

JUNE 2002

Taking Effective Action on Climate Change:

Comments on Federal Government Options for Addressing
Climate Change

The Kyoto climate protection agreement can be implemented without significant impacts on the Canadian economy. The federal government must now ratify the Kyoto agreement and define options that are effective in achieving long-term emission reductions.

Chris Rolfe, Acting Executive Director
West Coast Environmental Law



EXECUTIVE SUMMARY

The climate is changing. And without concerted international action to reduce greenhouse gas emissions, climate change will accelerate through the next century. To avoid catastrophic climate change, global emission reductions of over 50% are needed. The Kyoto Protocol is the first, albeit small, step in that direction. It commits the globe's largest polluters to reduce their emissions of greenhouse gases.

Since the negotiation of the Protocol in 1997 Canadian governments and stakeholders have been debating whether the government should ratify the Protocol. This process culminated recently in the May 2002 federal government release of *Canada's Contribution to Addressing Climate Change* (the "Federal Options Paper"), a discussion paper that outlines 4 options for implementing the Kyoto Protocol, and reports the results of economic modelling of two of those options. The economic modelling was guided by the Analysis and Modelling Group ("AMG") – a group of representing all provinces, including Alberta, and the federal government. Despite alarmist predictions from large polluters and the government of Alberta, this balanced economic analysis showed that there are realistic ways of implementing the Kyoto Protocol that will benefit the Canadian economy, with all provinces and sectors growing at close to business as usual rates. The options identified were:

1. A system where Canadian emissions from fossil fuel combustion are capped, with permits to import or produce fossil fuels auctioned by the federal government or purchased from the international market by fossil fuel producers. This emissions trading system is combined with targeted measures that help reduce emissions at low cost (e.g. energy efficiency standards).
2. Reliance solely on targeted emission reduction measures.
3. A system of emissions trading that only applies to large polluters, combined with some targeted measures. Under this system, emission permits are provided to polluters at no cost, depending on the polluter's output.
4. As in Option 3, but Canadian emissions are allowed to increase by 70 million tonnes based on so-called "Clean Energy Export Credits". The basis for free allocation of permits and choosing targeted measures are also slightly different.

Subsequent to the release of the Federal Options Paper, the Alberta government released a proposal called *Albertans and Climate Change: a Plan for Action* (the "Alberta Plan"). The Alberta Plan rejects the Kyoto Protocol and instead proposes a program of negotiated agreements with industry, research, and government action to reduce emissions intensity by 2020.



This paper is a response to the Federal Options Paper and the Alberta Plan and makes a series of findings and recommendations in regard to how Canada should address climate change and implement the Kyoto Protocol.

REJECT THE ALBERTA PLAN

Findings:

- The Alberta Plan does not lead to real emission reductions
- The Alberta emissions trading system lacks a crucial element: limits on emissions.
- The Alberta Plan involves few real commitments and carries no weight.
- The Alberta Plan does not include measures that are likely to have significant impacts on emissions.

Recommendation:

1. Refuse to give further consideration to the Alberta Plan.

RATIFY NOW

Recommendation:

2. Ratify the Kyoto Protocol Immediately with further refinement of options after ratification.

PLAN FOR DEEPER REDUCTIONS IN THE LONG TERM

Findings:

- After the commitment period established by the Kyoto Protocol, Canada will likely need to achieve further emission reductions. Reductions of 50% are needed globally to avert the worst of climate change.
- To achieve these reductions the economy must redirect itself toward a less energy and materials intensive economy.
- Allocating emission permits based on output of emissions intensive products (as in Options 3 & 4) will be more expensive in achieving emission reductions, and will be less effective in shifting the economy toward long term emission reductions.
- Targeted measures are essential to redirecting investment into long-term climate solutions.

Recommendations:

3. Do not tie allocation of emission permits to production of carbon intensive goods;
4. Give special weight to measures that affect investments in long lived capital stock, e.g. measures to improve efficiency of new buildings, transportation infrastructure or urban form.

ACHIEVE REDUCTIONS IN CANADA.

Findings:

- Mechanisms for encouraging reductions in Canada can benefit the Canadian economy, the Canadian environment and global emission reductions effort.

Recommendation:

5. A surcharge should be placed on domestic firms choosing to use of international emission permits. The surcharge could be lower as the price of international permits increases.
6. Increase investments in targeted measures.

AUCTION PERMITS

Findings:

- Allocation based on current output (as in Option 3 and 4) is an expensive and environmentally problematic way of dealing with concerns regarding impacts on provincial economies or energy consuming businesses.
- Allocating permits for free with no increase in permit allocations if emitters produce more is less expensive and less environmentally problematic than allocation based on output, but raises equity concerns.
- Auctioning permits and using a portion of revenue to address equity concerns allows a more equitable allocation of responsibility among provinces, emitters, consumers and workers.
- Allocating permits based on current output tends to reduce costs to consumers in the United States while increasing costs to Canadians.
- Auctioning permits is consistent with the polluter pay principle.
- Auctioning permits and using revenue to reduce taxes reduces the costs of overall emission reductions.

