by the Council (EU member governments) in March 2003 stipulates a non-compliance penalty of 100 Euros (about \$160) per tonne of CO<sub>2</sub>e for the period 2008-2012. See <http://europa.eu.int/comm/environment/climat/emission.htm>.

It is important to note that this arrangement is very far removed from the polluter pays principle. If the polluter pays principle were fully applied, companies would receive no rights to emit free-of-charge; they would instead have to pay in full for an amount of emissions permits or credits equal to their actual GHG emissions. The federal government would auction an amount of emissions permits equal to its target for total industrial emissions, and the revenue from the auction could be recycled back in the economy, through tax cuts, investments in low-GHG technology or transportation infrastructure, etc. The European Union (EU)'s GHG emissions trading system that EU governments have agreed to implement starting in 2005 will provide for auctioning of up to 10% of emissions permits.<sup>20</sup>

Climate science tells us that global GHG emissions will need to be reduced by over 50% within several decades to prevent dramatic climate change. We must plan, therefore, for Canada's GHG emissions to be subject to progressively tighter caps by a series of international agreements over several decades beyond the first Kyoto Protocol commitment period (2008-2012). As this long-term scenario unfolds, and assuming that governments continue to choose emissions trading as the key policy instrument to address industrial GHG emissions, Canada needs to move gradually towards a full auction of emissions permits. Only such a full emissions pricing approach will maximize the incentives to restructure the economy towards low-GHG activities in an economically efficient way<sup>21</sup> while fully implementing the polluter pays principle. Canada and other OECD nations have formally agreed that "Policies and measures for environmental sustainability should . . . be implemented in a cost-effective manner, and contribute to the full and consistent application of the Polluter Pays and User Pays Principles."<sup>22</sup>

**CANet calls on the federal government to make at least a modest start towards this long-term goal by auctioning a small percentage of the emissions permits it is currently planning to provide free-of-charge to large industrial emitters. The revenue from the auction should be invested in further GHG emission reductions and a Just Transition program for workers and communities negatively impacted by implementation of the Kyoto Protocol (see Section 2.9.5).**

## 2.2 Use of emissions intensity targets

The *Climate Change Plan for Canada* proposes that the targets set by covenants be targets for GHG emissions *intensity* rather than for absolute GHG emissions. Emissions intensity is defined as emissions per unit of output (i.e., production of some product or service). Absolute emissions and emissions intensity are related as follows:

$$\text{Emissions} = \text{Emissions intensity} \times \text{Output.}$$

According to this formula, there are two reasons why emissions can increase: (i) if emissions intensity increases; and (ii) if output increases. Covenants that set targets for emissions intensity will place restrictions on increases in emissions caused by increases in intensity, but place no restrictions on

<sup>20</sup> Emission permits are called "allowances" in the EU system. See <http://europa.eu.int/comm/environment/climat/emission.htm>.

<sup>21</sup> The federal government reported the results of economic modelling of a full-auction domestic emissions trading system in "option 1" of its May 2002 discussion paper (Government of Canada (2002), *A Discussion Paper on Canada's Contribution to Addressing Climate Change*, p. 41, available at <http://www.climatechange.gc.ca>). It was the most attractive option in terms of the effect on Canada's GDP, slightly accelerating growth in national GDP relative to a no-Kyoto scenario, even at an emissions permit price of \$50/tonne CO<sub>2</sub>e (much higher than most experts expect).

<sup>22</sup> Organisation for Economic Cooperation and Development (2001), *Environmental Strategy for the First Decade of the 21st Century*, available at <http://www.oecd.org/pdf/M00001000/M00001182.pdf>.

increases in emissions caused by increases in output. Intensity-based covenants will therefore provide little or no incentive to reduce output from highly polluting activities.<sup>23</sup>

The formula above shows that, to negotiate emissions intensity targets for 2010 that can be expected to add up to 55 Mt of reductions in absolute emissions, the federal government will have to have a clear idea of expected levels of output in 2010 from the sectors concerned, to translate desired amounts of emission reductions into desired amounts of intensity reductions. As the *Climate Change Plan for Canada* is not expected to have much effect on output,<sup>24</sup> the expected levels of output in 2010 used to negotiate intensity targets will essentially be the business-as-usual levels.

Figure 1 shows the risk to the environmental performance of the covenants system if the covenants are based on emissions intensity. Even if the intensity targets in the covenants are chosen to deliver 55 Mt of reductions in absolute emissions assuming output in 2010 remains at business-as-usual (BAU) levels, the actual contribution of covenants to closing Canada's Kyoto gap of 240 Mt could be substantially less than 55 Mt if output turns out to be higher than the BAU projection. (Conversely, covenants could also contribute more than 55 Mt to closing the Kyoto gap if output turns out to be lower than the BAU projection.)

If the covenants system secures less than 55 Mt of reductions, then governments (i.e., taxpayers) and/or other, non-industrial GHG emitters (such as individuals) will have to secure extra reductions to make up the shortfall. In other words, an intensity-based covenants system transfers liability for higher than expected output from industry to taxpayers and others.

A further disadvantage of an intensity-based covenants system is its inferior economic efficiency. Economic theory says that a system of absolute emissions targets that can be met using emissions trading maximizes efficiency, because the cost of increasing emissions by one tonne is the same for all: it is equal to the price of an emissions permit/credit. But in an intensity-based system, the cost of a one-tonne emissions increase varies: if the emissions increase is caused by an emissions intensity increase, its cost is equal to the market price of an emissions permit/credit; but if the emissions increase is caused by an output increase, its cost is zero. This "output subsidy" increases the total cost of the system.

An intensity-based covenants system therefore has three major disadvantages:

- its environmental performance is at risk from higher than expected output;
- it transfers liability for higher than projected output from industry to taxpayers and others; and
- it is more costly overall than a system based on absolute emissions targets.

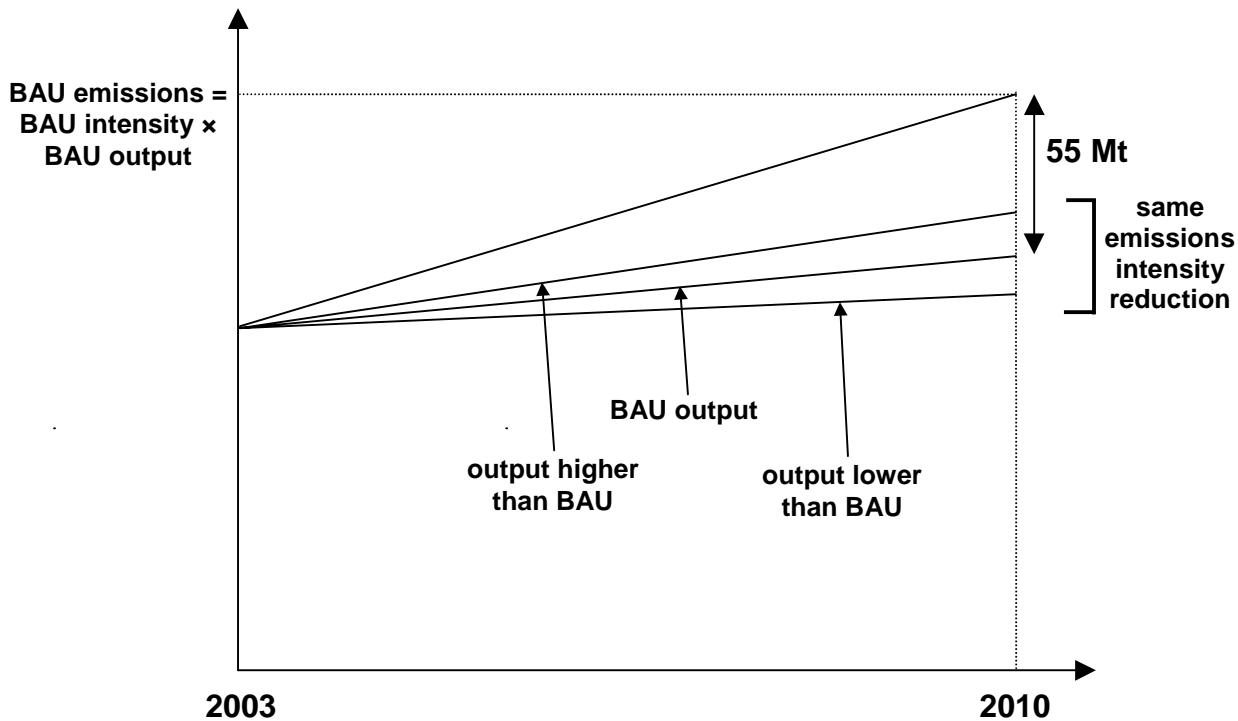
**In view of these disadvantages, CANet's position is that**

- **the federal government should actively pursue opportunities to negotiate covenants that set targets for absolute emissions, rather than emissions intensity; and**
- **covenants setting emissions intensity targets should include provisions to adjust the targets, within a specified range, to compensate for actual output being different from projected levels.**

---

<sup>23</sup> Intensity-based covenants could provide only a weak, indirect incentive to reduce output from sectors with the highest GHG intensity if those sectors are given a more challenging, costly emissions intensity target than sectors with lower GHG intensity.

<sup>24</sup> Government of Canada (2002), op. cit., p. 65.



**Figure 1. The risk to the environmental performance of a covenants system that sets targets for emissions intensity rather than absolute emissions. (BAU = business-as-usual.)**

The second recommendation represents a compromise between the intensity-based approach and an approach based on absolute emissions. If implemented, it would reduce, but not necessarily eliminate, the shortfall in the 55 Mt of reductions from covenants that will occur if output is higher than projected. While provisions for adjusting targets would create some additional uncertainty for industry, that uncertainty could be kept within reasonable limits by choosing an appropriate range within which targets could be adjusted.

