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ASLEEP AT THE WHEEL:
CANADA NEEDS AN OIL AND GAS POLICY

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ABSTRACT

While conventional oil and gas resources are depleting, Canada has been without an oil and gas policy for about 20 years. Arguments against such policies are weighed against the effectiveness of past energy policies of Canada and the United States. Without recommending a specific policy or proposing a plan, some high-level considerations for policy formulation are raised. The strategic position of Canada in the North American market, the economical importance of oil and gas exports, rising energy security concerns and the threat of climate change caused by carbon dioxide emissions should incite the Government of Canada to lead the way. However, regional political constraints may prevent formulation and implementation of a national policy at this time.

INTRODUCTION

The use of oil and gas, in amounts equal to any reasonable demand, has been essential to the attainment of a high quality of life in Canada. To this day, it continues to be indispensable to generate the wealth that enables Canadians to prosper. For almost a decade Canada has been the single-largest source of U.S. oil imports. In 2006, Canada exported 2.3 million barrels per day of crude oil and refined products to the United States.[1] Canada is the world's second-largest natural gas exporter after Russia.[2]

The road to prosperity does not run a straight course. Conventional oil and gas resources are depleting in Canada, and the production of conventional oil and gas is expected to decline.[3] With capital expenditures on the order of $100 billion projected

[1] United States. Department of Energy. Energy Information Administration. *Country Analysis Briefs, Canada*, April 2007. Available from http://www.eia.doe.gov/emeu/cabs/Canada/pdf.pdf; Internet; accessed 13 April 2007.
[2] North American Energy Working Group. *North America – The Energy Picture II*, January 2006. Available from http://www.pi.energy.gov/documents/NorthAmericaEnergyPictureII.pdf; Internet; accessed 6 March 2007, p. 31.
[3] Canada. Natural Resources Canada. *Canada's Energy Outlook: The Reference Case 2006*, Ottawa, Ontario: Natural Resources Canada, 2006, p. 35.

between now and 2015, oil sands will become the main source of crude oil.[4] The sector is becoming much more energy intensive due to this increasing production of unconventional sources. Energy consumption in the upstream oil and gas sector is expected to grow from 11 percent currently to 14 percent of Canada's primary energy consumption in 2020.[5]

The extraction of bitumen from oil sands consumes natural gas and produces large quantities of greenhouse gas emissions. This has given rise to conflicting views on how oil sands and northern gas development should proceed. Pressing forward is contrary to Canada's pursuit of environmental objectives. But the implications of reducing Canadian capacity to export oil and gas to the United States would be serious for the Canadian balance of payments and for the Canadian dollar.[6]

This is but one of many reasons why Canadian oil and gas policy remains in dispute. This situation is neither new nor unique to Canada. There are lessons to be learned from the past. Consider, for example, the four underlying problems identified in a U.S. study almost three decades ago (my paraphrasing):[7]

1. There is disagreement and even ignorance about some fundamental facts.
2. There is uncertainty about what results the most commonly suggested energy policies might produce.

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[4] Canada. National Energy Board. *Canada's Oil Sands: Opportunities and Challenges to 2015: An Update*. Energy Market Assessment June 2006. Calgary, Alberta: The Publications Office, National Energy Board.
[5] NEB. *Canada's Oil Sands: Opportunities and Challenges to 2015: An Update…*
[6] MacIntosh, Robert. *The Approaching Global Energy Crunch: And How Canada Should Meet It*. Commentary – C.D. Howe Institute, Sept. 2004, Issue 203, p. 1.
[7] Schurr, Sam H. (Project Director) *et al*, *Energy in America's Future: The Choice Before Us*. A Study by the Staff of the Resources for the Future (RFF) National Energy Strategies Project, Baltimore: Johns Hopkins University Press, 1979, p. 1.

3. It is painful to choose between short-term and long-term objectives. What is "best" for most people this year may make things very unpleasant in the future—and vice versa.
4. There is no clear national consensus on what the major long-term goals of the energy policy should be.

At this time, the first and fourth problems are particularly acute in Canada, owing in part to the absence of national debate about energy in general, and oil and gas in particular. This makes even the discussion of the other two problems (strategies and time horizon tradeoffs) very difficult.

In this paper it is argued that Canada needs and oil and gas policy. Although Canada has been without such a policy for about 20 years, it is a testament to Canada's exceptionally favourable geology and geography that this lack of policy has not prevented improvement to the prosperity as well as to the quality of Canadian living. However, both the strategic position of Canada in the North American market and the threat of climate change caused by carbon dioxide emissions from carbon fuel combustion should incite the Government of Canada to formulate a policy.

After preliminary policy definitions, the absence of an oil and gas policy is established through a review of Canadian energy politics, federal-provincial relationships and public opinion. Next, the need for Canada to have a policy is examined. Is this even relevant? Arguments against such policies are weighed against the effectiveness of past energy policies of Canada and the United States. Without recommending a specific policy or proposing a plan, some high-level considerations for policy formulation are raised: the first one concerns security and the second the environment. Political

constraints that may limit policy implementation by the Government of Canada are examined, followed by some conclusions.

DEFINITIONS

The word policy connotes the goals, courses of actions, and decisions pursued or adopted by government. Policy formulation must take into account the economic situation, dominant ideas, and the key interests of those affected by the policy. In the case of energy policy formulation, economic performance determines policy affordability; dominant ideas may include fear of shortages or environmental concerns; and key interests include the people, industry, provinces and territories, and Canada's main trading partner, the United States. Generally, Canadians expect sufficient supply at reasonable prices with minimum environmental impact. Industry opposes price controls and increases in taxation. Provinces and territories seek increased powers and the preservation of their constitutional rights. The United States wants to keep Canada as reliable and safe partner.

Policy implementation is ultimately about using power to change behaviour in a persistent way over long periods of time. It is subject to political constraints. In Canada these constraints include the electorate's opinion and, in the case of a minority government, the support of enough opposition members in the House of Commons. In the area of oil and gas, there is another constraint: the powers vested with the provinces and territories over natural resources by the Canadian Constitution. In order to be able to implement a national oil and gas policy, the Prime Minister and Cabinet require not just the consent of the people, but also that of concerned provinces and territories.

Official policy is policy publicly acknowledged and defended by government. A good historical example is the National Energy Program (NEP).[8] Originating from the electoral platform of the Trudeau Liberals, this policy was subsequently issued in a written statement, sanctioned and enforced.

Unofficial policy is informal, unrecognised, personal or unacknowledged. From outside of government, it can be difficult to discern between unofficial policy and absence of policy. Public opinion surveys may help in this regard: for instance, the support of Canadians for the establishment by their federal government of a policy would support the hypothesis that Canada does not have one.

PRESENT SITUATION

Does the Government of Canadian have a policy on oil and gas? If it does, it is not written down; otherwise it would be straightforward to find references to it in official documents or in speeches of the Prime Minister—which is not the case. Does this mean that Canada is without a policy? Answering in the affirmative requires an indirect proof. Indicators of an absence of policy include government withdrawal from political debate, erosion of powers because they are not being exercised and public demand for a policy.

To put the present Canadian energy context in perspective, it is helpful to draw some comparisons with the early 1980s. There are many similarities.[9] Canadian oil and gas resources are distributed in areas of the country that are less populated. There is tension between provinces that produce and export energy *vis-à-vis* those that import

[8] Canada. Department of Energy, Mines, and Resources, *The National Energy Program*, Ottawa, Ontario: Supply and Services Canada, October 1980.
[9] Gattinger, Monica. "From Government to Governance in the Energy Sector: The States of the Canada-U.S. Energy Relationship," *The American Review of Canadian Studies*. Vol. 35, No. 2 (Summer 2005): 321-352.

energy. The division of energy-related powers between the federal and provincial governments is complex and controversial. The ratios of population and energy consumption between the United States and Canada are still approximately 10 to 1 and energy policies of the United States and the rest of the world continue to influence the Canadian energy sector. Crude oil price recently increased to levels comparable to those of the late 1970s and early 1980s.[10]

The politics of energy, however, are now completely different from before. Back in 1979, the topic of energy was debated in public by political parties with clear positions. During the short stay in power of the Clark Conservatives, energy occupied a central place in many speeches and question periods of the House of Commons.[11] The ensuing 1980 election was dubbed the '18-cent election' because of a gas tax increase imposed by the Conservatives as an austerity measure. The Trudeau Liberals won this election on a platform that subsidised the consumer.[12] The same year, the Liberals issued in a written statement the NEP. In a 1981 speech to the Empire Club of Canada, Clark criticised the NEP for damaging the smaller Canadian drilling firms and fuelling western separatism.[13] In short, both Conservative and Liberal parties asserted their policies, and the federal government played an active role in the sector at the time.

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[10] The nominal price in U.S. dollars per barrel of imported crude oil went from $37 in 1981 through $12 in 1998 to $49 in 2005 or from $63 through $12 to $44 in real (2000) dollars adjusted for inflation. Source of data: United States Department of Energy. Energy Information Administration. *Annual Energy Review 2005*, Report No. DOE/EIA-0384(2005), Pittsburgh, PA: U.S. Government Printing Office, July 27, 2006, Table 5.21, p. 173.

[11] In the 1979's Commons Debates Index there are 125 entries under 'Energy Resources' and 18 under 'Energy Conservation.' See: Canada. House of Commons. *Commons Debates Index—1979*. 31st Parliament, 1st Session, October 9 to December 14, 1979.

[12] Trudeau: "Our position was clear and it is clear. We subsidized the consumer." Quoted in Canada. House of Commons. *Commons Debates*. 31st Parliament, 1st Session, October 9 to December 14, 1979, p. 35.