General Recommendation:

7. Auction Emission Permits; if needed use portion of revenue to deal with equity and adjustment concerns.

Specific Recommendations:

8. If permit prices are significantly higher than expected such that it is likely to create significant inequities among provinces, a portion of revenue from auctioning permits could be dedicated to provinces with the highest emissions per capita.
9. The portion of auction revenue dedicated to redressing impacts on provinces should be tied to permit prices.
10. The remainder of revenue should be recycled through:
 - Investments in emission reductions;
 - Equal per capita payments to Canadian households,



- Payments to the Provinces, and/or
 - Reductions in federal taxes.
11. Provinces should be responsible for providing necessary adjustment programs to adversely impacted communities (e.g. coal mining communities) if permit prices are high enough to have significant impacts on communities.
 12. Otherwise, provinces should have freedom to use revenue for implementing emission reduction measures and/or making tax reductions.
 13. Unless a significant portion of revenue is distributed to Canadian households in equal payments, reductions in taxes should either include reductions in regressive taxes (e.g. payroll taxes or PST) or specific credits aimed at low income, especially low income rural, Canadians.

DROP INTERNATIONAL DEMANDS FOR CLEAN ENERGY EXPORT CREDITS.

Findings:

- Clean Energy Export Credits are inconsistent with the basic structure of the Kyoto Protocol.
- Clean Energy Export Credits increase global and Canadian emissions of greenhouse gases.
- Clean Energy Export Credits are not necessary for increased Canadian exports of clean energy.

Recommendation:

14. Canada should drop its demand for Clean Energy Export Credits.

CHOICE OF TARGETED MEASURES

Recommendation:

15. Targeted measures should be chosen on the basis of three factors: cost effectiveness, achievement of social and environmental goals, and effect on the emissions intensity of long-lived capital stock. Consideration should also be given to targeting specific greenhouse gases, namely methane.

BREADTH OF THE CAP AND OFFSET TRADING

Findings:

- Unless offsets represent emission reductions that would not have occurred otherwise offset trading could shift costs from large emitters to the general public and increase the potential for non-compliance with the Kyoto Protocol.
- A broad cap on emissions, applicable to all fossil fuel combustion emissions, lowers the risk of credit for non-additional emission reductions, and ensures a more equitable sharing of costs among sectors.
- A broad cap on emissions, applicable to all fossil fuel combustion emissions, helps ensure Canada will meet its Kyoto target.

Recommendations:

16. The emissions trading system should be broad as practical, applying to all carbon dioxide emissions from fossil fuel combustion, as well as other major industrial sources.

17. Offsets trading requirements should be designed with a view to ensuring that the total of offsets generated is equal to the additional emission reductions resulting from the credit trading system.
18. Offset generation should be restricted to sectors where it is possible to measure reductions and set baselines with reasonable accuracy, and where there are practical difficulties to including the sector within a cap.



INTRODUCTION

The climate is changing. And without concerted international action to reduce greenhouse gas emissions, climate change will accelerate through the next century. 110 Nobel laureates – the majority of Nobel laureates alive today– say climate change is the most critical issue facing humanity.

Already the impacts of climate change on the natural world and our economy are being felt. A succession of warm winters in BC have led to a devastating outbreak of Mountain Pine Beetle – hurting both forests and the economies dependant on them -- throughout central British Columbia. In the arctic, temperatures have increased by as much as 5° over the last century in some areas; and melting permafrost is changing the landscape, endangering communities as buildings sink into the mud. The temperature of the Fraser River at Hell's Gate has already increased by the equivalent of 2.2° from 1953 to 1998 putting a major stress on salmon.

Continuation of these trends is expected to have profound negative impacts throughout the world. Global Average temperatures are projected to increase by another 1.4 to 5.8° C over the next century. (In comparison the global temperatures have only risen 4-5° C since the last ice age, 10,000 years ago, when Vancouver was under a kilometre or more of ice). In BC, one federal government report states, "it may be unfeasible to prevent the extinction of some local salmon stocks in the Fraser River watershed." In the arctic, longer ice-free periods would make it difficult for the Hudson Bay polar bear population to hunt, and bear populations may become unable to store enough fat to survive. Should the Arctic Ocean become seasonally ice-free for a long period, polar bears may face extinction. In eastern Canada, Great Lake water levels are expected to drop.

To avoid these impacts, global reductions in emissions of over 50% are needed. The Kyoto Protocol is the first -- albeit small -- step in that direction. It commits the globe's largest polluters to reduce their emissions of greenhouse gases. Since 1997 Canadian governments, industry and environmental groups have been debating whether and how to ratify the Kyoto Protocol.

