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Kyoto and Emissions Trading: Challenges for the NAFTA Family

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INTRODUCTION

North Americans are facing serious challenges today in managing our common energy and environmental resources. With the Middle East and Afghanistan in the spotlight, public attention has been diverted from pressing domestic issues closer to home. These include energy supply and security, new technologies to deal with air emission issues, transmission constraints in moving electricity, pipelines for Alaskan gas to the lower 48 states, climate change, and the role of renewables to complement fossil fuels. The list is substantial and growing. Market forces and government priorities are driving North American integration. But we have some differences and caution flags. On climate change, we are currently headed down different and potentially conflicting courses. Canada currently is committed to ratifying the Kyoto Protocol, while Washington has rejected it. For our company, operating in both countries, these conflicting policy frameworks create economic risks and political dangers. Before policy options are finalized, we need to seek maximum levels of compatibility between the two systems for the benefit of both Canadian producers and U.S. consumers.

In approaching this challenge, we have to be mindful of history. While we are each other's best customers, we do not always nurture bilateral trade flows. In the Age of NAFTA and globalization, protectionism has found new forms. Canadian-American relations are unique, complex, and multilayered. Our economics are now so intertwined; domestic and foreign relations are very difficult to separate. Given the scale and the sensitivity of...
our relations, they require constant attention and nurturing. Today we cooperate on steel and autos\(^3\) while we fight on agriculture and forest products.\(^4\) Given the importance of energy flows and its links to climate change, we cannot afford to fight on Kyoto-related issues.

The North American Free Trade Agreement (NAFTA)\(^5\) was a very important step forward in promoting economic cooperation and prosperity. However, both our countries have entrenched domestic lobbies working to subvert NAFTA’s spirit and intent. Often we assume too much and we dialogue too little. While we have dispute settlement panels under NAFTA, they are not exempt from political override, especially by the stronger partner. Kyoto, unless adequately addressed, has the potential to trigger similar disputes and dislocations of product flows. On environmental issues, we have had both successes and failures. Acid rain took years to manage, and it is still an issue in the Great Lakes area. As our partnership evolves and matures, we must develop the political will and the institutional means to address irritants before they become structural problems. Quite simply, we need a NAFTA approach to climate change if continental energy cooperation is to proceed as all three countries wish.

**TRANSALTA AND NAFTA**

TransAlta is one of the new “NAFTA-style” companies operating in all three countries. Managing our environmental control costs is an important component to our competitiveness. We are currently spending over US$300 million to improve the emission controls on our thermal power plant at Centralia in Washington State. Some of our competitors in adjoining states face less rigorous emission requirements. In Alberta we face costly CO\(_2\) offset regulations for new thermal power plants from 2005.\(^6\) Jurisdictional differences between Canada and the United States and between U.S. states translate into cost differentials and competitive risks in a nonlevel playing field.\(^7\)


While our policy frameworks may be different, we need to maximize common features for compatibility. North American energy producers face tough competition from non-Kyoto OPEC oil or gas producers. Americans often forget the importance of Canadian suppliers to the American domestic market. Canada is one of the U.S.' largest import supplier of oil and its principal supplier of natural gas. The companies that mine the oil sands of northern Alberta hope to triple their output to 2 million barrels a day within the decade. But this and other investments are dependent upon corporations being able to manage their Kyoto and other production costs so they can continue to be competitive.

TransAlta's Approach to Climate Change

Over the past decade, our company has worked to develop its climate change plan as part of its wider business strategy. We accept that our countries are headed for a carbon-constrained future, whether our countries operate within or outside Kyoto. There are three components in our plan:

1. Managing the substantial financial and regulatory risks.
2. Through technology and offsets seek out cost effective greenhouse gas (GHG) solutions.
3. Develop new business opportunities related to carbon regimes and renewables.