Where emissions intensity targets are used, the question also arises of how to measure output for the purposes of defining intensity. Output can potentially be measured either in physical units (e.g., kilograms of product or joules of energy) or in monetary units (e.g. dollar value of sales). **CANet's position is that monetary units must not be used to define emissions intensity targets set by covenants.** Use of monetary units would make targets too dependent on fluctuations in market conditions and too far divorced from the physical processes involved and their environmental impacts.

## 2.3 “Offset” credits for reductions in emissions not covered by covenants

### 2.3.1 The threat to environmental integrity

As noted in Section 1.2, the *Climate Change Plan for Canada* proposes that one of the ways companies will be able to meet the targets set by covenants will be to purchase “offsets” — emissions credits granted to projects that reduce emissions from sources not covered by covenants. From both economic and equity perspectives, this mechanism has merit. Without reducing industry’s financial responsibility to secure emission reductions, it allows companies to secure those reductions outside large industry if that is a less costly option than physically achieving those reductions at large industrial facilities. The offsets mechanism could also have the desirable result of creating a flow of resources to help financially hard-pressed sectors like municipalities and agriculture reduce their GHG emissions.

From a strictly environmental perspective, however, offset credit creation creates precisely no benefit. If emissions are reduced from a project outside large industry, and credits are granted for those reductions and sold to a large industrial emitter, the credits will allow that emitter to emit more than it would have done otherwise — by exactly the amount by which the project reduced emissions. In other words, *offset credits will simply become part of the 55 Mt to be secured through the covenants and emissions trading system*. Emission reductions for which offset credits are granted will make no contribution at all to closing Canada’s Kyoto gap beyond the 55 Mt.

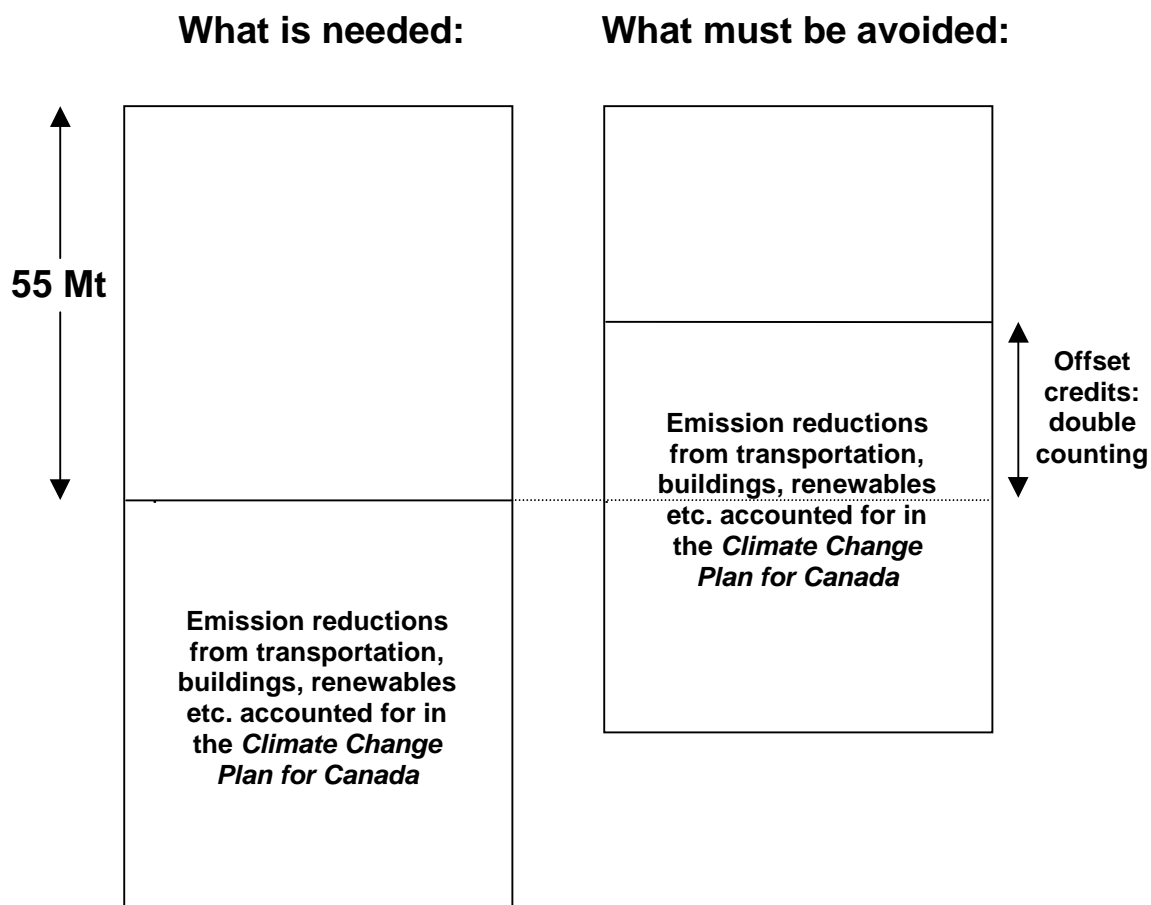
The *Climate Change Plan for Canada* proposes to allow the creation of offset credits for “agricultural and forestry sinks and emission reductions” and possibly also for landfill gas capture (subject to consultation with other levels of government as to whether offset credit creation or regulation is the best approach). However, the federal government’s current thinking is to open up offset credit creation much more broadly. This means that offset credits could potentially be granted for emission reductions in transportation, buildings, small industrial emitters, and fugitive emission sources in large industry but not included in covenants.

In theory, offset credits could also potentially be granted for activities to promote renewable electricity and the energy efficiency of electricity consumers, on the following grounds: Such activities have the effect of reducing output, and therefore emissions, from large thermal electricity<sup>25</sup> generation facilities. Despite the fact that they physically occur at large industrial facilities, these emission reductions will not be captured by covenants that set emissions intensity targets, because the reductions result from reduced output, not reduced intensity.

The possibility of opening up offset credit creation broadly poses a major threat to the environmental integrity of several extremely important areas of the *Climate Change Plan for Canada*, as illustrated in figure 2. The following table shows the emission reduction targets that the *Plan* lays out, *over and above* the 55 Mt from covenants, in all the areas in which offset credits could potentially be granted.

---

<sup>25</sup> I.e., fossil fuel-fired electricity.



**Figure 2. The threat to the environmental integrity of the *Climate Change Plan for Canada* posed by the granting of offset credits in areas such as transportation, buildings and renewable electricity. The 55 Mt are the emission reductions to be secured through covenants for large industrial emitters.**

Agriculture ( <i>Action Plan 2000</i> ) <sup>26</sup>	6 Mt
Landfills (Green Municipal Funds)	2 Mt
Transportation	21 Mt
Buildings	8 Mt
Small industrial emitters (in part <i>Action Plan 2000</i> )	3 Mt
Fugitive emissions from large industrial emitters	4 Mt
Low-impact renewable electricity (in part <i>Action Plan 2000</i> / Budget 2001)	7 Mt
Increased interprovincial electricity trade ( <i>Action Plan 2000</i> ) <sup>27</sup>	5 Mt
<i>Total:</i>	<i>56 Mt</i>

<sup>26</sup> The *Climate Change Plan for Canada* implies that these are enhancements to carbon sinks, rather than emission reductions as such.

<sup>27</sup> This could have the effect of increasing output of large hydroelectricity generation at the expense of thermal electricity.

Every offset credit granted in these areas represents one fewer tonne of emission reductions that Canada will be able to count towards this 56 Mt total — and one more tonne making up the 55 Mt to be secured through covenants. Looked at another way, granting offset credits for emission reductions in the above areas will result in double counting: these reductions may be counted as part of the 56 Mt, but they will also be counted a second time as part of the 55 Mt.

**CANet's position is therefore that no activities must be eligible for earning offset credits unless it can be demonstrated that they go clearly beyond the activities needed to meet the emission reduction targets that the *Climate Change Plan for Canada* lays out for transportation, buildings, renewable electricity, small industrial emitters, fugitive emissions, agriculture and landfills.** In technical terms, for each project the baseline below which credits are generated must be fulfilment of the *Plan*.

Beyond this minimal requirement, offset credit creation will not be the most appropriate way to incent emissions reducing activities in many areas. Credits worth \$10 per tonne of CO<sub>2</sub>e (considered a likely price) represent a financial incentive worth, to give one example, of, at most, 1 cent per kilowatt-hour of renewable electricity.<sup>28</sup> **CANet calls on governments to provide stronger financial incentives than this — for example, by increasing the Wind Power Production Incentive — combined with low-impact renewable energy portfolio standards, to ensure that Canada catches up with other industrialized countries in the implementation of low-impact renewable energy like wind power.**<sup>29</sup> **In areas like vehicles, buildings and energy-using equipment, CANet's position is that offset credits are no substitute for regulated energy efficiency standards.** In addition, it is argued in Section 2.5.3 that reductions in industrial electricity consumption should not be eligible for offset credits.

Some will argue that restricting the supply of domestic offset credits will simply push large industrial emitters to purchase credits offshore, through the international emissions trading mechanisms of the Kyoto Protocol. Purchases of international emissions units are problematic (see Section 2.7), but they remain preferable to undermining Canada's ability to close its 240 Mt Kyoto gap beyond the 55 Mt from covenants.

### 2.3.2 Offset rules

Project-based offset credit creation will require the federal government to specify detailed rules covering issues including

- additionality (does the project go beyond what would have happened in the absence of the possibility of creating credits?)
- project baseline (a quantified statement of what would have happened in the absence of the possibility of creating credits)
- project boundary (what emission sources are included?)
- crediting lifetime (over what period are credits created before the baseline is revised?)
- permanence (to ensure that storage of carbon in biomass — plants or soil — will not be reversed at some point in the future)
- emissions measurement and verification
- environmental impacts unrelated to GHGs.