That process culminated recently in the May 2002 federal government release of *Canada's Contribution to Addressing Climate Change* (the "Federal Options Paper"), a discussion paper that outlines 4 options for implementing the Kyoto Protocol, and reports the results of economic modelling of two of those options. The economic modelling was guided by the Analysis and Modelling Group ("AMG") – a group of representing all provinces, including Alberta, and the federal government. Despite alarmist predictions from large polluters and the government of Alberta, this balanced economic analysis showed that there are

realistic ways of implementing the Kyoto Protocol that will benefit the Canadian economy, with all provinces and sectors growing at close to business as usual rates. The options identified were:

- **Option 1. Broad as Practical Emission Trading combined with some targeted emission reductions.** Under this option the government requires fossil fuel producers and importers to hold permits for every tonne of fossil carbon they produce or import. This effectively limits emissions of CO₂ and other greenhouse gases from fossil fuel production, capturing about 80% of Canada's GHG emissions. Permits are auctioned (otherwise fossil fuel producers would reap a windfall while fossil fuel consumers are responsible for reductions). Emitters can emit more if they purchase international emission permits. Under the federal proposal revenue from the auction is used to reduce income taxes. Economic modelling shows that this option has the greatest benefits to the Canadian economy, actually spurring economic growth. If, as most economists predict, emission permits cost \$10 per tonne the impacts of this option on Alberta and the oil and gas sectors are minimal – Alberta grows by 26.8% between 2000 and 2012, only 0.5% slower than under business as usual.
- **Option 2. Targeted Measures.** Option 2 in the federal discussion paper relies purely on targeted measures (e.g. regulations, incentives, education and government investment) to reach the Kyoto target. This option runs the risk that Canada will not meet its target if measures prove difficult to implement (or provinces do not cooperate in implementing measures) or if measures are less effective than expected. The government did not economically model this option but assumes that it would be the most expensive way of achieving Kyoto compliance.
- **Option 3. Mixed Approach – Large Final Emitter Domestic Emission Trading (Downstream Trading).** Like Option One, this option relies on a mix of emissions trading and targeted measures. Targeted measures are chosen on the basis of cost effectiveness in reducing greenhouse gas emissions. The core of this program is a government-established cap on total allowable emissions from large emitters during a defined reporting period (e.g. a year). Government gives free emission permits to these companies based on their production of emission intensive goods. In other words, if the firm's output of oil, gas, aluminium or concrete grows, so will its allocation of permits. At the end of the reporting period, each emitter has to hold permits equal to its emissions during that year. Those sources that expect to emit less than permitted by their allowances may sell their surplus allowances to other sources whose emissions would otherwise exceed the allowances allocated to them. Polluters can also buy international emission permits. Over time, the number of allowances in circulation can be reduced and thus total emissions are reduced. This option is identified as being more expensive than Option 1, but still only has minimal impact on the Canadian economy. At predicted prices for international emission permits, the Canadian economy grows by 30.4% as opposed to 31% under business as usual.
- **Option 4. Adjusted Mixed Approach.** This option is like option 3, but with several key changes. First, the permits issued to industry will reflect not only productions or output levels but also government's assessment of what reductions are cost effective in different industries. Second, firms are allowed to get "offsets" or "credits" for emission reductions that occur outside the capped sector and use these offsets for complying with their emission reduction requirements. Third, targeted measures are



chosen not only for their cost effectiveness but also the extent to which they achieve other economic, social and environmental goals. Finally, Canada's emission reduction target is adjusted upward by 70 million tonnes. This last change is based on Canada's claim for so-called "Clean Energy Export Credits".

Subsequent to the release of *Canada's Contribution to Addressing Climate Change*, the Alberta government released a proposal called *Albertans and Climate Change: a Plan for Action* (the "Alberta Paper"). The Alberta Plan rejects the Kyoto Protocol and instead proposes a program of negotiated agreements with industry, research, and government action to reduce emissions intensity by 2020.

This paper is a response to the Federal Options Paper and the Alberta Paper and makes a series of findings and recommendations in regard to how Canada should address climate change and implement the Kyoto Protocol.

DISCUSSION OF OPTIONS

REJECT THE ALBERTA PLAN

Findings:

- The Alberta Plan does not lead to real emission reductions
- The Alberta emissions trading system lacks a crucial element: limits on emissions.
- The Alberta Plan involves few real commitments and carries no weight.
- The Alberta Plan does not include measures that are likely to have significant impacts on emissions.

Recommendation:

- Refuse to give further consideration to the Alberta Plan.

Discussion:

The Alberta Plan is smoke screen intended to give the illusion of action on climate change. Among other severe problems with the Alberta Plan:

- The target rate of emissions intensity improvements will not achieve real emission reductions. Borrowing from the Bush Administration approach to climate change, Alberta aims at setting targets based on emissions intensity (emissions/GDP) rather than absolute emission reductions. Improvements in emissions intensity have been part of business as usual in the Canadian economy for decades and are a natural process as technologies improve. Unfortunately, improvements in emissions intensity in Canada have not reduced greenhouse gas emissions because they have been outpaced by economic growth. Alberta plan states an aim of reducing emissions intensity by 50% by 2020. The Alberta Plan does not include essential specifics such as whether this 50% reduction is from 1990 levels or from 2000 levels. If from 2000 levels it amounts to an intensity improvement of 2.15% per annum. If from 1990 levels it amounts to an intensity improvement of 1.36 % per annum. Unfortunately, the Canadian economy is projected to grow at a rate of 2.3% per annum. In other words, emissions would rise.
- The Alberta Plan's Claim of Reductions in Emissions is Misleading. The Alberta Plan states that it will achieve reductions in emissions "for Alberta based consumption". However, any claimed reduction is based on shifting responsibility for emissions onto



other jurisdictions that consume Alberta fossil fuels. Alberta does not take responsibility for emissions associated with its imports.