[13] Clark, Joe. "Canadian Federalism Today." The Empire Club of Canada Speeches 1980-1981. Toronto: The Empire Club Foundation, 1981, pp. 236-246.

The contrast with the current political debate (or lack thereof) is stark. Oil and gas *per se* are absent from official government priorities. This holds true for the original five key priorities laid out by the Harper Conservatives,[14] as well as for their latest four priorities.[15]

The absence of energy policy is evident in official speeches. For example, the last Speech from the Throne[16] made no mention at all of energy, natural gas or oil. Comparing it to past speeches unveils the extent to which energy has withdrawn from the political scene. From 1974 to 1983, under the governments of Prime Ministers Trudeau, Clark and Turner, energy matters were explicitly addressed (often at length) in each and every one of seven consecutive Speeches from the Throne. Then, from 1984 to 2001, under the governments of Prime Ministers Mulroney, Campbell and Chrétien, the words 'energy,' 'oil' and 'natural gas' were absent from ten consecutive speeches. For seventeen years, these words had become, so to speak, taboo. The 2002 Speech from the Throne to open the second session of the 37th Parliament marked the reappearance of the word 'gas' in the context of northern gas pipelines providing an economic opportunity for Aboriginal and Inuit people. The next speech, to open the third session, timidly mentioned that "the government will place increased emphasis… on opportunities to develop Canada's energy resources and be a leader in environmental stewardship."[17] The speech to open the 38th Parliament raised the question of energy in the context of

[14] The five priorities were: cleaning up government by passing the Federal Accountability Act; cutting the GST; cracking down on crime; increasing financial assistance for parents; and working with the provinces to establish a wait-time guarantee for patients. See: Conservative Party of Canada. "Harper Lays Out Five Key Priorities for Canada." http://www.conservative.ca/1091/37440/; Internet; accessed 2 April 2007.
[15] The four priorities are: accountability, security, environmental protection, and strong economic management. See: Canada. Office of the Prime Minister. "Priorities." http://www.pm.gc.ca/eng/feature.asp?featureID=5; Internet; accessed 2 April 2007.
[16] Canada. Parliament of Canada. "Speeches from the Throne." http://www.parl.gc.ca/information/about/process/info/throne/index.asp?Language=E&param=sp; Internet; accessed 2 April 2007.
[17] *Ibid*.

sustainable development. It took about twenty years after the rise to power of the Mulroney Conservatives for energy matters to openly resurface in Parliament.

In a country as rich in energy resources as Canada, trading in a world where energy and oil in particular are so important, it is hard to believe that the word 'oil' has not appeared in a Speech from the Throne since 1983. This cannot be a mere coincidence. This must be the result of deliberate avoidance of energy issues by both the Liberal and Conservative parties. This tradition continues under the Harper government. It is natural to wonder why government has chosen not to engage in a debate. Elements of a response are provided throughout this paper.

During this parliamentary silence, what happened to federal powers pertaining to energy? Are there any signs of erosion? Owing to the Canadian Constitution, key interests that stand to gain from any such erosion would be the provinces in general and Alberta in particular.

Canadians continue to be concerned about the prices they pay for gasoline and heating fuel. The Government of Canada controlled these prices from the 1970s to the early 1980s. It removed controls in 1985 and started relying upon competitive markets to determine prices. The Government of Canada now recognises that under the Canadian Constitution, it is the provinces that have authority to regulate retail fuel prices. Five out of ten provinces are presently regulating fuel prices, all using different formulas.[18] For instance, Quebec sets minimum prices based on a minimum retail margin. New Brunswick and Newfoundland and Labrador set maximum retail prices. Prince Edward

[18] Canada. Natural Resources Canada. "Why Canada Doesn't Regulate Crude Oil and Fuel Prices." http://fuelfocus.nrcan.gc.ca/fact_sheets/petprices_e.cfm; Internet; accessed 2 April 2007.

Island and Nova Scotia set both minimum and maximum prices. Over the last twenty years, pricing jurisdiction has thus shifted from the federal to the provincial level.

The Government of Alberta is using legislation to document its claims on natural resources. For example, the preamble of its 2003 Climate Change and Emissions Management Act reiterates that "the Government of Alberta owns natural resources in Alberta on behalf of all Albertans and manages the exploration, development and production of renewable and non-renewable resources in Alberta" and that "atmospheric carbon dioxide and methane are not toxic and are inextricably linked with the management of renewable and non-renewable natural resources…"[19] The act proceeds to lay out an Alberta-specific action plan to reduce specified gas emission, with its own targets. According to Professor of Law Lucas, the Government of Alberta is building a record of legislation in a bid to strengthen its position in potential litigation challenging the federal jurisdiction to legislate climate change plans. Further, "the province has threatened such litigation and formed a legal team headed by former Premier Lougheed who led Alberta's energy jurisdiction battle against the federal government in the late 1970s and early 1980s."[20]

Oil and gas make the media headlines usually in the context of sharp increases in gasoline pricing, changes to the inter-provincial equalisation formula, or greenhouse gas emissions in the oil sands. A few political analysts express concern over the weakness of the federal voice in energy matters. Brownsey complains of a 'vacuum' in Canadian energy policy; a vacuum that has been filled by industry associations, the energy

[19] Alberta. *Climate Change and Emissions Management Act*. Statuses of Alberta, Chapter C-16.7, Edmonton: Queen's Printer for Alberta, 2003.
[20] Lucas, Alastair R. "Canada's Role in the United States' Oil and Gas Supply Security: Oil Sands, Arctic Gas, NAFTA, and Canadian Kyoto Protocol Impacts." *Energy Law Journal*, Vol. 25, No. 2, 2004, pp. 403-429.

producing provinces and the United States, while the federal government has been left aside, unable or unwilling to formulate much beyond contradictory commitments to sustainability and the Kyoto accord while promising to sell more energy to the United States.[21] Sprott and Solunac warn that letting the markets manage our oil is naïve at best and disastrous at worst; that because oil is a limited non-renewable resource, for which there is currently no viable substitute, and on which civilisation is heavily reliant, to not have an energy policy can only lead to disaster.[22]

Some leaders of the private sector support greater government involvement. In a Compas survey, leaders of small, medium and large corporations were asked if "federal and provincial governments should get together to develop a common energy policy so that oil and gas companies can count on predictability from government when making their investment decisions."[23] The results were very supportive: 46 percent responded that such federal-provincial collaboration would be an 'excellent idea,' 37 percent a 'good idea,' whereas 1 percent rated the idea 'poor' and 2 percent 'bad.'

Feelings are similar in the gas sector. Cleland, the President and CEO of the Canadian Gas Association, has requested comprehensive federal involvement:

> It is time for Canada's policy makers to develop a comprehensive energy framework that ensures we continue to benefit from our energy resources in a sustainable fashion… First, an energy framework should put in place the regulatory conditions to get new supplies to consumers. Second, an energy framework should promote the use of the right fuels in the right place in future residential, commercial, industrial, power generation, and motor vehicle applications. Federal tax structures and technology programs have an important

[21] Brownsey, Keith, "Canadian Energy Policy: Supply, Sustainability, and a Policy Vacuum" Chapter 4 in *How Ottawa Spends 2006-07: In from the Cold – the Tory Rise and the Liberal Demise*, edited by G. Bruce Doern, Montreal, Quebec: McGill University Press, 2006.
[22] Sprott, Eric and Solunac, Sasha, "Energy Policy or Disaster," *National Post*, 2 November 2005.
[23] Compas. "Oil – Vital for Security and GNP But… Players Get Failing Grades." Poll of CEOs and leaders of small, medium and large corporations and among executives of the local and national Chambers of Commerce, conducted on behalf of BDO Dunwoody LLP and the Canadian Chamber of Commerce, from June 7 to June 10, 2005.

> role to play. Third, an energy framework should support development of long-term conservation and energy efficiency instruments that have substantial potential to reduce energy demand. The federal government has a critical role here… Finally, an energy framework can better inform Canadians about Canada's energy realities.[24]

A public call for greater federal involvement in energy would be another indicator of an absence of policy. But when prompted to choose one issue that the Government of Canada should focus on most, Canadians typically pick many other before natural resources and oil issues.[25]

Over a decade or so, Natural Resources Canada commissioned three waves of public opinion survey on natural resources issues.[26] Results confirm that "energy issues continue to be of low salience for most Canadians, as they have been for most of the past 20 years." Among energy specific issues, the public continues to be most concerned about the prices they pay (e.g., for gasoline, heating fuel) with 41 percent saying this is a major concern for them, and promoting conservation, with 84 percent agreeing with the statement that "the federal government should actively encourage energy conservation." This last view was widespread across the country and unchanged from 1997.

While Canadians do not see energy issues as a top-of-mind national priority, they do however support greater federal involvement. An Ipsos Reid survey asked Canadians if "Canada should establish an energy policy that provides reliable supplies of oil, gas, and electricity at stable prices and on protection of the environment, even if this means

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[24] Cleland, Michael, "Many Reasons for an Energy Framework," *The Hill Times*, Issue 840, June 5, 2006.
[25] GPC Public Affairs. "Government of Canada: Views, Attitudes and Priorities of Canadians." Poll of a representative sample of adult Canadians, conducted on behalf of the Privy Council Office, 2004.
[26] Decima Research Inc. "Canadians' Attitudes Towards Natural Resources Issues, 2002: Final Report." Poll of a representative sample of adult Canadians, conducted on behalf of Natural Resources Canada from February 25th to March 3rd, 2002, May 2002.

placing restrictions on exports and foreign ownership of Canadians supplies." [27] A large majority of Canadians (90 percent) agreed with the statement. Those most likely to agree were residents of Ontario (93 percent) and British Columbia (92 percent). Those least likely to agree were residents of Atlantic Canada (83 percent). Incidentally the portion of the question referring to restriction on exports runs against NAFTA and WTO intentions. Therefore Canadians are either ill-informed about their country's international trade obligations or see this as an issue that their government would need to sort out.