We begin with continuous improvement and innovation with our existing generating plants and enhanced environmental management procedures to increase efficiency and lower emissions. We have also developed GHG offset projects (outside our own plants) to capture carbon or avoid its emissions into the atmosphere. We claim credits from these projects to offset the existing plant emissions. Such projects include landfill or coalmine


9 Suncor Energy, the world's largest producer of crude oil from oil sands, currently produces about 200,000 barrels per day. Recently, it announced a major capital investment in an attempt to more than double its current capacity. See Kevin Nabholz, Suncor Energy's Approach to Major Capital Projects, Remarks Before the Alberta Buyer-Seller Forum (Mar. 14, 2002) (transcript available at http://www.cme-mec.ca/ab/bsf2002/suncor.htm). It is likely that other companies will follow Suncor's lead.
methane capture, forest or agricultural soil sinks,\textsuperscript{10} and wind and other renewable energy projects. Some of these are at home in North America, while others are prospective Joint Implementation (JI)\textsuperscript{11} or Clean Development Mechanism (CDM) projects in Latin America, Africa, and Asia. We have also been active in GHG emissions credit trading, which is authorized to be a market mechanism under the Kyoto Protocol.\textsuperscript{12}

While the above are short- and medium-term actions, our long-term goal is fundamental technology change and capital stock renewal of existing plants. We propose to achieve this through the design, development, testing, and application of new coal combustion technology to capture and permanently sequester underground our thermal power plant emissions. The potential GHG and other emissions which are contained in our coal we propose to recycle back underground. The CO\textsubscript{2} is converted from a costly waste into an economic product capable of being sold to enhance oil production in mature oilfields. While we plan to test this new combustion technology during the first Kyoto commitment period (2008-2012), the application of this technology to our existing plants would be post-2012. We are virtually eliminating CO\textsubscript{2} emissions.\textsuperscript{13} While this new technology will be expensive to develop, coal as a fuel has very significant price advantages over the alternative fuel, which is natural gas. Also, we own several hundred years’ coal supply adjacent to our plants.

WHY EMISSIONS TRADING?

In the last decade, the most important addition to the environmental toolbox has been the development of market mechanisms to deliver environmental goals, including emissions trading and other market-based tools. Emissions trading seeks to create flexibility and least-cost options for corporate managers, while delivering real and measurable environmental goals for society. It is taking the lessons of market economics and financing and applying them to the environment. Emissions trading began over a

\textsuperscript{10} A “sink” is defined by the United Nations Framework Convention on Climate Change, May 9, 1992, art. I(8), 31 I.L.M. 849, 854 [hereinafter Convention], as “any process, activity or mechanism which removes a greenhouse gas, an aerosol or a precursor of a greenhouse gas from the atmosphere.”


\textsuperscript{12} Kyoto Protocol, supra note 1, art. 16 bis, 37 I.L.M. at 40.

decade ago with the U.S. Clear Air Act provisions for SO$_2$ and NO$_x$ trading.\textsuperscript{14} Through a cap-and-trade system, companies who have cut emissions below their targets will have credits that they can sell to those who have not yet met their targets. This creates a financial incentive to go beyond compliance. The results of this system showed greater emission cuts at lower costs than originally predicted. This created an important new “market mechanism” as an alternative to regulation and taxation.

The scientific foundation for GHG emission trading is as important as its economic basis. Emission trading is based upon the global nature of the GHG phenomenon in the atmosphere and the nature of carbon regimes. CO$_2$ is a long term phenomenon; on average, it remains in the atmosphere about one century.\textsuperscript{15} CO$_2$ is a product of human respiration and an essential food for plant life. It is not as toxic as some other emissions. The key issue is the CO$_2$ remaining in the atmosphere, not just the total emissions, as some of which are absorbed by natural systems (forestry, soils, oceans, etc.). So the basis of our calculations should be \textit{net} emissions, not \textit{gross} emissions. If a company is financing carbon capture projects, it should be allowed to credit those amounts (when verified) against its emissions. We are developing scientific verification procedures to measure and to document offset projects. Carbon regimes in the atmosphere are like a bank account with deposits (emissions) and withdrawals (offset projects). The net figure constitutes the contribution to global climate change.