- The Alberta emissions trading system lacks a crucial element: limits on emissions. The Alberta Plan says it will “lead the development of an approach to emissions trading that reflects Alberta’s unique needs and circumstances....” Unfortunately, emission trading is simply a way of reducing the cost of achieving legally mandated emission limits. The Alberta Plan does not commit to this essential ingredient. Without legal limits on emissions, emissions trading is unlikely to have any significant impact on emission levels.
- The Alberta Plan involves few real commitments and carries no weight. What makes the Kyoto Protocol effective is the fact that it involves clear commitments to achieve measurable emission reductions, the commitment is binding in international law, and the timeframe for the commitment is relatively short. In contrast, the Alberta Plan is vague. Improvements are expressed as targets, not commitments, and the specifics needed to make them measurable are absent. It contains few specifics. It has no weight in law. Similar “action plans” with similar targets have gathered dust and remain honoured largely in the breach.¹ Finally, the fact that the Alberta Plan relies on a 20-year time frame means that today’s politicians can safely ignore it for a decade, and tomorrow’s politicians can pass it off as past history.
- The Alberta Plan does not include measures that are likely to have significant impacts on emissions. Since 1990 the Canadian approach to greenhouse gas emissions has been to rely on voluntary measures with industrial sectors. Part of this approach has involved negotiation of memoranda of understanding in which industrial sectors pledge to take certain actions. This approach has been a failure, as industries have had no incentive to agree to meaningful actions that were not already part of their business plan. The voluntary approach has failed because there has been no willingness to regulate in the absence of meaningful commitments. The Alberta Plan continues in this tradition of feel good agreements between industry and government. It calls for facilitation of negotiated agreements, but there is no reference to taking firm action if negotiated agreements bear no meaningful results.

TIMING OF RATIFICATION

Recommendation:

- **Ratify the Kyoto Protocol Immediately with further refinement of options after ratification**

With the completion of the current round of consultations, the time to hesitate is over. We know climate change is a threat to humanity. We know we can implement the Kyoto Protocol. We know it will have little impact on the economy. Ten years have lapsed since the world climate treaty was negotiated and Canada. This latest round of consultations follows a process that lasted from 1998 to 2000 in which 500 experts from all sectors

¹ For instance, the 1995 BC Greenhouse Gas Action Plan aimed at limiting emissions growth from 1990 to 2000 to four percent. Actual emissions increased by over 20%.

discussed the costs and options for reducing emissions. That in turn followed a 1993 to 1995 process in which numerous measures were identified (but not implemented) to reduce greenhouse gas emissions. Canada needs to step forward and join Japan and the European Union in ratifying the Kyoto Protocol. While further consideration to the detailed design of an emissions trading system is advisable, ratification can occur prior to final choices being made.

PLAN FOR DEEPER REDUCTIONS IN THE LONG TERM

Findings:

- **After the commitment period established by the Kyoto Protocol, Canada will likely need to achieve further emission reductions. Reductions of 50% are needed globally to avert the worst of climate change.**
- **To achieve these reductions the economy must redirect itself toward a less energy and materials intensive economy.**
- **Allocating emission permits based on output of emissions intensive products will be more expensive in achieving emission reduction, and will be less effective in shifting the economy toward long term emission reductions.**
- **Targeted measures are essential to redirecting investment into long-term climate solutions.**

Recommendations:

In order to achieve long-term emission reductions far below 1990 levels:

- **Do not tie allocation of emission permits to production of carbon intensive goods;**
- **Give special weight to measures that affect investments in long lived capital stock, e.g. measures to improve efficiency of new buildings, transportation infrastructure or urban form.**

Discussion:

The Kyoto Protocol is the first step to averting climate change. Measures to address climate change must recognize that global reductions of over 50% are needed in the longer term. Canada is likely to face deeper emission reduction targets starting in 2013.

To achieve these deep reductions the world economy will need to re-orient itself away from a global fossil fuel driven, materials intensive economy, towards either a more information and service-oriented economy. Indeed, most of the variance in future climate change scenarios relates to different scenarios for global economic development. Continued reliance on fossil fuels and materials intensive industries leads to high levels of climate change; a shift to less material intensive, more information based economies and local solutions to sustainability involve relatively low rates of climate change.²

² See Intergovernmental Panel on Climate Change "Technical Summary of the Working Group I Report" in Intergovernmental Panel on Climate Change *Climate Change 2000: the Scientific Basis* at



DET Allocation: Option 3 and 4 Allocation Method is More Expensive and Less Effective in Achieving Long Term Emission Reductions

Certain designs of emissions trading are more effective than others in encouraging this shift in economic development. If permits are auctioned or if they are provided gratis to emitters with no tie to current output, emitters have strong incentives to shift their investments from production of emissions intensive goods (e.g. tar sands oil, aluminium, cement) to less carbon intensive substitutes (e.g. ethanol or wood).

However, under Options 3 and 4 of the Federal Options Paper, emission permits are allocated based on annual production of carbon intensive or energy intensive goods (i.e. producers receive emission permits based on production times an emission factor). According to the federal paper, this accommodates growth. Unfortunately, it accommodates growth in industries that are the largest emitters of greenhouse gases.