After reviewing Canadian energy politics, the balance of federal and provincial powers, and public opinion, the balance leans toward the Government of Canada not having an energy policy fitting our definition.

The fact that a large majority of Canadians would agree with the establishment of an energy policy does not mean that they would be better off with one or that the Government of Canada should necessarily act on the matter. In other words, the fact that Canadians want a policy does not mean that Canada needs one. Indeed the lack of federal intervention in energy matters over the last two decades does not seem to have hurt Canada's security and prosperity. In particular, the Canadian economy appears to have responded more smoothly to recent oil price increases than it did in the 1970s and early 1980s when government tightly controlled the energy sector. So why would Canada bother with a national energy policy in the first place? This question may be tackled by examining the strategic position of Canada in the area of energy, the usefulness of policies in general, and the consequences of past energy policies of Canada and the United States.

[27] Ipsos Reid. "Canadians' Views on Future Canada-US Relations: Canadians Support Policy Independence From US." Poll of randomly selected Canadians, conducted on behalf of the Council of Canadians and the Polaris Institute from March 23rd to March 25th, 2004, released on March 31st, 2004.

ON THE SITUATION OF CANADA

In 2006, Canada's total oil production (including all liquids) was 3.3 million barrels per day. Of this total oil production, Canada exported 2.3 million barrels per day to the United States. Canada's total consumption was an estimated 2.2 million barrels per day. To meet demand, Eastern Canada thus had to import around 1.2 million barrels per day of crude oil and refined products from abroad. [28]

Canada plays a relatively modest role on the world market. Its share of oil production is not large enough (4 percent) to significantly influence international crude oil prices.[29] This is why the price of a widely-traded light sweet crude oil produced in the United States, the 'West Texas Intermediate,' is used as the benchmark for Canada.

Similarly, Canada has little influence on the price of natural gas, which is driven in part by the price of crude oil and significantly by the integrated nature of the North American natural gas market. Thus prices in Canada are generally determined by the NYMEX natural gas price in the United States. Exports of natural gas to the United States are projected to fall from 3.3 trillion cubic feet in 2005 to 1.2 trillion cubic feet in 2030.[30]

Since the inclusion of oil sands, Canada's estimated oil reserves are often described as huge. Based on an assessment that extends to 2025, the estimated oil resources of Canada are 223.9 billion barrels, whereas those of the total world are 2,961.6 billion barrels.[31] These figures include remaining reserves (oil that has been discovered but not produced), reserve growth (increases in reserves resulting mainly from

[28] EIA. *Country Analysis Briefs: Canada*…
[29] NRCan. *Canada's Energy Outlook*..., p. 10.
[30] United States. Department of Energy. Energy Information Administration. *Annual Energy Outlook 2007*, p. 94.
[31] United States. Department of Energy. Energy Information Administration. *International Energy Outlook 2006*, p. 29.

technological factors that enhance recovery rate), and oil that remains to be found through exploration. Canada's share of oil reserves is not large enough (7.6 percent) to significantly influence global geopolitics. The Middle East, Central and South America, Africa and Russia have more estimated oil resources than Canada. The United States (180.4 billion barrels) and Mexico (84.3 billion barrels) have less. The Organization of Petroleum Exporting Countries (OPEC) (1697.8 billion barrels) is expected to be the dominant supplier of oil in the international market over the long term.[32]

In the oil and gas sector industry, Canadian companies are relatively small. EnCana is the most valuable listed Canadian oil and gas company, with a market capitalisation of 40 billion U.S. dollars. Its market value is less than one-tenth that of the most valuable listed company in the world: Exxon Mobil. At 435 billion U.S. dollars, the market capitalisation of Exxon Mobil might sound impressive. However, if oil companies are compared by how much they have left in the ground, this giant ranks a lowly fourteenth.[33] All 13 of the oil companies with larger reserves are national oil companies: partially or wholly state-owned firms through which governments retain the profits from oil production. The states owning these 13 giant national oil companies are Algeria, Brazil, China, Kuwait, India, Iran, Malaysia, Norway, Russia, Saudi Arabia and Venezuela.[34]

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[32] EIA. *Annual Energy Outlook 2007*, p. 215. OPEC countries are Algeria, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, Venezuela and since December 14, 2006, Angola.

[33] Special Report. "Oil's Dark Secret – National Oil Companies." *The Economist*, Vol. 380, Issue 8490 (Aug. 12, 2006) p. 67.

[34] In addition to these, Iraq, Mexico and Nigeria also control their oil companies. See: Canada. Department of National Defence Canada, *Strategic Assessment 2005*. Ottawa: Department of National Defence, Directorate of Strategic Analysis.

It is questionable whether Canada will ever be a major global player in the area of energy. There is no doubt, however, that Canada's oil plays and will continue to play an important role within North America.

Morales, a professor at Universidad de las Américas, Puebla, México, wrote an insightful analysis on the role of Canadian oil and gas in North America.[35] He observes that on the one hand the Conservative government has inherited from its predecessor a solid economic foundation for the country. On the other hand Canada's main trading partner, the United States, has become increasingly inclined to impede the flow of goods, services and people due to security concerns. The blessing for Canada, Morales points out, is that in the area of energy, economics and security have colluded to bolster the strategic position of Canada in North America.

The United States relies heavily on oil, coal and natural gas—especially oil. They consumed about 21 million barrels per day in 2005, or roughly 25 percent of the total world consumption.[36] Prevailing security concerns in the United States have prompted the Bush administration to pursue the development of unconventional energy resources domestically and to expand the sources and types of energy supplied externally. The administration is fully aware that over a period of time the world will transform to a new era in which oil is a major, but merely one, commodity in a diversified energy resource portfolio containing more unconventional and alternative sources. According to the U.S. Department of Energy, it is clear that energy markets are changing gradually in response to readily observable factors such as the higher energy prices since 2000. These changes

[35] Morales, Isidro, "The New Strategic Positioning of Canada within North America: The Energy Factor." Chapter 14 from *Canada Among Nations 2006: Minorities and Priorities*, eds. Andrew F. Cooper and Dane Rowlands, Montreal & Kingston, QC & ON: McGill-Queen's University Press, 2006, pp. 269-291.
[36] EIA. *Annual Energy Outlook 2007*, p. 167.

are carefully tracked and projected well into the future. For instance in its outlook to 2030, the department factors in:

> Increased consumption of biofuels (both ethanol and biodiesel), growth in coal-to-liquids (CTL) capacity and production, growing demand for unconventional transportation technology (such as flex-fuel, hybrid, and diesel vehicles), growth in nuclear power capacity and generation, and accelerated improvements in energy efficiency throughout the economy.[37]

It will be costly to shift to unconventional and alternative energy sources, and to update the transportation infrastructure. During the transition, the United States will remain addicted to oil. Oil is projected to provide roughly the same 40-percent share of the total United States primary energy supply in 2030 than it did in 2005.[38] In this context it is easy to understand why the major goal of the North American Energy Working Group (NAEWG) created in 2001 by Presidents Bush and Fox, and Prime Minister Chrétien, is to keep both Canada and Mexico as reliable and safe partners of the United States. The United States needs to import oil during the transition period.

In 2005, total gross petroleum imports (13.7 million barrels per day) accounted for 60 percent of total U.S. petroleum supply. The import share in 2030 is projected to increase to 66 percent (17.7 million barrels per day).[39] These imports are projected to come first from Canada and Mexico, followed by Non-Persian Gulf OPEC, Persian Gulf OPEC, the Caribbean, Europe, the Far East, and others.[40] Much of the Canadian contribution is expected to come from the development of its oil sands resource base.

What will happen after 2030? Given current levels of production and expected consumptions, the United States and Mexico are expected to deplete their respective

[37] EIA. *Annual Energy Outlook 2007*, p. 2.
[38] *Ibid.*, percentages calculated from the quantities in Table 1, p. 14.
[39] This figure is for a reference case oil price projection: the import share is 54 percent in a high price case and 72 percent in a low price case. Either way, U.S. gross petroleum imports will be enormous.
[40] EIA. *Annual Energy Outlook 2007*, p. 70.

proven reserves well before Canada.[41] Eventually unconventional crude production from Western Canada will become the main source to compensate for the depletion of conventional oil in North America. Then, as Canada's unconventional crude depletes and world prices increase, alternative sources like transformation of coal into liquids will become increasingly viable.[42]

By virtue of this strategic positioning in the North American energy market, it appears relevant to debate whether Canada needs a national energy policy. Some arguments against having a national oil and gas policy are now examined.