Emissions trading seeks to find the least-cost verified credits from emission cuts or offset sources. This allows companies to manage their compliance costs and the timing of investments in new technology more efficiently. Credits may be currently cheaper than purchasing new technology, but given enough time, technology usually becomes the desired option. By lowering compliance costs for industry and for the economy, this helps to facilitate jobs, competitiveness, and capital stock renewal. This is a win/win situation that simultaneously meets the needs of business and the environment. It also brings the potential for new private-sector climate change investment and development projects to capital-starved areas of the developing world through credits created under the Kyoto CDM process. We are creating carbon as new international currency and as a second revenue stream for some climate-friendly projects. This is a whole new dimension of market capitalism that reflects the principles of sustainable development and the urgent need for environmental and ecological progress.

While trading remains essentially a private-sector activity, it still requires policy and infrastructure to function well and to gain public credibility. The

\textsuperscript{14} See, \textit{e.g.}, Clean Air Act, § 403(c), 42 U.S.C. 7651a(c) (West 2002).

\textsuperscript{15} See Fact Sheet: Common Sense on Climate Change, at http://www.ucusa.org/environment/solutions.html (last visited June 18, 2002).
product must be registered, verified, and have defined value for market players. The product must have scientific certainty. The credits need to be linked to national inventories and industry or government GHG targets. It must go through a series of steps: first, the credit is generated by or for the seller; second, the credit is registered and verified by a third party; then, the credit is offered for sale, and a buyer in need of a credit to meet an obligation bids into the market. The process is facilitated by brokers who make the trades for a fee. When the buyer has completed the transaction, the credit is registered to meet a voluntary or a regulated obligation. Britain and Denmark already have CO₂ emission trading regimes in operation, and many other countries, including Canada, are at a planning stage. The EU, which was initially very cautious about emissions trading, has now adopted this approach, given its economic and environmental advantages. The EU is also attempting to create an umbrella trading scheme to link the individual national regimes of its members. It is essential that we have consistency between these national initiatives if a proper international trading mechanism is to emerge. As an interim step, regional trading regimes will probably be created.

What do we need for emissions trading?

Figure 1.

The North American Scene

With the split over Kyoto, the greatest challenges in consistency and fungibility will be faced here in North America. At this point, it is assumed that Canada will ratify the Kyoto Protocol sometime in late 2002 or early in
2003. However, there may be some special features of Canadian ratification, given the opposition of some western provinces. I think it is also safe to assume the U.S. will not ratify Kyoto within the foreseeable future (before the second commitment period of 2013-17). The Bush Administration will focus on a domestic plan with links to NAFTA or the Americas. They may also develop bilateral climate change agreements elsewhere where it is in their interest. Mexico, the third NAFTA party, has already ratified Kyoto. However, Mexico has no emission reduction requirements, although it may adopt some voluntary targets.

It is clear that the three NAFTA members will be adopting differing approaches to climate change and GHG emissions. This scene presents serious challenges to government and business. The Bush Administration policy of North American energy integration will now be more difficult. It will increase emission-related costs of production for Canadian-based oil and gas companies and weaken their competitive position in the U.S. market with rival OPEC producers who have no Kyoto constraints. Given that Canada is one of the largest suppliers of oil and the principal supplier of natural gas, this change will weaken American energy security and increase dependence on OPEC and the Middle East. The full significance of the energy transfers from Canada in oil, gas, and electricity are large and growing. This is shown in the following maps:

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16 See Bueckert, supra note 1.
19 This is because Mexico is not an Annex I country, according to the list provided in the Protocol. See Kyoto Protocol, supra note 1, at Annex I.
Figure 2. International and Interprovincial Transfers of Energy (gigawatt-hours)

Source: NATIONAL ENERGY BOARD, ANNUAL REPORT 2001 TO PARLIAMENT 23 (2001).