Options 3 and 4 reduce incentives to shift production toward less energy alternatives. For example, assume that:

- (a) Producing a tonne of cement creates a tonne of CO₂ emissions,
- (b) Producers of cement receive 0.8 tonnes of allowable emissions for every tonne of cement they produce, and
- (c) A one tonne emission permit costs \$10.

The cement producer has a strong incentive to find ways of producing cement that involve lower emissions. Every tonne of emissions reduced in this way means a \$10 saving or \$10 profit. But the incentives to find low emission alternatives to cement are weak. For instance, developers only save \$2 per tonne by choosing substitutes for cement (e.g. wood) or choosing to retrofit an existing building and avoid the need for cement. Similarly, if oil producers receive 0.8 tonnes of emission rights for every 1000 litres of tar sands oil that they receive, they are essentially receiving a \$8 subsidy for producing a 1000 litres of tar sands oil. Producers of renewable energy receive no such subsidy.

These disparities discourage structural shifts to a less carbon intensive, and less materials intensive economy. And, those structural shifts are key to achieving deeper long-term reductions.

Reducing the incentives to substitute low carbon intensity goods with high carbon intensity goods also increases the cost of emission reductions. Low cost emission reductions that occur through substituting fossil fuel production with renewable energy production are less likely to occur. According to a recent report by the Pew Center on

pages 62-64. Projections for changes in global temperatures over the next 100 years vary widely -- from 1.4 to 5.8° C --- due to difficulty in predicting how the global economy will evolve. In a world where economies tend to grow and integrate and rely predominantly on fossil fuels, temperature increases of 4.5° C are expected. Shifts toward a less material intensive economy or an economy of local solutions to sustainability are likely to yield changes in the range of 1.7 to 2.5° C.

Global Climate Change, emission reduction costs are more than doubled when substitution amongst producers is constrained.³

Targetted Measures: Ensure Measures that Achieve Longer Term Emission Reductions

Targetted measures should include a mix of measures that achieve low cost immediate emission reductions and measures that may not be as cost effective in the short term, but will assist Canada in making deeper reductions in the long term. In particular, it is important to target measures that affect investments on long lived capital stock. Investments in long lived capital stock – e.g. transportation infrastructure, buildings and urban form affect emissions for decades and even centuries to come. Ensuring investments in low emission long lived capital stock (e.g. transit, ultra efficient buildings and compact mixed use urban developments) and avoiding investments in high emission long lived capital stock (e.g. highways, inefficient buildings and urban sprawl) avoids the very high cost of reversing high emission investments in the future. Choices of targeted measures should specially target investments that will impact on emissions over a very long term. Examples include rigorous energy efficiency standards for new buildings, investments in transit and measures to discourage urban sprawl.

ACHIEVE REDUCTIONS IN CANADA.

Findings:

- **Mechanisms for encouraging reductions in Canada can benefit the Canadian economy, the Canadian environment and global emission reductions effort.**

Recommendation:

- **A surcharge should be placed on domestic firms choosing to use of international emission permits. The surcharge could be lower as the price of international permits increases.**
- **Increase investments in targeted measures.**

Discussion:

Three of the four options outlined by the federal government rely heavily on the purchase of international greenhouse gas emission permits or 'clean energy export credits' rather than reductions in Canada. Reliance on international permits is a problem for the Canadian environment, Canadian economy and global emission efforts.

For the domestic environment, increased reliance on international permits means lower Canadian co-benefits in terms of improved air quality. The value of reduced premature mortality, reduced asthma attacks, reduced cardiovascular disease is a compelling reason for focussing on domestic emission reductions.

Beyond the economic benefits of improved air quality, the Canadian economy also benefits from increasing domestic investments in emission reductions and avoiding purchase of international permits. While this benefit needs to be weighed against the

³ Dale Jorgenson and Richard Goettle "The Role of substitution in understanding the costs of climate change policy" Pew Centre on Global Climate Change, September 2000, page 21.



benefits of access to international permits, there is no doubt that a modest incentive to invest in domestic reductions would benefit the Canadian economy even though it may increase individual emitters' compliance costs.

Finally, encouraging domestic emission reductions also helps the international efforts to curb greenhouse gas emissions. It avoids the risk that international credits may not represent real reductions or reductions that would not have occurred in any event. Focussing on domestic reductions also helps demonstrate to developing countries that industrialized nations like Canada are willing to curb their emissions. Such leadership is essential in order to encourage developing country acceptance of emission reduction targets.

Likely the simplest way on encouraging domestic emission reductions is to place a surcharge on domestic firms that use international emission permits. A surcharge could be structured so that it is inversely related to international permit prices, i.e. it could be relatively high if the price of international permits is low, and relatively low if international permit prices are higher. This encourages investment in low cost domestic action where they exist, while still allowing access to international permits if the costs of domestic reduction prove prohibitively high. It also provides industry with greater certainty as to prices. For instance the surcharge could be structured so that industry is assured that the price for permits will be at least ten dollars, while not increasing the risk that it will be over fifty dollars.

Increased investments in targeted measures can also increase made in Canada emission reductions. The emission reductions achieved by targeted measures varies between options. An increased focus on targeted measures in Option 1, 3, and 4 would help ensure domestic emission reductions, as well as helping put Canada on the road to deeper reductions in the long term.