---

<sup>28</sup> This assumes the most favourable case where renewable electricity is displacing coal-fired electricity with a typical emissions intensity of around 1 kilogram (kg) CO<sub>2</sub>e per kilowatt-hour. If 1 tonne CO<sub>2</sub>e is worth \$10, 1 kg is worth 1 cent.

<sup>29</sup> Low-impact renewable energy does not include large hydro.

Opportunities for environmental integrity to be undermined exist in each of these areas respectively:

- granting credits for business-as-usual practices that would have occurred in the absence of the possibility of creating credits (“non-additional” projects) causes overall emissions to increase, as the credits will allow their purchaser to emit more than it would have done otherwise
- a baseline set, for example, at a historical emissions intensity level will, over time, tend to generate increasing numbers of credits that do not correspond to genuine emission reductions, by failing to account for “autonomous” intensity reductions over time that would occur in the absence of the possibility of creating credits
- a boundary that is too narrow will fail to account for “leakage” effects where emission reductions from the project induce emission increases elsewhere
- a crediting lifetime that is too long risks, over time, generating increasing numbers of credits that do not correspond to genuine emission reductions as the baseline becomes increasingly inappropriate
- a failure to address permanence could result in credits being granted for storage of carbon in biomass (plants or soil) with no assurance that the carbon will remain stored after the end of the crediting lifetime
- a failure independently to verify emission reduction measurements according to rigorous criteria will create an incentive to cheat
- projects that reduce GHG emissions or enhance GHG sinks can have environmental impacts related to non-GHG air or water emissions, land use, biodiversity, pesticides, genetically modified organisms, etc.

**CANet calls on the federal government to develop rigorous rules for offset credit creation that address threats to environmental integrity in all the above areas, and that require all relevant documentation for projects accepted for credit creation to be made publicly available, with an appropriate review period, so that organizations and individuals acting in the public interest can ensure that the rules are being properly applied. CANet insists in particular that these rules must require tests for additionality, distinct from the baseline selection procedures, to satisfy the *Climate Change Plan for Canada*’s statement that, “Offsets would have to . . . go beyond business-as-usual practices.”**

Some will argue that a set of rigorous rules along these lines will place major obstacles in the way of offset credit creation, increasing transaction costs to an unreasonable degree. CANet believes that it is possible to design rigorous rules that uphold environmental integrity while remaining practical. For example, the rules could deem as automatically additional certain classes of desirable activities that clearly go beyond business-as-usual and beyond what is already accounted for in the *Climate Change Plan for Canada* (see Section 2.3.1).

Offset rules relating to questions of timing (years for which offset credits will be granted, and earliest start dates for eligible projects) are discussed in Section 2.8.3.

## 2.4 Other measures to reduce emissions from large industry

As shown in Table 1 (Section 1.1), the *Climate Change Plan for Canada* allocates 37 Mt of emission reductions to large industrial emitters (non-fugitive sources) over and above the 55 Mt to be secured through covenants. In addition, of the 60 Mt of reductions the *Plan* leaves unallocated, it suggests that technology research and development investments by the federal government could produce 10 Mt by 2010: roughly half of these reductions can be expected to apply to industrial emissions. The *Plan* also proposes a Partnership Fund to achieve 20–30 Mt of the unallocated 60 Mt of reductions through shared investments with partners including the private sector, and estimates that a further 10–20 Mt of these

reductions will occur as a result of provincial government actions not involving federal partnerships. Presumably some of these 30–50 Mt of reductions will apply to industrial emissions.

In summary, then, the *Plan* makes the following allocations of emission reductions to large industrial emitters (non-fugitive sources) beyond the 55 Mt from covenants:

Programs to support industrial emission reductions previously announced in the <i>Government of Canada Action Plan 2000 on Climate Change</i> (October 2000) and Budget 2001	23 Mt
Target of 10% of new electricity generating capacity from low-impact renewable sources; programs to encourage capture and underground storage of CO <sub>2</sub> from industrial facilities	11 Mt
Programs to improve the energy efficiency of new and existing buildings <sup>30</sup>	3 Mt
Federal government investments in research and development of new technology	~ 5 Mt
Partnership Fund and provincial government actions not involving federal partnerships	? Mt

When emissions targets for large industrial emitters are set, through covenants and/or their backstop, it will be extremely important for the federal government to account fully for these additional emission reductions allocated to large industry by the *Climate Change Plan for Canada* over and above the 55 Mt from covenants. The danger, illustrated in figure 3, is that targets could be agreed to that superficially deliver 55 Mt of reductions while ignoring the additional reductions allocated to large industrial emitters by the *Plan*. If this happens, *those additional reductions will be irretrievably lost*, since any programs implemented to achieve them will be simply helping companies to secure the 55 Mt, but providing no means of going any further. This would gravely undermine the environmental integrity of the *Plan* as a whole.

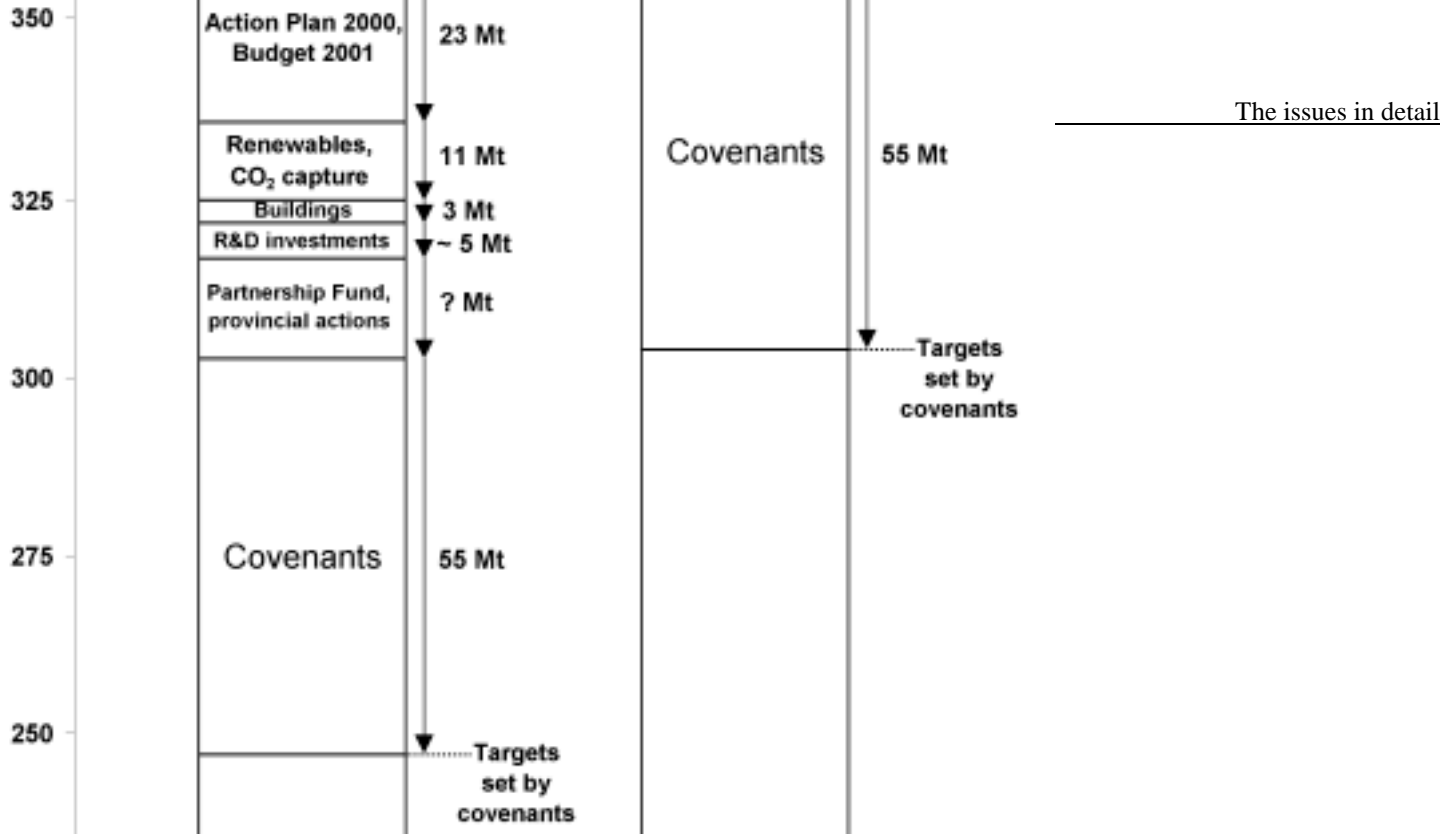
**CANet therefore calls on the federal government to ensure that the targets set by covenants represent 55 Mt of emission reductions that are fully additional to**

- **the reductions that the *Climate Change Plan for Canada* allocates to large industry via programs in *Action Plan 2000* and *Budget 2001*, the target of 10% of new electricity generating capacity from low-impact renewable sources, the programs to encourage capture and underground storage of CO<sub>2</sub> from industrial facilities, and the programs to improve the energy efficiency of new and existing buildings; and**
- **the reductions that can reasonably be expected to occur at large industrial facilities as a result of federal government investments in research and development of new technology, the Partnership Fund, and provincial government actions not involving federal partnerships.**

A sensible way to implement this recommendation would be to adjust the business-as-usual emissions projection for 2010 downwards to include explicitly the 37 Mt of reductions in the first bullet point above, as well as those in the second bullet point. This adjusted business-as-usual projection could then be used as the reference point for negotiating and measuring the 55 Mt of reductions from covenants.