COUNTERARGUMENTS

Since the election of the Mulroney Conservative government in 1984, the subsequent negotiation of the Free Trade Agreement with the United States, and that of the 1985 Western Accord, the Government of Canada has avoided having a national energy policy. The argument put forward is that competitive markets subject to indirect regulation are more effective than direct government intervention in the energy sector. In other words, more ideas and actions by the Government of Canada would do more harm than good. Natural Resources Canada summarised well how this thinking arose:

> In the 1970s and early 1980s… there was a perceived need for active and direct government control through energy regulation. In the early 1980s, however, policy maxims about energy changed. Energy commodities were no longer considered "unique" or "special." Energy remained important, indeed essential, but as part of a greater economic picture – one that contributed to sustainable economic development and the well-being of society. The role of competitive markets was deemed more efficient than government intervention. Today, globalization, market reform, trade liberalization, and environmental safety and

[41] Morales, "The New Strategic Positioning of Canada…"
[42] The world's total recoverable reserves of coal are estimated at 1,001 billion tons. Of these reserves, 27 percent are located in the United States. See: EIA. *International Energy Outlook 2006*, p. 52.

sustainability drive energy regulations in Canada.[43]

Today's energy markets are indeed subject to extensive regulations and treaties, both direct and indirect, at the provincial, national, continental and international levels. The key federal elements are:[44]

- The National Energy Board and NEB Act
- Canadian Environmental Assessment Act
- NAFTA – Energy Chapter
- Agreement on Internal Trade – Energy Chapter
- Energy Supplies Emergency Act
- Energy Efficiency Regulations and Energy Efficiency Act
- Joint implementation acts for the Offshore Accords with Newfoundland and Nova Scotia[45]

Other relevant legislation includes the Canada Labour Code, Canada Oil and Gas Operations Act, Canada Petroleum Resources Act, Energy Administration Act, Mackenzie Valley Resource Management Act, Northern Pipeline Act, and Species at Risk Act. This is only a small sample of the complete framework. For example, the Government of Canada introduced approximately 150 individual energy programs between 2000 and 2004.[46]

During the past 20 years, the federal government has thus regulated the energy sector indirectly through horizontal governance. Doern and Gattinger have studied the

[43] Canada. Natural Resources Canada. *Energy in Canada 2000*. Ottawa, Ontario: Canada Communications Group, 2000, pp. 137-138.
[44] *Ibid.*, p. 139.
[45] The Department of Justice Canada provides online access to consolidated Acts and regulations of Canada. See: http://laws.justice.gc.ca; Internet; accessed 16 April 2007.
[46] NRCan. *Canada's Energy Outlook…,* p. 12.

changing nature of energy regulatory governance.[47] They note that the regulatory governance of energy in Canada has transformed from a system of uncomplicated sectoral regulators that were overseeing the activities of a small number of large industrial players, to a complex system of multiple sectoral and horizontal regulators that are regulating the activities of a large number of diverse energy companies, with environmental regulators and competition regulators being two of the key horizontal regulatory institutions. They write:

> [The] overall pattern of energy-environmental inter-regime regulation is not that of the replacement of command and control regulation with incentive-based regulation. Rather, the institutional pattern is one of regulatory stacking in which regulatory systems are layered on top of each other, but rarely in an orderly fashion.[48]

The challenge, for the Government of Canada, is to ensure that all these horizontal mechanisms are not conflicting or working against each other. For instance, the present stacking of regulatory systems does not provide overarching goals for the sector. Without such goals, prioritisation is at the mercy of competing and conflicting demands of the various regulatory systems, as happens presently between and within the branches of the Government of Canada. The Office of the Auditor General found in 2005 that Natural Resources Canada, to which the National Energy Board and the Northern Pipeline Agency report, and which plays a central role in the energy sector in general, "does not have a corporate strategic plan that addresses its legislative mandate and

[47] Doern, G. Bruce and Gattinger, Monica. *Power Switch: Energy Regulatory Governance in the Twenty-First Century*. Toronto, Ontario: University of Toronto Press, 2003.
[48] *Ibid.*, p. 175.

government priorities; is communicated to staff; and serves to align sector business plans."[49]

Are Canada's North American counterparts on the same road? Canada and Mexico are rivals in the American marketplace: they compete to export their oil to the United States.[50] Crude production is nationalised in Mexico and 'off-limits' to private investments. Retail fuel prices are regulated by the government. Hence the Mexican approach is just the opposite of the Canadian approach.

The United States, like Canada, relies extensively on private industry in a competitive market. However, President Bush and his administration have shown through their actions that setting overarching goals and plans in the energy sector is doable in a context of complex horizontal regulation.

In his second week in office, President Bush established the National Energy Policy Development Group, directing it to "develop a national energy policy designed to help the private sector, and, as necessary and appropriate, State and local governments, promote dependable, affordable, and environmentally sound production and distribution of energy for the future."[51] In 2001, this group published its findings and key recommendations.[52] President Bush gave numerous speeches on this initiative. His administration included energy in the 2002 U.S. National Security Strategy:

> We will strengthen our own energy security and the shared prosperity of the global economy by working with our allies, trading partners, and energy

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[49] Canada. Office of the Auditor General. *April 2005 Report*. Chapter 1: Natural Resources Canada—Governance and Strategic Management.
[50] Doern, G. Bruce and Gattinger, Monica, "Another 'NEP': The Bush Energy Plan and Canada's Political and Policy Responses." Chapter 4 from *Canada Among Nations 2002: A Fading Power*, eds. Norman Hillmer and Maureen Appel Molot, Don Mills, Ontario: Oxford University Press, 2002, pp. 74-96.
[51] United States. National Energy Policy Development Group. *National Energy Policy*. Washington, DC: U.S. Government Printing Office, May 2001.
[52] *Ibid.*

producers to expand the sources and types of global energy supplied…[53]

Subsequently, President Bush signed the National Energy Policy Act of 2005 into law.[54] This act, through its 551 pages, provides comprehensive guidance on a wide range of energy matters to all Americans. In spite of these initiatives some critics, like Senator Clinton, find that the Bush administration is not vigorous enough:

> Our present system of energy is weakening our national security, hurting our pocket book, violating our common values and threatening our children's future. Right now, instead of national security dictating our energy policy, our failed energy policy dictates our national security.[55]

Another argument against having an energy policy is that written policy statements are just wide-angle snapshots of the intentions of one government influenced by events and constraints at the time; therefore they can become instantly redundant as unanticipated developments unfold.[56] Is the lengthy crafting and writing process really useful? Should the government do policy piece by piece rather than developing broad-based statements? These questions are particularly relevant in the energy sector, which is both complex and volatile. Can energy policies be conceptually sound or should they be essentially pragmatic? Would the government be better off developing policy elements 'in real time' and communicating them through quick means such as official speeches?

The oil sector is particularly volatile and this volatility has challenged governments in the past. The Trudeau government officially altered the NEP four times following its introduction in October of 1980: first in May of 1981 after offering to pay

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[53] United States. *The National Security Strategy of the United States of America.* Heading VI. United States: The White House, September 2002.
[54] United States. *Energy Policy Act of 2005.* Public Law 109-58, 109th Congress, Aug. 8, 2005.
[55] Clinton, Hillary. *Remarks of Senator Hillary Rodham Clinton At The National Press Club On Energy Policy.* May 23, 2006. Available from http://www.senate.gov/~clinton/news/statements/detail.cfm?id=255982; Internet; accessed 4 April 2007.
[56] Malone makes this argument about Canadian foreign policy statements. See: Malone, David, "Foreign Policy Reviews Reconsidered," *International Journal,* Vol. 56, No. 4 (Fall 2001), pp. 555-578.

some of the exploration costs of projects it was backing; a second time in September of 1981 after agreeing with Alberta to raise the price of 'old oil' more rapidly and allow the price of 'new oil' to equal world prices; a third time in 1982 (the NEP Update) to improve benefits to industry and to introduce a new pricing system; and a fourth time in June of 1983 after agreeing with Alberta to raise the proportion of domestic production eligible for world prices.[57] Therefore in a period of less than two years the government adjusted the policy four times. After that many adjustments in such a short time period, it is fair to ask if anything of the original policy would have been successful.

The federal government had little choice but to frequently readjust the NEP in response to the vociferous reaction of Alberta, the United States and industry. However a greater problems was that at the same time world oil prices were nose diving, and with them the *raison d'être* of the NEP.

Table 1 shows the consequence of world oil prices volatility on the projected federal share of oil and gas revenues. From $8 billion per year when the NEP was announced, the projected federal share climbed in September of 1981 to $10 billion per

Table 1 – Projected Federal Share of Oil and Gas Revenues

Projection Date	Forecast Period	Projected Federal Share ($ billion)	Average ($ billion/year)
October 1980 (NEP)	1980-1983	24	8
September 1981	1981-1986	61	10
1982 (NEP Update)	1981-1986	36	6
1984 Budget	1982-1988	20	3.3

Source: Data from the National Energy Program, the National Energy Program Update and the 1984 Federal Budget.

[57] Jenkins, Barbara, "Reexamining the "Obsolescing Bargain": A Study of Canada's National Energy Program," *International Organization*, Vol. 40, No. 1 (Winter 1986), pp. 139-165.

year, then fell to $6 billion per year at the time of publication of the NEP Update (1982) and further dropped to $3.3 billion per year by the time of the 1984 Budget. In less than three years, unforeseen by the government, the context had changed from global scarcity to abundance of crude oil, removing in the process one of the underpinnings of the NEP.

The Government of Canada is still struggling with the high volatility of oil and gas prices. For example, in May of 2004, the National Energy Board released an energy market assessment that contained detailed discussions on the oil sands industry and assessed the opportunities and challenges facing the development of this resource base.[58] Soon afterwards the conditions surrounding oil sands development changed significantly, and the Board had to release two years later an update to their assessment.[59] The changes were not trivial. By virtue of the higher world oil prices, the 'announced' investments in the oil sands to 2015 had doubled (from $60 billion to $125 billion), and the estimated 2015 production had increased from 2.2 to 3.0 million barrels per day.

To summarise, Canada has apparently done well without an oil and gas policy for about 20 years, despite its North American counterparts having such policies. Also, the volatility of international oil and gas prices makes it hard for any government to predict the economic cost and results of commonly suggested policies. Comprehensive policy statements tend to rapidly be overtaken by events and require frequent adjustments. These arguments against policies are counterbalanced by evidence that past energy policies have nevertheless been successful and useful.