AUCTION PERMITS

Findings:

- **Allocation based on current output (as in Option 3 and 4) is an expensive and environmentally problematic way of dealing with concerns regarding impacts on provincial economies or energy consuming businesses.**
- **Allocating permits for free with no increase in permit allocations if emitters produce more is less expensive and less environmentally problematic than allocation based on output, but raises equity concerns.**
- **Auctioning permits and using a portion of revenue to address equity concerns allows a more equitable allocation of responsibility among provinces, emitters, consumers and workers.**
- **Allocating permits based on current output tends to reduce costs to consumers in the United States while increasing costs to Canadians.**
- **Auctioning permits is consistent with the polluter pay principle.**

- **Auctioning permits and using revenue to reduce taxes reduces the costs of overall emission reductions.**

General Recommendation:

- **Auction Emission Permits; if needed use portion of revenue to deal with equity and adjustment concerns.**

Specific Recommendations:

- 19. If permit prices are significantly higher than expected such that it is likely to create significant inequities among provinces, a portion of revenue from auctioning permits could be dedicated to provinces with the highest emissions per capita.**
- 20. The portion of auction revenue dedicated to redressing impacts on provinces should be tied to permit prices.**
- 21. The remainder of revenue should be recycled through:**
 - **Investments in emission reductions;**
 - **Equal per capita payments to Canadian households,**
 - **Payments to the Provinces, and/or**
 - **Reductions in federal taxes.**
- **Provinces should be responsible for providing necessary adjustment programs to adversely impacted communities (e.g. coal mining communities) if permit prices are high enough to have significant impacts on communities.**
- **Otherwise, provinces should have freedom to use revenue for implementing emission reduction measures and/or making tax reductions.**
- **Unless a significant portion of revenue is distributed to Canadian households in equal payments, reductions in taxes should either include reductions in regressive taxes (e.g. payroll taxes or PST) or specific credits aimed at low income, especially low income rural, Canadians.**

Equity

The federal paper identifies two equity issues in relation to option 1:

- Although most provincial economies benefit from Option 1, the federal paper identifies the uneven impacts on different provincial economies as being problematic. Assuming a \$10 per tonne international permit price the Alberta economy (where the effects are largest) grows by 26.8% between 2000 and 2012, as opposed to business as usual growth of 27.3%. Assuming a \$50 per tonne international permit price, most provincial economies benefit, but growth in 3 provinces is marginally slower. In particular, the Alberta economy only grows by 23.6%.



- A six percent increase in electricity prices and two percent increase in natural gas and gasoline prices could be inequitable for low income Canadians, energy-consuming businesses and rural Canadians.

Option 3 and 4 use allocation based on output and emissions intensity, reducing impacts on energy prices. However, the allocation formulae in Options 3 and 4 tries to avoid exactly what an emissions trading system is supposed to do: increase prices for carbon intensive goods so that we shift to less carbon intensive alternatives. The allocation method in Options 3 and 4 will be more expensive in achieving emission reduction, and will be less effective in shifting the economy toward long-term emission reductions. See above at page 14.

Equity objectives can be better achieved through other mechanisms.

Equity among provinces.

The principle that no province should bear a disproportionate burden in implementing the Kyoto Protocol is reasonable and avoids federal – provincial or inter-provincial conflicts. However, the AMG projections of impacts on provinces do not raise obvious equity concerns. Given that the \$10 per tonne price scenario is much more likely⁴, it is questionable whether the marginal effects of Option 1 on the Alberta economy warrant any effort to address Alberta concerns. However, if permit prices are much higher than expected it may be reasonable to include mechanisms to redress effects on Alberta or other impacted economies.

Allocating a portion of auction revenue to provinces that have significantly higher than average emissions per capita is an effective way of redressing any regional inequities. The portion of auction revenue dedicated to redressing inequities should be higher if permit prices are higher. For example, if average permit prices are around ten dollars per tonne, AMG modelling suggests that there are no significant regional effects to compensate, and thus no need to recycle revenue to larger emitting provinces. But if permit prices are in the range of \$50 it might be reasonable to dedicate a portion of total revenue to high emitting provinces. The impacted provinces could then use that revenue to reduce taxes, assist affected companies with transition strategies, or fund economic diversification.

Equity for Low Income Earners and Rural Canadians

Once again, the projected impacts of Option 1 on low-income earners and rural Canadian are likely to prove marginal. However, impacts on low income and rural Canadians are a legitimate issue. There are several possibilities to alleviate effects on these individuals:

- Revenues from auction of permits could be recycled to reduce taxes that have larger impacts on poor Canadians. This includes payroll taxes, GST and PST, and income tax at the lower income thresholds.
- A portion of revenue from auctions could be recycled to Canadian households in the form of a lump sum payment. For instance, Resources for the Future in the United States has proposed auction of emission permits with 75% of revenue from the auction

⁴ This is acknowledged in the Federal Discussion Paper, see notes to Tables 1 to 5.

recycled to families as a lump sum. This has several advantages: it is very progressive, likely more than eliminating impacts on rural Canadians or low income Canadians; it is consistent with the democratic notion that our atmosphere is a public good, and money from selling rights to use it should be returned to all Canadians equally; and, the prospect of an annual Climate Benefits cheque is politically attractive. This approach has the disadvantage that not using revenue to reduce taxes loses some of the economic advantages associated with Option 1.