---

<sup>30</sup> See the corresponding footnote to table 1.



**Figure 3. What 55 Mt really means: the targets set by the covenants system must fully reflect the other programs and targets in the *Climate Change Plan for Canada* intended to achieve emission reductions from large industrial emitters. (BAU = business-as-usual.)**

Specifically, with regard to Minister Dhaliwal’s commitment that “the Government will set the emissions intensity targets for the oil and gas sector at a level not more than 15 percent below projected business-as-usual levels for 2010,”<sup>31</sup> CANet’s position is that “business as usual” must be interpreted to mean “including the *Action Plan 2000* programs to support industrial emission reductions and the programs to encourage capture and underground storage of CO<sub>2</sub> from industrial facilities, assumed to achieve in full the emission reductions that the *Climate Change Plan for Canada* allocates to those programs; and including the anticipated effects on the oil and gas sector of federal government investments in research and development of new technology, the Partnership Fund, and provincial government actions not involving federal partnerships.”

<sup>31</sup> See [http://www.nrcan-rncan.gc.ca/media/newsreleases/2002/2002147a\\_e.htm](http://www.nrcan-rncan.gc.ca/media/newsreleases/2002/2002147a_e.htm).

In light of the above, the federal government, before agreeing to the targets set by covenants, will need to evaluate carefully whether the programs (other than covenants) in the *Climate Change Plan for Canada* intended to achieve emission reductions in large industry are truly capable of delivering the reductions that the *Plan* allocates to them. **If, upon evaluation, any such programs turn out to be incapable of delivering the allocated reductions, CANet's position is that the government must upgrade, redesign or replace such programs to ensure that the amounts of industrial emission reductions that the *Plan* allocates to those programs are, in fact, delivered.** If this recommendation is not followed, governments (i.e., taxpayers) and/or other, non-industrial GHG emitters (such as individuals) will be forced to secure extra reductions to make up the shortfall; this would not be equitable or acceptable.

At this point it is worth recalling CANet's position in Section 2.1.1 that industry must bear a share of costs for programs other than covenants intended to achieve emission reductions in large industry. The corollary of this position is that governments can also bear a share of the costs of such programs by providing financial incentives to take actions that are not economic for industry to take without incentives. In particular, CANet strongly supports the provision of well-designed financial incentives to encourage low-impact renewable electricity generation (see Section 2.3.1) and the energy efficiency of electricity consumers (demand side management, see Section 2.5.3), both of which are excellent means to reduce the emissions of large industrial emitters in the thermal electricity sector.

## 2.5 The special case of electricity generation

The thermal electricity sector has four special characteristics that distinguish it from other large industry sectors:

- It possesses an usually large volume of low-cost GHG emission reduction opportunities compared to other sectors.
- It is the only sector for which a major focus of the *Climate Change Plan for Canada* is to reduce its output<sup>32</sup> (through measures to promote renewable electricity and the energy efficiency of electricity consumers).
- It is the only sector whose emissions are reduced as a direct function of its customers' efforts to improve energy efficiency.
- It sells a product (electricity) that its industrial customers can often straightforwardly produce for themselves with lower GHG emissions (through cogeneration).

Each of these four characteristics are addressed in turn below.

### 2.5.1 Potential for low-cost emission reductions

Firstly, according to recent analytical work conducted for federal and provincial governments,<sup>33</sup> the electricity sector alone possesses opportunities to reduce annual GHG emissions by 45 Mt CO<sub>2</sub>e at a very low marginal cost of less than \$10 per tonne. This is almost 50% of the 92 Mt that the *Climate Change*

---

<sup>32</sup> While the *Climate Change Plan for Canada* aims generally to reduce consumption of fossil fuels directly as well as fossil fuel-fired electricity, the effects of reduced Canadian demand on Canada's fossil fuel output will to a large degree be compensated for by increased exports, given our proximity to the large U.S. market.

<sup>33</sup> M.K. Jaccard and Associates (2002), *Construction and Analysis of Sectoral, Regional and National Cost Curves of GHG Abatement for Canada*, report for the Cost Curves Working Group, Analysis and Modelling Group, National Climate Change Process (cited in P.U. Dunsy and P. Henn (2003), *L'industrie à l'heure de Kyoto*, Centre Hélios, available at <http://www.helios.org>).

*Plan for Canada* allocates to large industry.<sup>34</sup> Some 40% of this 45 Mt reduction potential is attributable to improvements in the efficiency of coal-fired electricity generation, and a further 25% to the substitution of coal by natural gas for electricity generation.<sup>35</sup>

**CANet's position is that the covenants system must make the most of the thermal electricity sector's large low-cost emission reduction potential**

- **by setting targets that add up, for the sector as a whole, to full exploitation of the low-cost potential for improvements in generation efficiency and substitution of coal by natural gas; and**
- **by setting targets for coal-fired and gas-fired facilities specifically that create the incentives needed to ensure a maximal amount of substitution of coal by natural gas.**

### 2.5.2 Protecting the environmental effectiveness of output reductions

Secondly, the *Climate Change Plan for Canada* contains the following categories of major programs that will reduce emissions from the thermal electricity sector beyond the 55 Mt from covenants:

- programs to encourage capture and underground storage of CO<sub>2</sub>
- programs to support low-impact renewable electricity
- increased interprovincial electricity trade<sup>36</sup>
- programs to improve the energy efficiency of buildings.

The first of these four categories will reduce the emissions intensity of coal-fired electricity, but the remaining three categories all aim to reduce the output, rather than the emissions intensity, of the thermal electricity sector. During covenant negotiations, the thermal electricity sector can be expected to argue that it will suffer as a result of the programs that aim to reduce its output, and that it should therefore be allowed higher emissions intensity targets. Figure 4 illustrates the effect this would have: emission reductions intended to be achieved through output reductions over and above the 55 Mt of reductions from covenants would become partially or wholly subsumed into the 55 Mt. This would seriously undermine the environmental effectiveness of several extremely important areas of the *Climate Change Plan for Canada*.

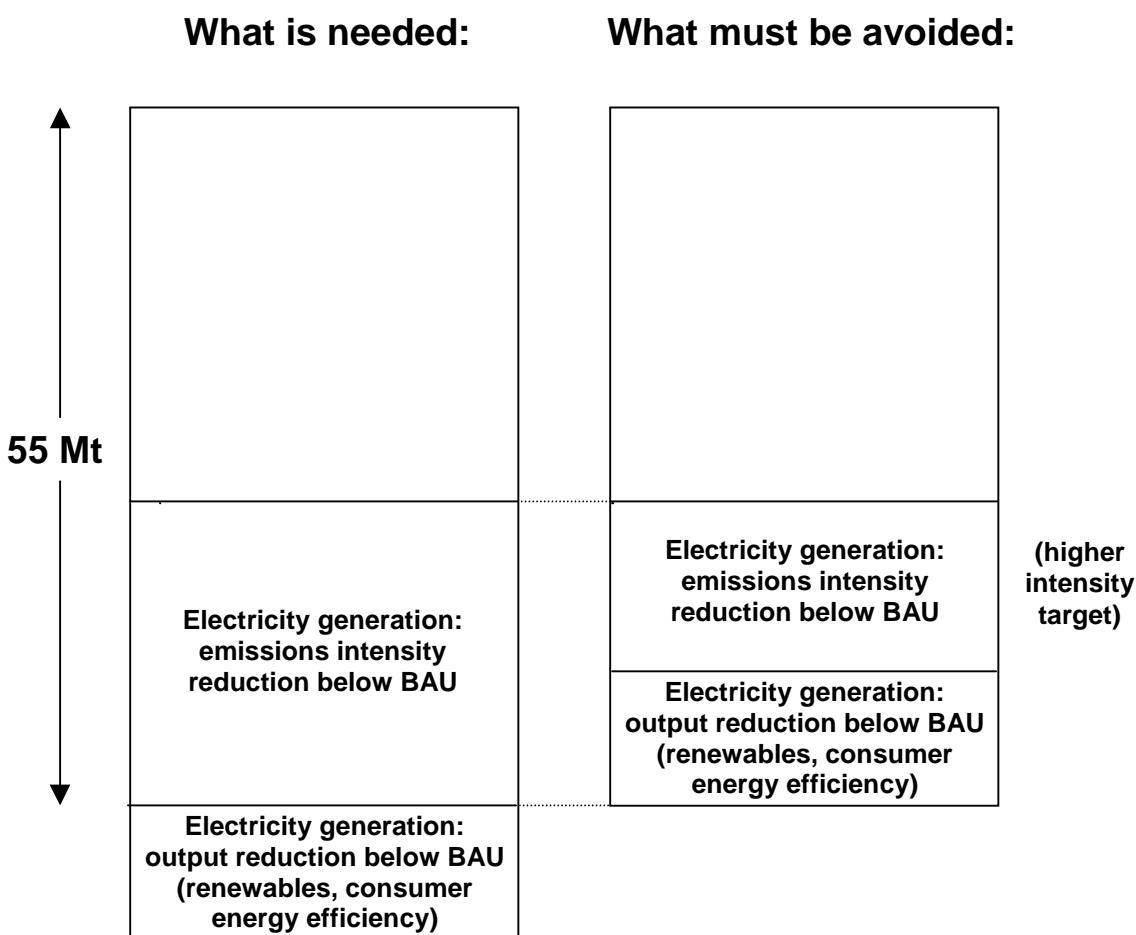
**CANet therefore calls on the federal government to ensure that the emission reductions the *Climate Change Plan for Canada* allocates to programs to encourage capture and underground storage of CO<sub>2</sub>, programs to support low-impact renewable electricity, increased interprovincial electricity trade, and programs to improve the energy efficiency of electricity consumers are fully additional to the emission reductions represented by the targets set by covenants for thermal electricity generators.**

---

<sup>34</sup> not counting the federal government investments in research and development of new technology, the Partnership Fund, and provincial government actions not involving federal partnerships, which are not allocated to specific types of emissions sources

<sup>35</sup> M.K. Jaccard and Associates (2002), *op. cit.*

<sup>36</sup> This could have the effect of increasing output of large hydroelectricity generation at the expense of thermal electricity.