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[58] Canada. National Energy Board. *Canada's Oil Sands: Opportunities and Challenges to 2015*, Calgary, Alberta: National Energy Board, May 2004.
[59] NEB. *Canada's Oil Sands: Opportunities and Challenges to 2015: An Update…*

PAST POLICIES AND THEIR EFFECTIVENESS

Despite the arguments discussed in the previous section (that competitive markets are more effective than direct government intervention in the sector, and that context volatility makes policy statements unsustainable), there is historical evidence that energy policies can achieve their goals and change behaviours. Looking back, we now review past energy policies of Canada and the United States and assess how effective they have been.

The NEP introduced by the Liberals of Prime Minister Trudeau in 1980 has become part of Canada's historical and political legacy. Therefore some exposure to its main components is necessary to understand today's Canadian energy politics. Energy policies are usually complex and the NEP was no exception.[60]

In the preamble to the NEP document, Minister Lalonde wrote that federal action is guided by three 'principles' (my paraphrasing):

- to foster energy security through self-sufficiency;
- to generate increased opportunities for Canadians to participate in the energy sector and the petroleum industry in particular; and
- to promote fair petroleum pricing and revenue-sharing among all Canadians.[61]

To promote fair pricing, the program created a new 'blended price' for conventional oil at the well head. The domestic price ($16.75 per barrel) was at the time well bellow world prices ($38 per barrel). This blended price was scheduled to increase gradually until 1990, subject to a guarantee that it would never exceed 85 percent of the

[60] This description of the NEP draws on two works by Doern and Toner: Doern, G. Bruce and Toner, Glen. *The Politics of Energy: The Development and Implementation of the NEP*. Toronto: Methuen, 1985; and Doern, G. Bruce and Toner, Glen, "Energy Budgets and Canadian Oil and Gas Interests." Chapter 3 in *How Ottawa Spends 1985: Sharing the Pie*, edited by Allan M. Maslove, Toronto, Ontario: Methuen Publications, 1985.

[61] DEMR. *The National Energy Program*…

international price. The difference between the price of imported oil and the blended price was subsidised by the government.

The Liberals rejected the single world price plus a windfall profits tax (like in the United States and the ill-fated Clark Conservatives budget). One reason for rejecting a tax approach was to avoid international law prohibiting using the tax system to discriminate in favour of Canadian-owned firms. The Liberals would use grants instead.

The Petroleum Incentive Payments (PIP grants) were grants for industry, based on their degree of Canadian ownership. These incentives aimed to accelerate exploration and development of new oil and gas resources, especially on the Canada Lands, and especially by Canadian firms. The percentage of Canadian ownership (greater than 75, between 50 and 75, and less than 50) determined the portion of the exploration and development costs eligible for reimbursement through PIP grants.

The Petroleum and Gas Revenue Tax (PGRT) was the federal government's new way to grab its revenues with certainty. It was seen by the producing provinces as an affront to their ownership rights to the oil and gas resources. Industry hated it because it was not profit-based but a front-end tax.

To foster energy self-sufficiency, the program incited exploration by establishing the Canada Lands regulatory regime. The Canada Lands included for example the Canadian coastal waters, Yukon, the North-West Territories and the Canadian Arctic archipelago. The Canada Oil and Gas Lands Administration (COGLA) forced exploration in the Canada Lands within five years or less, with minimum numbers of wells to be drilled. PIP grants were used to subsidise exploration by Canadian firms. All Canada Lands development activity needed a minimum of 50 percent Canadian

participation before going ahead. Perhaps the most controversial measure of the NEP was a 25 percent retroactive Crown interest in any oil and gas discovered in the Canada Lands. This was perceived by foreign-owned industry, the U.S. Government and the Conservative opposition as an unfair confiscation of property—without payment of fair market value. The United States repeated threats of unilateral retaliation from the mid-1981 to early 1982, but found that it "could take no retaliation against Canada without jeopardizing its own interests."[62]

The program set objectives towards a Canadian industry: a Canadian participation of at least 50 percent in oil and gas production by 1990; a Canadian control in a significant number of the largest oil and gas companies; and a larger share of the oil and gas sector belonging to the Government of Canada. No specific target was set for government ownership of the overall sector, reinforcing the view that the policy goal was Canadianisation, not nationalisation.

Doern and Toner derived a number of 'unofficial NEP goals': the restructuring of political power between Ottawa and both the industry and the producing provinces, especially Alberta; the reassertion of federal power over the economy; the acquisition of greater revenues for the federal treasury; and the preservation of the Liberal Party as chief political party that speaks for Canada.[63]

After a balanced evaluation of the evidence available at the time (1985), Doern and Toner assessed how the NEP fared against its goals. In their opinion the NEP was a major policy change but not a radical policy (albeit the means were more radical than the 50 percent Canadian ownership and control target); at a broad political level the NEP can

[62] Leyton-Brown, David. "Canadianizing Oil and Gas: The National Energy Program, 1980-83." Chapter 19 from *Canadian Foreign Policy: Selected Cases*, eds. Don Munton and John Kirton, Scarborough, Ontario: Prentice-Hall Canada, 1992, pp. 299-310.
[63] Doern and Toner, *The Politics of Energy…*, p. 29.

be considered to have been successful in that the oil and gas industry could no longer take the federal role for granted (however it created distrust of the federal government among western provinces); the NEP was partially successful in securing a higher share of revenue for the government (from about 7 percent to 16 percent but short of the goal of 24 percent); the evidence is mixed as to the achievement of security of supply and self-sufficiency (at a minimum the government had achieved its 'need-to-know' objective regarding basic geological prospects); judgements vary enormously on the question of fairness (foreign-owned firms regarded it as discriminatory, which of course it was intended to be); and large aspects of the Canadianisation objective that remain in doubt.

Beyond Doern and Toner's multi-faceted assessment, it is instructive to dig deeper into what was probably the core intent of the NEP, and examine whether this intent in particular was achieved. To do so, it is necessary to go back in time and try to understand what was on the minds of Lalonde and Prime Minister Trudeau as they conceived the NEP.

In the 1950s Canada had, of all the countries of the world except possibly Venezuela, accumulated the highest foreign debt. Meanwhile the United States was producing surplus after surplus. U.S. companies invested heavily into Canada, to the point of prompting the Government of Canada to create the Royal Commission on Canada's Economic Prospects, chaired by nationalist Walter Gordon.[64] At about the same time, Trudeau published an article, *À propos de 'domination économique,'* which helps understand his thinking. In it he warns of how direct foreign investments remain

[64] Azzi, Stephen, "Intuitive Nationalist Walter Gordon as Thinker," *Journal of Canadian Studies*, Vol. 34, No. 4 (Winter 1999/2000), pp. 121-135.

indefinitely in Canada, giving non-residents the power to make decisions contrary to the welfare of Canadians. He gives some examples. Given the situation, he suggests that:

> *Deux attitudes restent possibles : Ou bien nous subirons passivement notre condition d'économie dominée, et alors il vaudrait mieux carrément s'annexer aux États-Unis, plutôt que d'être une colonie exploitée sans limite. Ou bien nous interviendrons vigoureusement dans le jeu des forces économiques…*[65]

So Trudeau feared that without a vigorous federal intervention, the flow of capital from the United States would create a situation of economic domination, and reduce Canada to be an endlessly exploited colony.

Concerns about the extent of foreign ownership in Canada and the power of the multinational corporations persisted throughout the 1960s and 1970s. The natural resource sector was particularly plagued by this problem of foreign control. When in the late 1970s the price of oil reached new heights, so did the perceived threat to the Canadian economy. It was feared that the 'excess' profits of the petroleum sector industry would finance the takeover of the rest of the Canadian economy.

The NEP was conceived in the 1979's atmosphere of exploding oil prices. Shortly before the NEP announcement, Lalonde explained to U.S. investors that foreign ownership and control of the petroleum sector increased the prospects that control of other sectors may slip from Canadian hands. He told them this was unacceptable and that Canadians aspired to independently control their own destiny and to be partners, not just employees, in Canada's future oil and gas industry.[66]

The NEP document itself echoed a similar message to Canadians. It stated that of the 25 largest oil and gas companies in Canada, 17 were more than 50 percent foreign-

[65] Trudeau, Pierre Elliot, "À propos de "domination économique"," *Cité libre*, No. 20 (mai 1958), pp. 7-16.
[66] Lalonde, Marc. Quoted in Crane, David, *Controlling Interest: The Canadian Gas and Oil Stakes*. Toronto: McClelland and Stewart, 1982, quoted in Marsden, Guy W. "The Liberal Third Option: A Study of Policy Development," Master's Thesis, University of Regina, 1997.

owned. These 17 corresponded to 72 percent of Canadian sales of oil and gas. This would not be tolerated in most other oil producing countries.[67]

The intent of the NEP was therefore to protect the Canadian oil and gas sector against external capital, especially coming from the South. The success of the program may therefore be measured by the extent to which it reduced foreign and increased Canadian ownership in the sector. The program had a stated objective of obtaining 50 percent Canadian ownership of the petroleum industry by 1990. It was short lived however: in September 1984 the Mulroney Conservatives were elected.

Canadian ownership and control of petroleum-related revenues (from production, refining, distribution and sales) over a number of years is given in Table 2. Recalling that the NEP was introduced in October1980, a suitable time frame for judging its effect is probably from 1979 (before the NEP) to 1983 (before the change of government). Over this period Canadian ownership increased 11 percentage points (from 26.2 to 37.2 percent), while Canadian control increased 10.3 percentage points (from 17.5 to 27.8 percent).