- Rural and low income Canadians could receive a specific tax benefit to compensate for changes in energy prices.

All of these measures should be considered as ways of addressing the marginal impacts on rural and low income Canadians.

Equity for Businesses

The projected two to six percent impact on energy prices is far less than price fluctuations for energy products that occur in the normal course of events. It is not clear why there is a need for to shield businesses from such a minor price differential. It is simply a case of normal regulatory risk. There is no compelling reason why businesses should be shielded from this, especially when the solution proposed (in Options 3 and 4) reduces the incentives to move to a low carbon economy and increases the cost of emission reductions for all Canadians.

An alternative way of reducing the impacts of energy price increases is to give permits to business in a “gratis lump sum allocation” (i.e. a free allocation not tied to current output levels). While this is better than the approach taken in Options 3 and 4, it is still problematic. Compensating through a free allocation of emission rights requires governments to determine which companies are likely to lose as a result of trading. However, it is often impossible to accurately project the costs emission limits will impose on different companies. Some large emitters may reap windfalls either because they have low cost reduction opportunities or because increased prices for their products may exceed any increases in their costs.⁵ Moreover, in some cases – e.g. coal mining – the companies facing the greatest costs will not be emitters. In order to obtain the greatest allocation all sectors are likely to plead the likelihood of hardship in the absence of a significant allocation. Thus it will prove exceedingly difficult for government to sort out competing pleas for special allocations.

Assuming (for the sake of argument) that there is a legitimate reason for compensating businesses for a minor increase in energy prices, it is better done through the use of permit auction revenue. This will allow compensation payments to be made as the costs to different sectors and individual companies become clearer. In particular compensation could be in the form of transition tax credits that assist firms in energy intensive sectors to shift to lower emissions technology or less carbon intensive businesses.

⁵ According to economic theory, the price of a product is set by the costs faced by the marginal producer. If all producers of a commodity such as gasoline initially have the same production costs, but different emission reduction costs, the producer with the most expensive emission reduction costs will determine the increment in price passed onto consumers. All other producers will benefit from this increase in price that exceeds their increased costs.



Equity for Communities

Using auction revenue to redress impacts is also clearly better than gratis allocation, because auction revenue can be used to address any impacts on vulnerable communities (e.g. coal mining towns) or workers. Workers or communities are just as likely to feel impacts under the auction scenario and the gratis lump sum scenario, but do not receive any assistance under the latter. It is recommended that Provinces be responsible for delivering any necessary adjustment programs for communities and workers.

Polluter Pay Principle vs. Canadian Subsidization of American Consumption

Auctioning of emission permits is also consistent with the Polluter Pay Principle. Under that principle the emissions associated with a product or activity are incorporated into prices. In contrast, the allocation systems used in Options 3 and 4 shifts responsibility away from those consuming emissions intensive products to society at large. As discussed, this makes emission reductions more expensive by not encouraging cost effective efforts to shift to a less emissions intensive consumption patterns. It also amounts to a subsidization of US energy consumption that increases costs to Canadian consumers.

For instance, under the proposed allocation method in Option 4 allocation is equal to:

physical output x benchmark emissions intensity per unit of production x an equal scale back factor common to all sectors.

The scale-back factor will be set so that the total number of permits is equal to the amount allocated to the DET system as a whole. This means that increased exports of emissions intensive goods will reduce the allocation of permits for emitters producing for Canadian consumption. This will tend to increase costs to Canadian consumers while reducing costs for American consumers. This subsidization will become more extreme as exports grow over time. In contrast, auctioning of permit ensures that Canadians benefit from permit allocation.

Double Dividend

Auctioning permits and using the revenue to reduce taxes creates a “double dividend” that benefits the Canadian economy as a whole. For instance, reducing payroll taxes should generally encourage job creation. This double dividend is one of the reasons that Option One has positive impacts on the Canadian economy.

DROP INTERNATIONAL DEMANDS FOR CLEAN ENERGY EXPORT CREDITS.

Findings:

- 22. Clean Energy Export Credits are inconsistent with the basic structure of the Kyoto Protocol.**
- 23. Clean Energy Export Credits increase global and Canadian emissions of greenhouse gases.**

24. Clean Energy Export Credits are not necessary for increased Canadian exports of clean energy.

Recommendations:

- **Canada should drop its demand for Clean Energy Export Credits.**

Discussion:

Option 4 includes Canada receiving 70 million tonnes of emissions rights from the international community based on its exports of so-called “clean energy”. Under the Canadian proposal, Canada gets greater emission rights based on our exports of hydro electricity and natural gas to the US. The federal government argues that these exports displace use of dirtier fuels in the US.

This approach is inconsistent with the general structure of the Kyoto Protocol. Under that structure, countries are responsible for their emissions. For instance, Germany does not get credit for reductions achieved in Canada by exports of German wind turbine technology. Japan does not get credit for exports of steel that displace Canadian steel with higher lifecycle emissions. Any alternative approach would be unworkable: it is extremely difficult to determine what energy sources are displaced by production in one country, and it is extremely difficult to calculate who is responsible for reductions from new technologies.