**Figure 4. The damage done to the environmental integrity of the *Climate Change Plan for Canada* if the targets set by covenants for thermal electricity generators are adjusted to compensate for programs that aim to reduce their output. The 55 Mt are the emission reductions to be secured through covenants for large industrial emitters as a whole. (BAU = business-as-usual.)**

### 2.5.3 Incentives for consumer efficiency (demand side management)

The federal government has made it clear that covenants will cover only direct emissions from industrial facilities, not the indirect emissions produced by the generation of the electricity they consume. Covenants will therefore provide no incentive to industrial electricity consumers to reduce their consumption. Yet many industrial facilities consume large amounts of thermal electricity, and so the *Climate Change Plan for Canada* clearly ought to include policy measures to encourage reduced industrial consumption, which would result in reduced emissions from thermal electricity generators. Unfortunately the *Plan* contains very little in the way of such “demand side management” measures for industry.<sup>37</sup> Furthermore, if the covenants for thermal electricity generators set emissions intensity targets,

<sup>37</sup> Some of the *Action Plan 2000* items included in the *Plan* are voluntary programs to encourage improved energy efficiency in industry. See Government of Canada (2000), *Government of Canada Action Plan 2000 on Climate Change*, p. 9, available at [http://www.climatechange.gc.ca/english/whats\\_new/action\\_plan.shtml](http://www.climatechange.gc.ca/english/whats_new/action_plan.shtml).

rather than absolute emissions targets, they will provide generators with no incentive to reduce their customers' consumption either.

It was pointed out in Section 2.3.1 that, because emission reductions at thermal electricity generation facilities that result from output reductions will not be captured by covenants that set emissions intensity targets, offset credits could potentially be granted for activities to promote the energy efficiency of electricity consumers. However, emission reductions for which offset credits are granted simply become part of the 55 Mt and do not contribute to closing the Kyoto gap beyond the 55 Mt. Instead, reduced industrial electricity consumption provides an important opportunity to achieve some of the 20–30 Mt of reductions that the *Climate Change Plan for Canada* proposes to realize through the Partnership Fund (shared investments with partners including the private sector) and/or the further 10–20 Mt of reductions it estimates will occur as a result of provincial government actions not involving federal partnerships.

**CANet therefore calls on the federal government to work with provinces to introduce new measures to significantly reduce industrial electricity consumption, for example through a combination of demand side management programs mandated by provinces and federal financial incentives. CANet's position is that reductions in industrial electricity consumption should generate emission reductions additional to the 55 Mt from covenants and that offset credits should therefore not be granted for such reductions.**

#### 2.5.4 Encouraging cogeneration

Some 6% of Canada's total electricity production is currently accounted for by cogeneration of heat (steam) and electricity. Ninety-five percent of Canada's cogeneration capacity provides steam to industrial facilities. Increasingly, large industrial cogeneration facilities sell significant amounts of excess electricity to the grid. The potential growth in this practice is evident from a recent expert assessment that cogeneration could realistically supply 30% of Canada's electricity needs — as is already the case in Finland, Denmark and the Netherlands.<sup>38</sup>

As cogeneration is generally highly efficient, the most common cogeneration fuels are natural gas and wood waste, and, in the provinces that have the highest cogeneration capacity (Alberta and Ontario<sup>39</sup>), the excess electricity sold to the grid displaces coal-fired electricity which has a much higher GHG emissions intensity, Canada's growth in industrial cogeneration is mostly producing net GHG emission reductions. Increasing industrial cogeneration further is therefore an important strategy for reducing emissions from thermal electricity generators.

Unfortunately the *Climate Change Plan for Canada* contains no specific commitment to encourage industrial cogeneration. Worse, the covenants system has the potential to discourage further growth in cogeneration, as cogeneration plants generally have higher on-site emissions than the conventional boilers that they replace. (Net emissions are lower only when the coal-fired electricity that cogeneration displaces is accounted for.) **CANet therefore calls on the federal government to ensure that covenants set specific targets for cogeneration plants at a level that will create a strong incentive for industrial cogeneration in provinces where cogeneration produces net emission reductions.**

<sup>38</sup> All information in this paragraph is taken from: C. Strickland and J. Nyboer (2002), *Cogeneration Potential in Canada Phase 2*, M.K. Jaccard and Associates, available at <http://www.cieedac.sfu.ca/reports/otherreports/cogenpotential.pdf>.

<sup>39</sup> C. Strickland and J. Nyboer (2002), *A Review of Existing Cogeneration Facilities in Canada*, Canadian Industrial Energy End-Use Data and Analysis Centre, available at [http://www.cieedac.sfu.ca/reports/OtherReports/Cogen\\_2001.pdf](http://www.cieedac.sfu.ca/reports/OtherReports/Cogen_2001.pdf)

## 2.6 Allocating emission reductions among sectors and companies

### 2.6.1 Definition of sectors

Explicitly or implicitly, the covenants system will define a number of distinct sectors among large industrial emitters. A distinct sector is a group of facilities for which the targets set by covenants are equivalent. For example, facilities sharing the same emissions intensity target will, in effect, be treated by the covenants system as a single sector.

The way sectors are defined will be very important in determining the strength of the relative incentives and disincentives provided by the system for different kinds of industrial activity. The more broadly sectors are defined, the stronger will be the disincentives to high-GHG activities and the penalties for companies that are environmental laggards compared to their peers; and the stronger will be the relative incentives for low-GHG activities and the relative rewards for companies that are environmental leaders. The more narrowly sectors are defined, the more these disincentives/incentives and penalties/rewards will be blunted.

To give a specific example, the thermal electricity sector (coal-, oil- and gas-fired electricity) could be given either a single emissions intensity target, or separate targets for each of the three fuels. A single target would create a strong incentive to switch fuels from coal and oil, which have high emissions intensities, to natural gas, which has a much lower emissions intensity. But if there were separate targets for each fuel (i.e., targets for coal and oil relatively less challenging than the single target, and a target for natural gas relatively more challenging than the single target), the fuel-switching incentive would be blunted and potentially removed altogether. It is worth noting that Ontario's emissions trading system for sulphur dioxide and nitrogen oxide emissions from the electricity sector treats coal- and gas-fired generators as a single sector.

The federal government might even be tempted to opt for the narrowest possible definition of sectors by treating each company as a distinct sector. In this case each company would be given a target of reducing its emissions intensity by some common percentage below the company's own projected business-as-usual level in 2010. This approach would almost completely eliminate any relative advantage for companies that are environmental leaders, since all companies would be required to reduce their intensity by the same amount, regardless of their differing starting points.

As discussed in Section 2.1.5, the incentives to restructure Canada's economy towards low-GHG activities need to be maximized if Canada is to meet successfully the challenge posed by the progressively tighter caps on our national emissions that we must expect over the next several decades. **CANet's position is therefore that the covenants system must define sectors broadly: at a minimum, all facilities producing the same product (e.g., electricity) should be defined as a single sector; in areas like chemicals, where there are numerous different products, sectors should be defined more broadly still.**

The treatment of new facilities raises the same issues. New facilities could be treated equivalently to existing facilities producing the same product, i.e., treated as part of the same sector, or alternatively given more challenging targets, i.e., treated as a distinct sector. The same arguments apply: treating new facilities as a distinct sector will blunt the incentive to replace old higher emissions intensity plants with modern lower emissions intensity plants. **CANet's position is therefore that the covenants system should treat existing facilities equivalently to new facilities.**

## 2.6.2 Equity among sectors

Once sectors have been defined, a target must be set for each sector. **CANet believes that the following four criteria must be taken into consideration when determining the strength of the financial penalty or relative financial reward created by a given sector's target:**

1. **sectoral emissions intensity**
2. **rate of sectoral emissions growth since 1990**
3. **effort made to limit emissions since 1990**
4. **the sector's competitive position relative to competitors in countries whose emissions are not restricted as a result of the Kyoto Protocol.**

Criterion #1 reflects the polluter pays principle. A sector with high GHG intensity, such as oil sands production, should be given a more challenging target than a sector with lower GHG intensity, such as natural gas production. If coal-fired and gas-fired electricity are defined as different sectors, the coal-fired sector should be given a more challenging target than the gas-fired sector. Application of the polluter pays principle thus reinforces the recommendation made in Section 2.5.1, that the targets for coal-fired and gas-fired facilities must be set at levels that create the incentives needed to ensure a maximal amount of substitution of coal by natural gas.

The *Climate Change Plan for Canada* states that "The Government will . . . work with industry to design a system that will not disadvantage those firms that have taken early action." Criterion #2 provides one element of recognition for early action by sectors that have been most successful in limiting their emissions. Paradoxically, the *Plan* strongly suggests a covenants system that sets targets of x% reductions in emissions intensity below the projected business-as-usual (BAU) sectoral emissions intensity levels in 2010. This approach has a built-in bias contrary to criterion #2 because it tends to favour sectors with a slow BAU decline in intensity up to 2010 and penalize sectors with a fast BAU decline in intensity up to 2010. To redress this bias, intensity targets should be made more stringent (higher value of x) for the former and relatively less stringent (lower value of x) for the latter. Criterion #2 dictates that intensity targets be adjusted to take account of each sector's rate of change of absolute emissions in addition to the rate of change of emissions intensity.