Table 2 – Canadian Ownership and Control of Petroleum-Related Revenues

	1977	1978	1979	1980 (NEP)	1981	1982	1983
Canadian Ownership (%)	26.3	26.3	26.2	26.1	32.8	34.7	37.2
Canadian Control (%)	13.0	17.0	17.5	18.7	25.9	25.5	27.8

Source: Data from the Petroleum Monitoring Agency. Taken for years 1977 to 1981 from Jenkins, Barbara, "Reexamining the "Obsolescing Bargain"…" and for years 1982 and 1983 from Natural Resources Canada. The Year 1984. p. 1984-17. Available from http://www2.nrcan.gc.ca/es/es/EnergyChronology/pdf/1981-1985.pdf; Internet; accessed 5 April 2007.

[67] DEMR. *The National Energy Program…*

It will never be known if the 50 percent ownership objective would have been met by 1990. Nevertheless the NEP, despite its brief existence, did influence the economic landscape in the direction intended by Lalonde and Prime Minister Trudeau.

Energy policies of the United States and their consequences after 25 years have been examined by economist Joskow.[68] Joskow looked back at the energy policy recommendations, forecasts and supporting analysis contained in two comprehensive studies released to the public in 1979. These studies were led respectively by Schurr (the Resources for the Future or 'RFF Study')[69] and Landsberg (the 'Ford Study').[70]

Joskow compared the recommendations made by the studies to the actual course of U.S. energy policy since 1978. He notes that the deregulation of oil and natural gas prices was accomplished, more quickly in the case of oil than natural gas, with the last vestige of field price regulation ending in 1993. Energy efficiency or conservation policies have relied on a combination of building and appliance standards, tax subsidies, utility energy efficiency programs and other means. There have been many federal policies to encourage alternative fuels and fuel-use technologies will little result. Economic instruments like emission trading systems have become widely accepted as attractive mechanisms to control pollution. The establishment of a U.S. strategic petroleum reserve predates the studies and has been exercised once—during Operation Desert Storm in 1991. The controversial RFF study recommendation of releasing reserves upon large increases in prices to cushion the effect of supply disruption on prices has been ignored. Many of the inefficient energy policies of the 1970s and early 1980s

[68] This section draws on the excellent article: Joskow, Paul L., "Energy Policies and Their Consequences After 25 Years," *The Energy Journal*, Vol. 24, No. 4, 2003, pp. 17-49.
[69] Schurr *et al*, *Energy in America's Future*...
[70] Landsberg, Hans (Study Group Chairman), *Energy: The Next Twenty Years*. A Report Sponsored by the Ford Foundation and Administered by Resources for the Future, Cambridge: Ballinger, 1979.

were abandoned: fuel-oil restrictions, protectionist policies for oil refiners, and publicly funded mega projects to promote specific supply sources. Overall, many of the recommendations of the studies have been reflected in U.S. energy policies.

Both studies offer forecasts for aggregate energy consumption and supply in 2000. In the RFF Study the forecast is for 114 quads,[71] and in the Ford study about 120 quads, of energy consumption in 2000. Both figures are a bit higher than the actual U.S. energy consumption of just under 100 quads. Joskow notes that the difference is probably due to changes in the structure of the U.S. economy. The industrial sector, and especially its most energy intensive components, did not grow faster than the gross domestic product as was assumed, but more slowly. The RFF study offers forecasts broken down by sectors. Transportation is the only sector where the RFF forecast was too low (15.6 versus 26.7 quads).

The RFF study also projected use of primary fuels and electricity. The projections for gas, oil and electricity (including the overall trend towards electrification of the economy) were close or slightly below the actual 2000 breakdown. However the actual use of coal was much lower than the study projected, reflecting the aforementioned change in the economy structure.

Both studies show that it would be feasible to increase energy consumption without increasing damage to the environment and without drastically increasing energy cost. Based on 2001 trends in air quality and emissions, this turned out to be true—except for emissions of carbon dioxide. Both studies recognised that carbon dioxide emissions from carbon fuel combustion were a potential but uncertain source of climate

[71] Quadrillion British Thermal Units.

change. But they made no recommendations on the matter other than to further study the relationship.

In conclusion, the two U.S. studies have stood the test of time quite well. This contradicts the argument (discussed in the previous section) that the energy sector is too volatile for long-term projections. In Joskow's view the fact that most of the recommendations have been reflected in policies has made it easier for the U.S. economy to adapt more smoothly in response to oil price shocks in 1990-1991 and oil and gas price shocks in the early 2000s. Apparently the damage to the economy was neither significant nor long lasting.

Overall it appears that past energy policies of both Canada and the United States have accomplished what they intended to—if not entirely, at least in part. The NEP worked as intended but also introduced some perverse effects that were probably never anticipated. In the end it never had to fulfill its role of protecting the Canadian economy against foreign takeover, because this threat vanished when the U.S. economy and the price of oil nose dived. Energy policies of the United States have been relatively effective, except for specific areas like curbing consumption for personal transportation.

Having shown that oil and gas policies can effectively work, and without attempting to develop or recommend specific policies, we now examine two matters that an oil and gas policy should address: energy security and environmental concerns.

ENERGY SECURITY

Energy is not just another product or service. It is an essential service industry. Energy security concerns include the need to ensure secure supply, the need to adapt

economically to higher prices, and the need for emergency stocks with effective release mechanisms in case of abrupt disruption of supply.

The first need, to ensure security of supply, is exacerbated by the fact that as the world uses its reserves of oil, the number of countries that are self-sufficient in this resource diminishes and interdependence increases.[72] Canada is in a relatively fortunate situation compared to most countries of the world. The Government of Canada defines 'self-sufficiency' as achieved when the volume of crude oil from domestic production capacity is adequate to supply (through refineries) the refined product requirements of Canada.[73] Canada is a net exporter of crude oil and, according to its own definition, self-sufficient.

Although self-sufficient from an aggregate perspective, there are vast regional disparities within Canada. For instance Canada's major population centers in the eastern part of the country are poorly connected to its oil resource base in the western interior. Eastern Canada imports around 1.2 million barrels per day of crude oil and refined products, mostly from Algeria and Norway.[74] Less than 50 percent of Ontario's crude oil requirements are sourced from Western Canada.[75] This is because historically it has been more economical to import oil along the east coast rather than to transport it domestically. In the 1950s the risk of interruption of supply associated with imports fuelled debate on the construction of interprovincial pipelines to enable eastward transport of oil. In 1958 the oil 'majors' and the United States opposed an Alberta-to-

[72] Bennett, A. LeRoy and Oliver, James K. "World Economic Interdependence" from *International Organizations: Principles and Issues*, 7th ed., Upper Saddle River, NJ: Prentice-Hall, 2002, pp. 298-305.
[73] As for 'security of supply,' it is defined to be realized when achievement of self-sufficiency is anticipated in each of the next ensuing five calendar years. Definitions from: Canada and Newfoundland and Labrador. *The Atlantic Accord: Memorandum of Agreement Between the Government of Canada and the Government of Newfoundland and Labrador on Offshore Oil and Gas Resource Management and Revenue Sharing*. 1985.
[74] For 2006. See: EIA. *Country Analysis Briefs: Canada…*
[75] For 2005. See: NEB. *Canada's Oil Sands: Opportunities and Challenges to 2015: An Update…*, p. 19.

Montreal pipeline. They preferred instead to continue to supply Eastern Canada with Venezuelan oil: the majors because this was more profitable; the United States because it strengthened the Venezuelan economy and hence stability of the Venezuelan government.[76] In January 1974, after the OPEC crisis, the Government of Canada announced an all-Canadian coast-to-coast pipeline network to develop self-reliance on oil, as well as details of a pipeline extension to Montreal.[77] A Sarnia-to-Montreal extension was built at a cost of almost $250 million in 1976.[78] Twenty years later the Government of Canada divested its interests in the pipeline. Industry reversed in 1999 the direction of flow to enable westward transport of up to 240,000 barrels per day of offshore crude oil from the port of Portland, Maine, through Montreal, Quebec to refineries in the Sarnia area, Ontario.[79]

Ensuring secure supply of crude oil for Eastern Canada is therefore an issue. Interruption of oil or gas supply can occur through international conflict, domestic unrest in oil-exporting countries, political decision by major suppliers, or natural disaster. The United States is not self-sufficient and aggressively pursues diversification of supply as one means of reducing the risk and consequences of disruption. About one third of the 105 recommendations of the National Energy Policy focus on building international relationships to achieve diversity in supply.[80] It is engaged in the development of the oil

[76] Doern and Toner, *The Politics of Energy…*, pp. 77-78.
[77] Canada. Department of Energy, Mines and Resources Canada. *An Energy Strategy for Canada: Policies for Self-Reliance*. Ottawa: Minister of Supply and Services Canada, 1976, p. 152.
[78] Canada. Natural Resources Canada. *Fact Sheet: The Sarnia-Montreal Pipeline ("Line 9")*. http://www.nrcan.gc.ca/media/archives/newsreleases/1996/199656a_e.htm; Internet; accessed 13 April 2007.
[79] Enbridge. *Line 9 (Montreal Extension) Reversal*. http://www.enbridge.com/pipelines/about/systemExpansionHistory/system-expansion-line9.php; Internet; accessed 13 April 2007.
[80] Gattinger, Monica. "From Government to Governance…"

industry in the Gulf of Guinea in Africa, and in the Baku-Tbilisi-Ceyhan (BTC) pipeline from Azerbaijan to Georgia to Turkey.[81]

Canada experienced disruption of supply in 1978. Following the first crisis in Iran, Imperial Oil, the Canadian subsidiary of Exxon, diverted to the United States oil shipments from Venezuela originally intended for Canada. The government of Prime Minister Trudeau discussed directly with the Venezuelan government and agreed from then on to deal directly through Petro-Canada.[82] This event was relatively minor. Still, the Government of Canada may want to formulate contingency plans and the necessary infrastructure to deal with the eventuality of more severe cut-offs of oil imports in the future.