Nor do clean energy credits represent actual emission reductions here or in the US. Our exports of natural gas and electricity are not being used to reduce use of dirtier fuels in the US. Indeed, despite rising Canadian exports of natural gas, coal use in the US expected to expand by 20% over the next decade. Canadian exports are simply being used to meet the growing American appetite for cheap energy. They are allowing the US to avoid the need for improved energy efficiency. They are reducing energy prices in the US and making clean renewable energy less competitive.

Moreover, clean energy credits will not significantly affect Canadian exports of natural gas and hydro electricity to the US. If the Canada implements the Kyoto agreement without clean energy exports the Canadian oil and gas sector is still expected to grow by 24%. Credit for energy exports will not avoid higher emissions in the US.

Efforts to change Canada’s emission target under the guise of clean energy credits also damages Canada’s international reputation. Under the Marrakech Accord reached in November 2001, Canada received a major concession from the rest of the world when they agreed to rules that would allow Canada to count carbon dioxide scrubbed from the atmosphere by our growing forests as a credit toward meeting the Kyoto target. Canada, along with Japan and Russia received a special deal under that Accord, and was allowed to count virtually all the carbon removed from the atmosphere from our forests.

No further concessions are needed for Canada to make its international commitments. As noted above the AMG modelling shows that there are means of implementing the Kyoto Protocol that have marginal impacts on the Canadian economy, including overall benefits. At the expected permit price of \$10 per tonne, even the Alberta economy continues to grow rapidly under Kyoto, growing only a shade slower if Canada ratifies the Kyoto deal.



CHOICE OF TARGETTED MEASURES

Recommendation:

- 25. Special weighting should be given to the selection of targeted measures that achieve social and environmental goals and affect the emissions intensity of long lived capital stock.**

Option 4 provides that targeted measures should be selected based on their achievement of other social and environmental goals. This approach is strongly recommended. We also recommend that greater weighting be given to measures that affect the emissions intensity of long lived capital stock.

BREADTH OF THE CAP AND OFFSET TRADING

Findings:

- 26. Unless offsets represent emission reductions that would not have occurred otherwise offset trading could shift costs from large emitters to the general public and increase the potential for non-compliance with the Kyoto Protocol.**
- 27. A broad cap on emissions, applicable to all fossil fuel combustion emissions, lowers the risk of credit for non-additional emission reductions, and ensures a more equitable sharing of costs among sectors.**
- 28. A broad cap on emissions, applicable to all fossil fuel combustion emissions, helps ensure Canada will meet its Kyoto target.**

Recommendations:

- 29. The emissions trading system should be broad as practical, applying to all carbon dioxide emissions from fossil fuel combustion, as well as other major industrial sources.**
- 30. Offsets trading requirements should be designed with a view to ensuring that the total of offsets generated is equal to the additional emission reductions resulting from the credit trading system.**
- 31. Offset generation should be restricted to sectors where it is possible to measure reductions and set baselines with reasonable accuracy, and where there are practical difficulties to including the sector within a cap.**

Discussion

Under Option 4 participants in the emissions trading system are allowed to purchase "offsets" or "credits" representing emission reductions in sectors outside the trading system. Theoretically, this should allow emitters to take advantage of low cost emission reductions outside of the capped sector.

However, credit trading also involves significant risks. First, offsets could represent emission reductions that are purely theoretical – reductions from a counterfactual baseline that would not have occurred in the real world. West Coast Environmental Law's experience with emission reduction trading is that baselines are extremely difficult to set

in many cases, and the assumptions underlying them cannot be tested in the real world. The process for setting baselines is therefore often expensive and the reality of reductions often questionable. Suggestions that emission reduction measurements are accurate to within a specific percentage mask the fundamental uncertainty as to what would have occurred otherwise.

Secondly, offsets could represent emission reductions that would have occurred without offset trading. I.e. the offsets may not be additional to business as usual reductions that occur in any event and are already incorporated into Canada's emission forecast.

In either case, if emitters use the offset to meet their obligations within the capped sector, the uncapped sector bears an increased responsibility to achieve emission reductions. Essentially, credit for emission reductions that would have occurred anyway means that the user of the credit appropriates a portion of Canada's allowable emissions. Since industry is likely to be the primary user of offsets, the effect is to shift the cost of emission reductions onto government or the general public.

This risk of burden shifting is greatest if the capped sector is relatively small and the uncapped sector is relatively large. The larger the uncapped sector, the larger the supply of business as usual emission reductions. The narrower the capped sector the less demand there will be for offsets. Thus burden shifting is less of a concern if Option One were combined with offset trading, but more of a concern under Option Four.

Broadening the cap also makes the emissions trading system more equitable in that it imposes on all sectors of society some responsibility for reducing emissions. Nonetheless, government intervention will still be necessary to provide infrastructure that allows low emission practices (e.g. increased transit) and to cure market failures (e.g. retrofit programs or efficiency standards to avoid under-investment in energy efficiency).

Regardless of the breadth of the capped sector it is essential that any offset trading be designed to achieve emission reductions that are real and additional. US emitters and regulators have imposed additionality as a criterion for project acceptance. The additionality criterion can be implemented either through requiring projects to pass an additionality screening, or setting baselines that are stringent are try to balance credit for non-additional emission reductions and failure to credit additional emission reductions.