Criterion #2 does not fully address the issue of recognition for early action as some sectors may be rewarded by criterion #2 for emission reductions that occurred more or less fortuitously, without any particular effort focused on limiting GHG emissions. To assess the level of effort made, criterion #3 also needs to be taken into account. Criterion #3 should be measured in terms of a demonstrable financial disadvantage incurred from efforts to limit emissions. On the other hand, criterion #3 on its own does not fully address the issue of recognition for early action, which should include elements of both environmental performance and effort. Therefore both criteria #2 and #3 are necessary.

In a sector where companies representing only a small proportion of total emissions took significant early action, there will be no need to adjust the sectoral target if it is an emissions intensity target, because such companies will be automatically rewarded as a result of their intensity being significantly lower than the sector average. But in a sector where companies representing a larger proportion of total emissions took significant early action, thereby significantly lowering the whole sector's emissions intensity, the sectoral emissions intensity target will need to be adjusted upwards.

Criterion #4 recognizes that sectors under relatively high competitive stress are more sensitive to financial penalties created by the covenants system than sectors under lower competitive stress. More particularly, if the covenants system imposes sufficiently high costs on a sector under high competitive stress relative

to competitors in countries whose emissions are not restricted as a result of the Kyoto Protocol, this could potentially result in emissions simply being shifted to those countries.

It should be noted that the formulation of CANet's position at the beginning of this Section automatically takes into account the availability of low-cost emission reduction opportunities in a given sector due to the wording "strength of the financial penalty or relative financial reward." This formulation will result in targets representing relatively large emission reductions for a sector such as thermal electricity, which has abundant low-cost emission reduction opportunities (see Section 2.5.1), because the availability of those opportunities lessens the financial impact of a given target, compared to a sector with fewer such opportunities.

The four criteria outlined here could potentially be applied either through a relatively simple "top down" formula integrating straightforward quantitative representation of each criterion; or through a more complex "bottom up" process examining detailed real-world data for each sector. **Whichever of the two approaches is used, CANet believes that it is essential to include a "balancing mechanism" to scale the set of sectoral targets produced to ensure that they add up to 55 Mt of emission reductions over and above the more than 42 Mt of reductions that the *Climate Change Plan for Canada* allocates to large industrial emitters outside the covenants and emissions trading system (see Table 1 in Section 1.1 and Section 2.4).**

#### 2.6.2.1 The case of oil and gas

As noted in Section 2.4, in December 2002 Minister Dhaliwal made a commitment that "the Government will set the emissions intensity targets for the oil and gas sector at a level not more than 15 percent below projected business-as-usual levels for 2010." In other words, the federal government has already taken the unusual step of fixing a target for that particular sector alone.<sup>40</sup> It should be noted that 55 Mt is precisely 15% of the 359 Mt of projected business-as-usual emissions in 2010 from large industrial emitters<sup>41</sup> (see Section 1.1). Let us assume that "business as usual" is interpreted, in accordance with CANet's recommendation in Section 2.4, to mean including all the programs other than covenants affecting the oil and gas sector mentioned in the *Climate Change Plan for Canada*, assumed to achieve in full the reductions that the *Plan* allocates to those programs. If this assumption holds, then if all sectors were given the same 15% intensity reduction target agreed to for oil and gas, the targets would add up to precisely 55 Mt, over and above the emission reductions allocated in the *Plan* to large industry other than through the covenants system.

It was noted earlier in Section 2.6.2 that this approach to target setting violates criterion #2 because it favours sectors with a slow BAU decline in intensity up to 2010 and penalizes sectors with a fast BAU decline in intensity up to 2010. It further violates criterion #2 by failing to take account of the varying rate of change of absolute emissions from one sector to another. The upstream oil and gas sector (including pipelines) increased its emissions by 50% between 1990 and 2001 compared with 23% for industry as a whole,<sup>42</sup> suggesting that on the basis of criterion #2 alone, the oil and gas sector should have been given a significantly more stringent target than the 15% intensity reduction.

---

<sup>40</sup> Potentially, the covenants system could treat oil and gas as one or more than one sector in the sense of Section 2.6.1.

<sup>41</sup> This excludes the fugitive emissions that are considered too difficult to measure to be included in covenants.

<sup>42</sup> Environment Canada (2003), *op. cit.*

Judging by the *Climate Change Plan for Canada*'s definition of "fugitive emissions,"<sup>43</sup> it appears that the federal government may be intending to include leaks from natural gas pipelines in covenants. If this is the case, the 15% intensity reduction target for the oil and gas sector looks even more generous, as it is estimated that 7 Mt CO<sub>2</sub>e per year of such leaks can be eliminated at a marginal cost of less than \$10 per tonne.<sup>44</sup>

### 2.6.3 Exemptions from the covenants system

Large industrial emitters to be included in the covenants system (excluding sources of fugitive emissions considered too difficult to measure) represent 84% of total projected business-as-usual industrial emissions in 2010 (see Section 1.1). The federal government selected sectors for inclusion in the large industry emitters category<sup>45</sup> using thresholds for (i) GHG emissions for the average facility in a sector, and (ii) sectoral emissions intensity (calculated using a dollar measure of output); on this basis, some 700 companies are included in the category.<sup>46</sup> The government is currently considering whether to eliminate some of these by applying a further threshold for emissions from individual facilities.

**CANet takes the view that an 84% coverage of industrial emissions by the covenants system is acceptable.** By focusing on sectors with high GHG intensity and large average facility sizes, the government seems to have arrived at a manageable number of system participants while achieving an acceptable level of coverage of industrial emissions. **Nevertheless, CANet's position is that any further elimination of small facilities from the system must not significantly reduce coverage from this level.**

On the other hand, the *Climate Change Plan for Canada* appears to be rather unambitious with regard to achieving emission reductions in the very extensive industry sectors not included in the covenants system, allocating only 3 Mt of reductions to these sectors.<sup>47</sup> The policy measures proposed for achieving these modest reductions are limited to information and voluntary programs, and it is therefore questionable whether they will be able to secure even this small amount of reductions. **CANet calls on the federal government to strengthen the approach for achieving emission reductions from industry sectors not included in the covenants system.**

The *Plan* allocates 4 Mt of reductions to the fugitive emissions considered too difficult to measure to be included in the covenants system, suggesting that these reductions "could be achieved through information, demonstrations, regulations and guidelines." **CANet urges the federal government to work with the relevant provinces to put in place regulatory backstops to provide some certainty that these reductions will be delivered.**

<sup>43</sup> The *Plan* defines fugitive emissions as "mainly . . . the releasing or burning (flaring) of waste gases during oil and gas production and exploration, as well as from small leaks in natural gas equipment, lines and storage tanks."

<sup>44</sup> M.K. Jaccard and Associates (2002), *op. cit.*

<sup>45</sup> As stated in the *Climate Change Plan for Canada*, the sectors are, "thermal electricity generation (coal, oil and gas); oil and gas (upstream extraction, oil and gas pipelines, gas utilities, petroleum refining); mining (both metal and non-metal); pulp and paper production; chemical production (industrial inorganic chemicals, industrial organic chemicals and chemical fertilizers and fertilizer materials); iron and steel production; smelting and refining; cement and lime production; glass and glass container production."

<sup>46</sup> Natural Resources Canada (2003), personal communication.

<sup>47</sup> In Table 1 (Section 1.1), these 3 Mt appear as follows: 2 Mt from the difference between columns 2 and 3 in row 3, and 1 Mt from the difference between columns 2 and 3 in row 5. The remaining 4 Mt of difference between columns 2 and 3 in row 5 are reductions in fugitive emissions.

## 2.7 Use of international emissions trading mechanisms

The *Climate Change Plan for Canada* proposes to allow large industrial emitters unlimited access to emissions units from outside Canada, available through the three international emissions trading mechanisms of the Kyoto Protocol, as a means of meeting the targets set by covenants.

Environmental organizations have four long-standing concerns with the unlimited use of international emissions units:

- The more international emissions units Canada uses to comply with the Kyoto Protocol, the smaller the health and environmental co-benefits of GHG emission reductions in Canada. When GHG emissions are reduced in Canada through reduced fossil fuel combustion, there are accompanying reductions in the regional air pollutants that cause urban smog and acid rain. In a partial analysis of benefits to human health resulting from Canadian compliance with the Kyoto Protocol, a federal-provincial government study valued those benefits at \$320 to \$520 million per year, mainly as a result of reductions in the number of premature deaths in Canada from urban air pollution.<sup>48</sup>
- Many international emissions units are likely to be of questionable environmental value. “Hot air” units from Eastern Europe will reflect economic collapse in the former Soviet bloc rather than deliberate emission reductions. There is also now a risk that many Clean Development Mechanism credits will be granted for emission reductions in developing countries that would have occurred even in the absence of the Kyoto Protocol.<sup>49</sup>
- Canadian purchases of emissions units from the developing world serve to sustain the inequity between developed and developing nations in terms of per-capita use of scarce atmospheric capacity to absorb GHG emissions.
- As discussed in Section 2.1.5, the incentives to restructure Canada’s economy towards low-GHG activities need to be maximized if Canada is to meet successfully the challenge posed by the progressively tighter caps on our national emissions that we must expect over the next several decades. Purchases of international emissions units blunt those incentives and delay that restructuring.

The federal government has frequently stated that Canada will close the majority of its Kyoto gap through domestic emission reductions. **CANet member organizations will be vigilant in holding the federal government to this commitment. Beyond this, CANet member organizations will be holding government and companies accountable for the quality of any international emissions units they choose to buy** — especially in light of the loud complaints made by many industry associations during Canada’s public debate over ratification of the Kyoto Protocol about the use of Canadian money to buy foreign emissions units.