Self-sufficiency in Western and Central Canada is of course premised on production out of the oil sands resource base, which in turn is only viable when prices are sufficiently high. For steam assisted gravity drainage as well as for integrated mining, extraction and upgrading (the operations anticipated to form the bulk of supply growth in the oil sands through 2015), it is estimated that 30 to 35 U.S. dollars per barrel for West Texas Intermediate is required to provide a 10 percent real rate of return to the producer.[83] Consequently Canadian self-sufficiency would be compromised if the average world oil price were to drop below 30 U.S. dollars per barrel. But this is unlikely to happen. Indeed the U.S. Department of Energy projects low, reference, and high average world oil prices in 2030 of 34, 57, and 96 U.S. dollars per barrel.[84]

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[81] DND. *Strategic Assessment 2005*…
[82] Statement by Leader of the Opposition Trudeau. See: Canada. House of Commons. *Commons Debates*. 31st Parliament, 1st Session, October 9 to December 14, 1979, pp. 998-999.
[83] NEB. *Canada's Oil Sands: Opportunities and Challenges to 2015: An Update…*, pp. 5-6.
[84] Inflation-adjusted 1984 U.S. dollars. See: EIA. *International Energy Outlook 2006*, p. 32.

From a global perspective, high energy prices are generally considered to be bad for peace and stability. There is indeed evidence that the price of oil and the pace of freedom tend to move in opposite directions in oil-rich petrolist states. One of the reasons relates to taxation: oil-backed regimes that can simply drill oil wells to raise revenue instead of taxing their people simply do not need to be as responsive to their people as taxation-based regimes. Other reasons include patronage and repression: high oil prices increase the disposable income that authoritarian governments of petrolist states have "to build up security forces, bribe opponents, buy votes or public support, and resist international norms and conventions."[85] Hence if low prices were to reduce Canada's self-sufficiency, they might at the same time enhance world stability, security of supply and thus reduce Canada's need for self-sufficiency in the first place.

Sometime after 2020, conventional natural gas resources will no longer adequately supply Canada's requirements. Canada's remaining natural gas resources are concentrated in the Western Canada Sedimentary Basin. Production of natural gas is expected to peak at about 6.6 trillion cubic feet in 2011 and then decline. At that time the Mackenzie Delta is anticipated to commence production, tempering a gradual production decline to about 5.3 trillion cubic feet by 2020. Canada is expected to remain self sufficient until at least 2020, with Alberta remaining the dominant producing province. Owing to the decline in production and an increase in domestic demand, net exports are expected to decline.

Alternative gas sources are at their infancy in Canada. It is expected that liquefied natural gas imports will begin in 2011, to Eastern Canada, and increase steadily to reach almost 0.5 trillion cubic feet by 2020. Most, if not all, of these will be exported

[85] Friedman, Thomas L., "The First Law of Petropolitics," *Foreign Policy*, May/June 2006.

to the United States. Similarly, it is projected that production of coal bed methane will grow to reach 0.62 trillion cubic feet, or 12 percent, of total natural gas production in 2020. The potential is thought to be large.[86] The Government of Canada would be well-advised to ensure that these replacement sources occupy a suitable place in the future energy portfolio of Canadians. Similarly to oil, there may be a need to formulate contingency plans and invest in the necessary infrastructure to deal with the eventuality of disruption of liquid natural gas deliveries.

The need to adapt economically to higher prices stems from the security-prosperity duality. Industrialised countries that are net energy importers are vulnerable to rising oil prices because of two immediate macroeconomics effects: rising inflation due to direct and indirect impact of higher energy costs on prices; and reduced consumer spending due to less income being available to spend on goods and services after setting aside more to cover energy needs.[87] There is debate on how severe these effects are in reality.[88] After the OPEC price increases of 1973-74 and 1979-80, inflation went up and the economy slowed down in all large oil-importing countries. Nowadays it is argued that this was due not necessarily to these macroeconomics effects, but rather to second and third order effects of ill-advised intervention of governments on prices, restrictions, and so on. Nowadays governments interfere less, and oil and gas price shocks in the early 2000s do not seem to have triggered excessive inflation or slowed down the U.S. and Canadian economies.

[86] NRCan. *Canada's Energy Outlook…,* pp. 36, 37 and 138.
[87] DEMR. *The National Energy Program…*
[88] Joskow, "Energy Policies and Their Consequences…"

Contrary to common belief, the United States is not vulnerable to expensive oil, for two reasons.[89] First, the economy of the United States is not energy-intensive. 'Energy intensity,' a measure of the energy efficiency of an economy, is calculated as the ratio of total consumption of energy to gross domestic product. Since the 1920s, the energy intensity of the United States' economy has followed a downward trend despite periods of high prices as well as low prices.[90] It is now well below Canada's, but somewhat higher than other industrialised nations such as the United Kingdom, France and Japan.[91] Second, the United States benefits from high oil prices in another way: it increases its leverage *vis-à-vis* major importing countries that are less well positioned to deal with these high prices to share the cost of migrating from conventional oil producing states to unconventional markets in which U.S. companies have a stake.[92]

In comparison, Canada has the most energy-intensive economy in the G7 and NAFTA.[93] Its energy intensity, despite some decline over the last decade, remains high due in part to its energy-intensive industries.[94] Compared to the U.S. oil 'majors,' Canadian companies are relatively small and do not stand to benefit from the shift of

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[89] Morales, "The New Strategic Positioning of Canada…"

[90] The energy-intensity of the United States economy dropped by about 35 percent between 1920 and 1970 and about 42 percent between 1972 to 2002. Source of data from 1920 to 1970: Schurr, Sam H. (Project Director) *et al*, *Energy in America's Future*..., Figure 3-1, p. 86. Source of data from 1972 to 2002: United States Department of Energy, Energy Information Administration, *Country Analysis Briefs, United States: Environmental Issues*, October 2003. Available from http://www.eia.doe.gov/emeu/cabs/usenv.pdf; Internet; accessed 19 April 2007.

[91] EIA. *Country Analysis Briefs, United States: Environmental Issues*…

[92] Morales cites as an example Washington working with Azerbaijan a gas pipeline to reduce European dependency on Russian gas. See: Morales, "The New Strategic Positioning of Canada…"

[93] Energy Dialogue Group, *Energy, the Canadian Economy, and Greenhouse Gas Emissions*, Presentation to The House of Commons Standing Committee on Environment and Sustainable Development, Feb. 15, 2005. Available from http://www.cga.ca/documents/EDGBRIEFINGDECKEnvironmentCommittee.pdf; Internet; accessed 19 April, 2007.

[94] "The Canadian government attributes the country's high energy consumption to vast land distances in regards to transportation; a cold climate; an energy-intensive industrial base; relatively low energy prices; and a high standard of living." Quoted from: United States Department of Energy, Energy Information Administration, Country Analysis Briefs, Canada: Environmental Issues, February 2004. Available from http://www.eia.doe.gov/emeu/cabs/canenv.pdf; Internet; accessed 19 April 2007.

major importing countries to unconventional energy markets. The Government of Canada may want to consider policies that encourage changes in the structure of the Canadian economy to increase its energy efficiency.

The third security need is for emergency stocks with effective release mechanisms. This can greatly reduce vulnerability of both importing and exporter countries to sudden, substantial reductions in oil supplies. Moreover, from a North American perspective, keeping prices attractively high removes a barrier that would otherwise impede development of unconventional sources in Canada and conventional sources in Mexico.[95]

Canada is a founding member of the International Energy Program (IEP), an emergency sharing scheme between 26 participating countries.[96] In essence the program requires that each oil importing country maintain emergency oil reserves; that during an emergency, a participating country supply its excess oil to others; and that when the group sees overall reduction in supplies, then each participating country implement demand restraint measures. The release mechanism for the reserves of oil varies from country to country. The U.S. strategic petroleum reserve is kept uniquely for emergency purposes. Any release from this reserve must be authorised by the President. Canada, since it is a net exporter, has no stockholding obligation. Like other net exporters such as Norway and the United Kingdom, it relies only on stocks of its oil sector industry.[97]

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[95] Morales, "The New Strategic Positioning of Canada…"
[96] International Energy Program. *Agreement on an International Energy Program (As Amended).* Belgium: The Government of Belgium, 18 November, 1974. The signatories are Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Japan, Republic of Korea, Luxembourg, The Netherlands, New Zealand, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom, and United States.
[97] Kuolt, Kristin, "Overview of IEA Oil Emergency Measures in IEA Member Countries." IEA/ASEAN Workshop: Oil Security and Emergency Preparedness. Paris, France, 1-2 September 2003. Available from http://www.iea.org/Textbase/work/2003/asean/KUOLT.PDF; Internet; accessed 19 April 2007.

China is not a member of the IEP. Together with strong economic growth, China's demand for energy increases rapidly. It is the world's third largest net importer of oil behind the United States and Japan: in 2006 it imported around 3.6 million barrels per day of crude oil. Its largest source of oil imports is Angola, followed in order by Saudi Arabia, Iran, Russia, and Oman.[98] The Chair and Co-Chair of the U.S.-China Economic and Security Review Commission raised some security concerns in 2003:

> The key issue raised in the hearing is whether China will continue to pursue new energy supplies in the Middle East and elsewhere in competition with, or cooperation with, the U.S. and other consuming nations. The continuation of China's unilateral approach could provide additional price leverage for OPEC member countries. It may also encourage China to offer incentives to energy supplier nations, as it has in the past, including missile and WMD components and technologies, for secure long-term access to energy supplies. This practice substantially undermines U.S. global nonproliferation policies.[99]

China has a long-term strategy on all energy and, in particular, on oil security. As part of this strategy it is developing its own strategic petroleum reserve. It is unfortunate that China, because the first requirement is to be a member of the Organisation for Economic Co-operation and Development (OECD), has not been able to join the IEP. Indeed this places China in a position to nullify the effect of the IEP releasing stocks in times of emergency. For example if the IEP were to release 1 million barrels a day from its stocks, it would be possible for China to go out and buy 1 million barrels a day more, possibly unknowingly, and by doing so cancelling the global effect of the IEP release.[100]

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[98] United States Department of Energy, Energy Information Administration, *Country Analysis Briefs, China*, August 2006. Available from http://www.eia.doe.gov/emeu/cabs/China/pdf.pdf; Internet; accessed 19 April 2007.
[99] United Sates. Hearing before the U.S.-China Economic and Security Review Commission. *China's Energy Needs and Strategies,* 108 Congress, First Session (October 30, 2003), Washington, DC: U.S. Government Printing Office, 2003, p. iii.
[100] *Ibid.*, p. 29.