Figure 3. Crude Oil and Equivalent Supply and Disposition (thousand cubic metres per day)

From Figures 2 and 3, you can see the growing role of Canadian energy in fueling the American economy. Canada exports south nearly 1.4 million barrels of oil per day\(^{20}\) which is worth CAN$15.6 billion over the year. We exported nearly 3,837 billion cubic feet of natural gas, worth CAN$26 billion in 2001.\(^{21}\) In electricity, we exported 38.4 terawatts, worth CAN$4.2 billion, mainly from hydro capacity in Quebec, Manitoba, and British Columbia.\(^{22}\) This volume was over 20% lower than the previous year due to drought and low water conditions. In 2001, the total oil, gas, and electricity exports were worth about CAN$46 billion.

**ENERGY AND INTERNATIONAL TRADE**

The Kyoto issue emerges at a time when trade relations within NAFTA exhibit significant tensions in other directions. In the forest products area, differing ownership and environmental regimes have contributed to the major softwood lumber disputes between the U.S. and Canada. Externally, the U.S. is already facing threats of trade action over its Kyoto stand from the EU Environmental Commissioner\(^{23}\). Some U.S. companies like Exxon have faced consumer boycotts over their policy on climate change.\(^{24}\) If the Kyoto Protocol comes into force following sufficient ratifications in 2002 or 2003, these pressures could increase, given the intensity of feeling in the EU on this issue. The WTO is not well equipped to handle the types of disputes where trade protectionism and environmental goals overlap. There is a strong belief in some EU offices that the U.S. rejected Kyoto to enhance its export competitiveness, and they are determined to make the U.S. pay for its environmental shortcomings.

A current irritant for Canada on Kyoto is that its energy exports are contributing to lower GHG emissions in the U.S., while Canada, under Kyoto, will have to accept the increased emissions from production and transportation. Canadian natural gas and hydro exports ease the need for coal-fired electricity generation. Canada has requested "Clean Energy Export Credits" for these transfers. The EU has formally rejected proposal as


\(^{21}\) The U.S. imported 106.29 billion m\(^3\) of natural gas in 2001, resulting in Canadian revenues of CAN$24.9 billion. See Natural Gas Exports by Term, at http://www.neb.gc.ca/stats/expgas/gas02.prn (July 2002).


a ploy to re-open the Kyoto agreement after Canada had already received generous concessions on offsets and sinks. In the U.S., there is no incentive for considering the Canadian proposal. Also, as long as the U.S. is outside Kyoto and Canada within, U.S. credits would have no recognition within the Kyoto regime. Ottawa is being pressed very strongly on this by Alberta and the petroleum industry.

The International Scene Today

Today, the EU is in the process of ratifying Kyoto, and will likely be followed by Russia and Japan. Kyoto will come into force when 55 countries representing 55% of the emissions of industrialized countries have ratified the Protocol. The U.S., with 25% of global emissions, is a huge gap in the global regime. Only Australia appears to be joining the U.S. position. At this time, Canada may not ratify, but the Prime Minister continues to emphasize intent to ratify. But the question is, how soon? Canada and Australia, with about 5% of total emissions, are not a significant in Kyoto coming into force.

Following ratification, the Kyoto nations face a very difficult challenge in devising the national implementation plans to meet the Kyoto targets. Privately, some European officials express their doubts, especially given current trends in transportation and thermal electricity. In a recent trip to Europe, I saw a huge increase in interest in international emissions trading as a means to cover emerging gaps in the progress towards Kyoto targets. While there is no consensus on structures and process, there is a general consensus on the need for such a system. Developing consistent rules between the different national systems is an urgent emerging issue. Also, both the EU countries and Canada are seeking to purchase a reserve pool of credits from Eastern Europe and Russia to help to ensure compliance. There will also be private sector links between Kyoto and U.S. emissions trading. American multinational companies producing GHGs in Europe will require Kyoto credits, and European companies producing in the U.S. will require

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25 Kyoto Protocol, supra note 26, art. 24(1).
26 For the purposes of the Protocol goals, the U.S. has a 36.1% share in GHG emissions. Kyoto Protocol: Total Carbon Dioxide Emissions of Annex I Parties in 1990, For the Purposes of Article 25 of the Kyoto Protocol, at http://unfccc.int/resource/kpco2.pdf [hereinafter Kyoto Targets].
28 Kyoto Targets, supra note 26.
U.S. credits. It is inevitable that the private sector will devise the means to trade credits between the Kyoto and the non-Kyoto world.