---

<sup>48</sup> Environmental and Health Impacts (EHI) Subgroup (2000), *The Environmental and Health Co-Benefits of Actions to Mitigate Climate Change*, report to the Analysis and Modelling Group, National Climate Change Process.

<sup>49</sup> See <http://www.cdmwatch.org>.

## 2.8 Timing issues

### 2.8.1 Date of implementation of the covenants and emissions trading system

According to the *Climate Change Plan for Canada*: “It is expected that the details of the [covenants and emissions trading] system will . . . be developed in the 2003–2004 period and implemented as soon as possible thereafter.” However, the meaning of “implemented” is not clear.

One option would be for the federal government simply to announce finalized rules, covenants and emissions targets in 2004, but with those targets only to enter into force during the Kyoto Protocol commitment period (2008–2012). This would provide companies with full, early certainty about what was expected of them during the commitment period, and far-sighted companies would be able to begin making use of the emissions trading market to prepare for future compliance. But there would be no assurance of any particular level of environmental performance or preparation for action prior to 2008.

An alternative option would be for the targets in covenants to enter into force in 2005, creating a fully functioning covenants and emissions trading system for three years prior to the Kyoto commitment period. In this scenario, covenants would set less demanding targets for 2005–2007 and more demanding targets for 2008–2012. This latter scenario is exactly what European Union (EU) member states have agreed to implement at the EU level.<sup>50</sup> The United Kingdom began operating its own fully functional domestic GHG emissions trading system as early as 2002.

**CANet’s position is that Canada’s covenants and emissions trading system should, like the EU system, begin full operation in 2005, with covenants setting less demanding targets for the 2005–2007 period than the targets that would apply to the period 2008–2012.**

There are four reasons for taking a decision now to begin full operation in 2005:

- to avoid the risk that covenant negotiations drag on inconclusively beyond 2004, perpetuating uncertainty for industry and for Canada’s overall GHG emissions performance
- to avoid the risk that many companies might fail to prepare adequately to identify emission reduction opportunities and to participate in preparatory emissions trading prior to 2008, creating risks of eleventh-hour panic and brinksmanship that could threaten the viability of a system that only began operating in 2008
- by obliging companies to prepare three years in advance, to give them more time to identify, and therefore likely increase the amount of, domestic emission reductions secured by the system relative to purchases of international emissions units
- to identify and eliminate the inevitable but unforeseeable poorly functioning aspects of the system before the Kyoto Protocol commitment period, rather than running the risk of such problems threatening Canada’s compliance with the protocol during 2008–2012.

**Since pre-2008 units would have no value for the federal government in complying with the Kyoto Protocol, CANet’s position is that banking of 2005–2007 emissions units into the 2008–2012 period would have to be disallowed or at least tightly limited to prevent a transfer of liability from industry to the government (i.e., to taxpayers).**

<sup>50</sup> See <http://europa.eu.int/comm/environment/climat/emission.htm>.

## 2.8.2 Covenants extending post-2012

The *Climate Change Plan for Canada* states that, “The Government recognizes concerns that there may be exceptional circumstances where the ten-year time frame from now to 2012 . . . is too short to allow for needed technology development and strategic capital turnover. The Government is prepared to discuss an approach whereby a pre-approved commitment of larger emissions reductions over the somewhat longer term could be accepted in lieu of reductions in the near term. Any approach of this nature would need to bear in mind the restoration rate [i.e., 30% penalty for overshooting a national target] for Governments under the Kyoto Protocol.”

What is proposed here is that a large industrial emitter should be excused part of its share of the 55 Mt of reductions from covenants during 2008-2012 in exchange for an agreement to catch up later on payment of a certain amount of “interest.” Putting it another way, such emitters would be allowed to “borrow emission reductions from the future” while the federal government is left to secure alternative reductions during 2008-2012 for Canada to be able to comply with the Kyoto Protocol.

Two main questions arise:

- Why should the government (i.e. taxpayers) accept liability for securing these alternative reductions during 2008-2012 rather than have that liability remain with the company concerned — especially if the company is sufficiently confident of achieving the reductions later that it is prepared to sign a covenant promising to do so? Why should the taxpayer rather than the company shoulder the borrowing of emissions, especially when there will be a large global market in emissions units easily capable of providing companies with flexibility to adjust the schedule of reductions in emissions from their own operations?
- Why should the government agree now to emissions targets for post-2012 (“larger emissions reductions over the somewhat longer term”) when Canada has, as yet, no idea what national emissions target we are going to be subject to under a second Kyoto Protocol commitment period? In other words, why should the government pre-allocate to a particular company a portion of Canada’s limited national supply of rights to emit before we even know how large that supply will be? A “larger emissions reduction over the somewhat longer term” could well turn out, once we arrive in that “longer term,” to be only a modest reduction by the standards of the day.

**In light of the foregoing considerations, CANet is strongly opposed to the setting of binding emissions targets for years later than 2012.**

## 2.8.3 Timing for offset credit creation

Two important questions of timing are also raised by the proposed offsets system (see Section 2.3):

- For which years will offset credits be granted in respect of emission reductions from eligible projects?
- What will be the earliest project start date (defined in some clear way) allowed for projects accepted for offset credit creation?

The use of offset credits granted for years prior to 2008 for compliance with targets set by covenants for 2008-2012 would represent a transfer of liability from industry to the government (i.e., to taxpayers), because pre-2008 units would have no value for the federal government in complying with the Kyoto Protocol. Similarly, a promise to grant offset credits for years post-2012, before Canada knows what national emissions target it will face under a second Kyoto Protocol commitment period, represents a pre-allocation of a portion of Canada’s limited national supply of post-2012 rights to emit before we even

know how large that supply will be. (In addition, as argued in Section 2.3.2, a crediting lifetime extending, for example, for as long as 2008–2017 risks generating many credits that do not correspond to genuine emission reductions.)

In light of these considerations, if Canada’s covenants and emissions trading system begins full operation prior to 2008, banking of offset credits granted in respect of emission reductions occurring prior to 2008 into the 2008–2012 period should be disallowed or at least tightly limited, in keeping with the recommendation at the end of Section 2.8.1. **For a system beginning full operation in 2008, CANet’s position is that the federal government should make binding commitments to grant offset credits only in respect of emission reductions occurring during the years 2008–2012**, even for projects that may start earlier than 2008. To create a sufficient incentive for desirable emission reduction projects extending beyond 2012, it may be appropriate for the government to make commitments to grant credits post-2012, but such commitments should be conditional on a review and possible revision of project baselines at the end of 2012.

With regard to the earliest start date for projects accepted for offset credit creation, the key requirement is to protect environmental integrity by ensuring that projects earning credits are “additional” (see Section 2.3.2), i.e., go beyond business-as-usual practices. A project starting before the rules for offset credit creation have been announced is very likely to be a “non-additional” project that was going to occur regardless of the possibility of creating credits. **CANet’s position is therefore that the earliest start date allowed for projects accepted for offset credit creation should be the date at which the federal government makes a definitive announcement of offset rules, but that such an announcement should be made soon so as to encourage a prompt start for desirable emission reduction activities.**

## 2.9 Other issues

### 2.9.1 Emissions permits

There are potentially two ways in which the covenants and emissions trading system could be operationalized; the *Climate Change Plan for Canada* is not entirely clear as to which one it favours. One way would be as a “target and offset” system, in which the only domestic emissions units issued would be offset credits. A company would comply with its covenant (or the backstop) by showing, for a given time period (probably one year), that the emissions from its facilities, minus its purchases of domestic offset credits and international emissions units, were equal to the target set by the covenant (or backstop).

Alternatively, the federal government could establish a “full” domestic emissions trading system in which the targets would be implemented by allocating to each participating company an amount of tradeable emissions permits equal to the target in that company’s covenant. A company would then comply with the system by surrendering (probably each year) total holdings of domestic permits, domestic offset credits and international emissions units equal to the emissions from its facilities.

The most obvious advantage of a full domestic emissions trading system is that it provides an incentive for companies to exceed, through reductions in emissions from their own facilities, the targets set by covenants, and a financial reward for companies that have outstanding GHG emissions performance within their sectors. This is because companies over-achieving the targets in their covenants would find themselves holding more emissions permits than their physical emissions; these permits could then be sold on the emissions trading market. **CANet’s position is therefore that the targets in covenants should be implemented by allocating amounts of emissions permits equal to the targets.**

For targets that are expressed in terms of emissions intensity, this will require a determination to be made of facilities' expected output *before* emissions permits can be issued (since emissions permits will be denominated in units of absolute emissions, equal to emissions intensity multiplied by output). To ensure a properly functioning market in domestic permits that provides in full the desirable incentive/reward referred to above, permits should probably be issued well in advance of the year *x* in respect of whose emissions they are issued. This will require a "true-up" at the end of year *x* to adjust for discrepancies between the expected levels of output used for issuing permits and actual output levels.

## 2.9.2 Emissions measurement, reporting and verification

As noted in Section 1.2, the federal government has committed to establish a system for mandatory measurement and reporting of GHG emissions from industrial facilities, starting with reporting of 2004 emissions. This will be an essential component of the covenants and emissions trading system, needed to determine companies' compliance with the system.

Ontario already has a regulation requiring industrial (and other) facilities to report their emissions of CO<sub>2</sub>, methane and nitrous oxide (the three most important GHGs covered by the Kyoto Protocol).<sup>51</sup> The government of Alberta intends to finalize a similar requirement in early 2004.<sup>52</sup> The previous government of Québec also stated in a discussion paper published in February 2003<sup>53</sup> its intention to regulate a mandatory GHG reporting system for large industrial emitters.

It is in the interest neither of industry nor the public for governments to implement mandatory GHG reporting programs that are mutually incompatible or that produce data that cannot be compared from one part of the country to another. **CANet therefore calls on provincial governments to participate in the elaboration of a single national mandatory GHG emissions measurement, reporting and verification system, rather than elaborate their own systems.**

**CANet's position is that the GHG emissions measurement, reporting and verification system should be administered by a federal government agency, and include a rigorous and transparent verification requirement.** The public credibility of, and public confidence in, data gathered under a system administered by an industry-led body or a body that is not directly accountable to the public will be low. It is essential that the covenants and emissions trading system be seen to be enforced on a foundation of credible, objective data.

CANet believes strongly that mandatory emissions reporting is much more than simply a technical component of a covenants and emissions trading system. It is sometimes argued that the lack of local environmental effects associated with GHGs<sup>54</sup> obviates the need to publish facility-level emissions data. This ignores the critical issue of responsibility for pollution: the public has a *right to know* the level of responsibility of individual facilities and companies that are major contributors to climate change, regardless of where the environmental impacts occur, and regardless of whether certain emissions sources happen to be covered by covenants. In addition, once this data is in the public domain, it can act as a powerful incentive for individual facilities and companies to improve their performance. It can also significantly enhance public education on climate change — a goal that all governments in Canada strongly subscribe to — because it fosters understanding of key GHG emission sources.

---

<sup>51</sup> See <http://www.ene.gov.on.ca/environet/onair/splash.htm>.

<sup>52</sup> See [http://www3.gov.ab.ca/env/air/emissions\\_inventory/GHG\\_emissions.html](http://www3.gov.ab.ca/env/air/emissions_inventory/GHG_emissions.html).

<sup>53</sup> Gouvernement du Québec (2003), *Contexte, enjeux et orientations sur la mise en oeuvre du Protocole de Kyoto au Québec*, p. 34, available at <http://www.menv.gouv.qc.ca/publications/ENV20030022.htm>.

<sup>54</sup> In reality, some important GHGs, e.g. methane, do have local environmental effects.

Maximum practicable disaggregation of the data will maximize its usefulness to the widest possible range of stakeholders and types of analysis. For facilities and companies whose targets are expressed in terms of emissions intensity, public access to output data is also essential to assess performance against those targets. The argument that emissions and/or output data are commercially sensitive and should be kept confidential is demonstrably bogus: the National Pollutant Release Inventory and some provincial programs already publish a wealth of (non-GHG) facility-level emissions data, something that is broadly accepted by industry; and many companies already voluntarily report GHG emissions and associated production data, in some cases at the facility level.<sup>55</sup> On the other hand, if data is not released publicly, stakeholders outside government are needlessly prevented from conducting analysis and proposing solutions that benefit from adequate prior information.

**CANet therefore takes the following positions regarding the federal government's system for GHG emissions reporting, starting with reporting of 2004 emissions:**

- **both facility- and company-level GHG emissions data for all large industrial emitters should be made publicly available through the Internet in a timely manner and in a transparent and easily searchable format**
- **all emissions data should be disaggregated to the maximum practicable extent, i.e., by facility, gas, type of emission source (combustion, process, fugitive, etc.) and with separate reporting of any biological sinks and geological CO<sub>2</sub> storage**
- **output data should be published in the same manner for facilities and companies whose targets are expressed in terms of emissions intensity**
- **the data should be accompanied by a clear statement of, or reference to, the methodology used to derive it**
- **the reporting system should also cover at a company level small facilities and fugitive emission sources that are not covered by covenants if the sum of such facilities and sources represents a significant fraction of a company's total emissions**
- **the federal government should also ensure public access to full identification of the emissions units (domestic permits and credits and international units) that companies surrender for purposes of compliance with the covenants and emissions trading system to allow public scrutiny of the quality of those units.**

### 2.9.3 Provincial covenants

Some provincial governments are actively developing, or have already signed, covenants setting GHG emissions targets for large industrial emitters. The government of Alberta has made clear, in its climate change plan<sup>56</sup> and climate change bill currently before the legislature,<sup>57</sup> its intention to negotiate "sectoral agreements" setting GHG emissions intensity targets consistent with the government's overall target of reducing the province's GHG emissions intensity by 50% below the 1990 level by 2020. In 2002, the previous government of Québec signed a framework covenant with the Aluminium Association of Canada and specific covenants with association member companies providing for GHG emissions targets up to the end of 2007 and setting initial interim targets. The Québec government also stated its intention to negotiate similar covenants with other industry sectors.<sup>58</sup>

<sup>55</sup> M. Bramley (2002a), *op. cit.*

<sup>56</sup> Government of Alberta (2002), *Albertans & Climate Change: Taking Action*, available at <http://www3.gov.ab.ca/env/climate/actionplan>.

<sup>57</sup> Bill 37, available at <http://www.assembly.ab.ca/pro/bills/ba-status.asp?SelectBill=037>.

<sup>58</sup> Gouvernement du Québec, *op. cit.*, p. 17.

CANet draws a clear distinction between the Alberta and Québec approaches. Alberta's sectoral agreements are intended to implement a GHG target that is incompatible with the Kyoto Protocol: Alberta's climate change plan foresees the province's emissions exceeding their 1990 level by 39% in 2010<sup>59</sup> — and there is a considerable risk that the exceedance could be greater still.<sup>60</sup> In pursuing GHG agreements with large industrial emitters that would conflict with those that the federal government is seeking to negotiate as part of its covenants and emissions trading system, the government of Alberta appears to be attempting to undermine the tough GHG targets that the federal government needs to set for Alberta's oil and gas (see Section 2.6.2.1) and coal-fired electricity (see Section 2.5.1) sectors. Québec's covenants, in contrast, do not try to anticipate GHG targets for the Kyoto Protocol commitment period (2008-2012). Instead, the previous provincial government constructively stated its "intention to play an active role in the design and implementation of the pan-Canadian [covenants and emissions trading] system" for 2008-2012.<sup>61</sup> In the context of the period prior to Canada's ratification of the protocol, in which governments were pursuing a voluntary approach to controlling industrial GHG emissions, Québec's covenants demonstrated leadership in this area.

As noted in Section 2.1.3, provinces have the ability to regulate industrial GHG emissions. However, only the federal government will be held responsible internationally for complying with the Kyoto Protocol, which means that provincial governments do not have a clear incentive to enforce the amounts of industrial GHG emission reductions needed to fulfil the *Climate Change Plan for Canada*. In addition, it is clearly not in the interest of industry to face conflicting, incompatible requirements regarding GHG emissions from two different governments. **CANet therefore takes the following position:**

- **there must be a single, national system that sets GHG targets for large industrial emitters, preferably starting in 2005 (see Section 2.8.1); and**
- **provincial governments should cease independent attempts to negotiate GHG covenants with large industrial emitters; but**
- **the federal government should allow provincial governments to play a meaningful role in the development of the national covenants and emissions trading system.**

#### 2.9.4 Just Transition for workers and communities

The Communications, Energy and Paperworkers Union<sup>62</sup> and the Canadian Labour Congress,<sup>63</sup> among others, have called on the federal government to institute a program of Just Transition for workers and communities negatively impacted by implementation of the *Climate Change Plan for Canada*. The *Plan's* policy measures addressing industrial GHG emissions are likely to be implicated in such impacts.

Federal Environment Minister Anderson made a commitment in the House of Commons in October 2002 that the federal government would work with unions "to identify how we can smoothly have a transition, and of course to identify appropriate methods of training for people who may be displaced, if that is the case, or who may be moving into new technologies."<sup>64</sup>

---

<sup>59</sup> Government of Alberta, *op. cit.*, p. 11.

<sup>60</sup> M. Bramley (2002b), *An Assessment of Alberta's Climate Change Action Plan*, Pembina Institute, p. 3–6, 14, available at [http://www.pembina.org/publications\\_item.asp?id=138](http://www.pembina.org/publications_item.asp?id=138).

<sup>61</sup> Gouvernement du Québec, *op. cit.*, p. 29.

<sup>62</sup> Communications, Energy and Paperworkers Union of Canada (2002), *National Energy Policy*, paragraphs 143–145, available at [http://www.cep.ca/policies/policy\\_917\\_e.pdf](http://www.cep.ca/policies/policy_917_e.pdf).

<sup>63</sup> Canadian Labour Congress (2002), *Canadian Labour Congress Critique of the Climate Change Plan for Canada*, p. 1.

<sup>64</sup> [http://www.parl.gc.ca/37/2/parlbus/chambus/house/debates/014\\_2002-10-24/han014\\_1600-E.htm](http://www.parl.gc.ca/37/2/parlbus/chambus/house/debates/014_2002-10-24/han014_1600-E.htm)

**CANet calls on the federal government to implement a Just Transition program for implementation of the Kyoto Protocol that would provide training and educational opportunities in the new jobs expected in low-GHG sectors; income support and supplements during the transition process; and relocation funds for those who must move to find new work.**

#### 2.9.5 Other air pollutants

Industrial sources of GHGs are simultaneously sources of a large number of other important air pollutants, in particular those responsible for urban smog and acid rain, but also toxic metals, persistent organic pollutants and other toxic substances. In many cases, reductions in GHG emissions will generate co-benefits in the form of reductions in these other pollutants. However, the use of emissions trading to comply with the GHG targets set by covenants creates the possibility of *increases* in emissions of both GHGs and other air pollutants at certain facilities.

Provided there are global GHG emission reductions, local increases in GHG emissions are of little environmental consequence, as the bulk of GHGs do not have local effects. However, local increases in other air pollutants would have important and in many cases unacceptable local or regional impacts. For this reason, despite the overall co-benefits of GHG emission reductions, restrictions on industrial GHG emissions cannot be a substitute for restrictions on other air pollutants. **CANet's position is therefore that governments must accompany the covenants and emissions trading system for GHGs with tough facility-level limits on all other air pollutants emitted by large industrial facilities.**