The North American Scene Today

Our company faces a number of challenges in operating in North America. Having rejected Kyoto, the U.S. will proceed to develop a domestic climate change program on a voluntary or regulated basis. The climate change program will be linked to the wider air emissions regulations involving SO₂, NOₓ and mercury. The Jeffords bill in the Senate Environment Committee calls for mandatory CO₂ cuts, while President Bush’s “Clear Skies” proposal is a voluntary program. Both proposals would regulate the other three pollutants, but with differing targets and schedules. The Bush CO₂ proposals are for cuts in emissions intensity, which would mean emissions would increase with economic growth but the emission rate per unit of production would decline. Both proposals allow for emissions trading under a cap-and-trade system. In this period leading up to the November elections, the debates in Congress will be intensely partisan and legislation is unlikely to be passed. The November elections may decide whether CO₂ is under voluntary to mandatory controls. At the state level, significant CO₂ action is emerging in a number of areas as seen on the enclosed map.

During 2002, Canada has experienced a vigorous public debate on Kyoto ratification and climate change policy. The Chrétien Liberal cabinet, while remaining committed to ratifying Kyoto, has faced increasing challenges from the western provinces led by Alberta, the home of Canada’s oil and gas industry. While the federal government has exclusive jurisdiction for foreign affairs, the provinces have jurisdiction over key areas like resources and land and are thus central to Kyoto’s implementation. After four years of talk, Canada is moving towards policy decisions. In a few weeks, the federal authorities will release their plan, which will be in a Kyoto context, while Alberta will launch an alternative non-Kyoto plan.

At this point, it is difficult to determine what the final product will be. However, certain themes will have to be addressed. Offsets, sinks, renewables, credits, and emissions trading will be included. There will be an important technology focus for thermal electricity and petroleum. There will

32 Id.
also be an attempt to build bridges between the Kyoto and the non-Kyoto policies across the Canada-U.S. border. Environmental considerations draw Canada towards Kyoto, while economics draws Canada away.

CONCLUSIONS

Canadian/American relations are unique, complex, and ever-shifting. They require more attention than either country currently gives. Canada has a built-in sensitivity about being slighted, while the U.S. with its super power status has more important areas for its foreign policy attention. The U.S. is essential to Canadian interests, accounting for 40% of the Canadian GDP and 85% of exports. While there is a growing U.S. dependence on Canadian oil, gas, and electricity, there is also the perception that Canada is not essential to U.S. needs. The divisions between Canada and the U.S. have widened since the election of President Bush, and Kyoto is just one of the reasons.

While Kyoto is usually perceived as an environmental issue, in reality it is more an economic consideration – the economic costs of production and competitiveness. Both countries are moving towards a carbon-constrained future, but along different paths. With all the debate about Kyoto, we have tended to ignore the potential for regional cooperation. Because carbon is so central to our fossil fuel-based economy, it is critical for North American business to achieve compatibility in climate policies so energy flows are not distorted. While the simplest solution would be for Canada to abandon Kyoto or the U.S. to join it, neither is likely to happen. So it is imperative to find common approaches wherever possible. Here are some suggestions:

1. Common policy and rules for CO₂ offset projects and sinks – where North America has a comparative advantage with our vast forests and agricultural lands.
2. Common rules and definitions for emissions credits and trading, building on the U.S. experience for SO₂ and NOₓ, with the goal of creating a NAFTA emissions trading system.
3. NAFTA agreement with countries in the developing world for climate change projects and credits creation.
4. Joint Climate Change Energy Technology cooperation to make North America the world leader in renewables, clean coal, and other areas.

Climate change is both a business risk and a business opportunity; let us work together to maximize the latter.