Canada appears to be well positioned to facilitate multilateral oil policies. Under the Security and Prosperity Partnership, it may engage in trilateral discussions with the United States and Mexico on approaches to stabilise prices in North America. The Government of Mexico could play a key continental role since it controls directly its production. Also, as the largest source of U.S. oil imports and as member of the IEP, Canada may engage in trilateral discussions with the United States and China on approaches to help stabilise oil prices world-wide.

ENVIRONMENTAL CONCERNS

More on the mind of Canadians these days than security of supply is the impact of carbon fuel usage on the climate of our planet.[101] An overwhelming 85 percent of Canadians are concerned about climate change.[102] The dilemma of Canadians is between short-term and long-term objectives, between the opportunity to prosper through exports of carbon fuels and the moral duty to reduce greenhouse gas emissions from the production and consumption of these fuels.

On the one hand, the federal government is working with the U.S. government to ensure that the flow of oil and gas to the United States continues despite a context of heightened homeland security. These exports finance in part the oil sands development that has become essential to Canada's economic growth and security.

On the other hand, warming of the climate system is now unequivocal, as evidenced from observations of increases in global average temperatures and rising

[101] Six-in-ten Canadians (61%) and Americans (60%) believe that governments and the energy industry are exaggerating about energy shortages to support their political or financial goals. See: Ipsos Reid. "Canadians and Americans Give Their Views on North American Energy Issues." Poll conducted on behalf of the Canada Institute, Woodrow Wilson International Center for Scholars, from February 16th to February 22nd, 2004.

[102] Ipsos Reid. "Getting Real—How do Canadians View the Environment and Energy?" Public opinion poll conducted on behalf of the Canadian Nuclear Association, released on March 16th, 2007.

global sea level. Human activities are believed to cause this climate change. In its Fourth Assessment Report, the Intergovernmental Panel on Climate Change estimates with very high confidence (at least a 9 out of 10 change of being correct) that the globally averaged net effect of human activities since 1750 has been one of warming, with a radiative forcing tending to warm the surface of between 0.6 and 2.4 Watts per square metre. Long-term effects include "widespread changes in precipitation amounts, ocean salinity, wind patterns and aspects of extreme weather including droughts, heavy precipitation, heat waves and the intensity of tropical cyclones."[103]

In 2002 Canada ratified the Kyoto Protocol, which requires parties to individually or jointly ensure that their aggregate carbon dioxide equivalent emissions of greenhouse gases do not exceed their assigned amounts in the 'commitment period' 2008 to 2012. Countries that are below their targets (that is, have emission units to spare) are allowed to sell their excess capacity to countries that are over their targets.[104]

Neither the Liberals nor the Conservative truly committed themselves to meet the Kyoto targets. On the day following Canada's ratification, Liberal Minister Dhaliwal sent to the Canadian Association of Petroleum Producers a letter capping the price and amount of emissions reductions for large industrial emitters.[105] Harper opined in a 2002 letter to members of his Canadian Alliance party that "Kyoto is essentially a socialist

[103] International Panel on Climate Change. *Climate Change 2007: The Physical Science Basis*. Summary for Policymakers formally approved at the 10th Session of Working Group I of the IPCC, Geneva, Switzerland: IPCC Secretariat, c/o WMO, February 2007, pp. 3-5.
[104] United Nations. *Kyoto Protocol to the United Nations Framework Convention on Climate Change*, 1998. Available from http://unfccc.int/resource/docs/convkp/kpeng.pdf; Internet; accessed 24 April 2007.
[105] Canada. Minister of Natural Resources Canada. Letter of The Honourable Herb Dhaliwal to Mr. John Dielwart, Chairman, Canadian Association of Petroleum Producers, December 18, 2002. Available from http://www.capp.ca/raw.asp?x=1&dt=NTV&e=PDF&dn=62480; Internet; accessed 23 April 2007.

scheme to suck money out of wealth-producing nations."[106] The government certainly did not lead the way afterwards. In a recent audit, the Commissioner of the Environment and Sustainable Development found that:

> The federal government is counting on regulatory and long-term technological solutions to achieve future reductions in this sector. However, it is not leading the way by clearly stating how and to what degree Canada will reduce greenhouse gas emissions when oil and gas production is expected to increase.[107]

Because the energy sector is responsible for most of the increase in carbon dioxide emissions, Natural Resources Canada received the majority of the funds allocated to federal departments for addressing climate change. These funds exceeded $1.5 billion from 1997 to 2006, and Natural Resources Canada was responsible for 30 programs aimed at reducing greenhouse gas emissions.[108] Despite these programs, oil and gas activities, including mining of oil sands, production, refining, and transport, accounted for 152 million tonnes of greenhouse gases emitted in 2004, a 51 percent increase compared to 1990.[109] The contribution could double between 2004 and 2015.[110]

It is a symptom of the problem that Parliament presently juggles with three different climate change bills at various stages in the House of Commons or the Senate: *Canada's Clean Air and Climate Change Act*, Bill C-30 by Conservative Minister

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[106] Harper, Stephen. Quoted in Panetta, Alexander, "Harper Letter Dismissed Kyoto a Money-Sucking Socialist Scheme," *The Canadian Press*, January 30, 2007, available from: http://www.canada.com/nationalpost/story.html?id=0de3608c-9f8f-49f4-bb52-bf3fcd9aa3a5&k=71162; Internet; accessed 3 May 2007.

[107] Canada. Commissioner of the Environment and Sustainable Development. *Report of the Commissioner of the Environment and Sustainable Development to the House of Commons*. Chapter 3: Reducing Greenhouse Gases Emitted During Energy Production and Consumption. Ottawa: Office of the Auditor General, 2006, p. 2

[108] *Ibid.*, Chapter 3, p. 4.

[109] The oil and gas sector industry has not been required to pay any emission fees yet. In its June 2006 market assessment, the National Energy Board set the Kyoto compliance cost in dollar per barrel equal to zero in the project assumptions for the Athabasca steam assisted gravity drainage model and the mining/extraction and upgrading model. See: NEB, Canada's *Oil Sands: Opportunities and Challenges to 2015: An Update…*

[110] Commissioner of the Environment. *Report of the Commissioner…*, Chapter 3, p. 19.

Baird,[111] the *Kyoto Protocol Implementation Act*, Bill C-288 by Liberal Member of Parliament Rodriguez,[112] and the *Climate Change Accountability Act*, Bill C-377 by NDP Member of Parliament Layton.[113] These bills differ significantly. Bill C-30 relies on incentives to influence the behaviour of large industrial emitters: gradually increasing prices for carbon emission units, combined with the availability of funds for projects that aim to reduce emissions. Domestic reduction of greenhouse gas emissions *per se* is mandated only in Bill C-377. But this bill is silent on the means to achieve the reductions. Bills C-30 and C-288 both allow the purchase of emission reductions and set no domestic ceiling on these purchases.

It should be no surprise that Canada is not on track to meet its obligations to reduce greenhouse gas emissions. Its Kyoto target for the commitment period 2008-2012 is 563 million tonnes (six percent below Canada's 1990 level of 599 million tonnes). But Canada's emissions are going up, not down. Relative to other countries that agreed at the time of Kyoto to reduce their emissions (parties listed in Annex B of the protocol), by 2003 it was Canada and Austria that had strayed from their targets the most (a difference of 30 percentage points between the actual percentage change in emission and the Kyoto percentage target). Even the United States and Australia, which subsequently refused to ratify the protocol, did not stray as widely from the emission limits that they had agreed

[111] Canada. House of Commons. *Bill C-30: An Act to Amend the Canadian Environmental Protection Act, 1999, the Energy Efficiency Act and the Motor Vehicle Fuel Consumption Standards Act (Canada's Clean Air Act).* Ottawa: Public Works and Government Services Canada, March 30, 2007. (Amended by the Legislative Committee on Bill C-30 and awaiting its second reading in the House of Commons)
[112] Canada. House of Commons. *Bill C-288: An Act to Ensure Canada Meets Its Global Climate Change Obligations Under the Kyoto Protocol.* Ottawa: Public Works and Government Services Canada, February 14, 2007. (Passed in the House of Commons and being studied by the Senate Committee on Energy, the Environment and Natural Resources)
[113] Canada. House of Commons. *Bill C-377: An Act to Ensure Canada Assumes Its Responsibilities in Preventing Dangerous Climate Change.* Ottawa: Public Works and Government Services Canada, October 31, 2006. (Between first and second readings in the House of Commons)

at the time.[114] By 2004 Canada's emissions level was 758 million tonnes, or 34.6 percent above its target.[115] Canada's high carbon emissions have been attributed to increased consumption of fossil fuel for electricity generation, increased energy consumption for transportation, and growth in fossil fuel production.[116]

As recently pointed out by historian Chapnick, the Harper Conservatives have a responsibility to keep Canada's word or otherwise accept unpopular consequences:

> Canada has a responsibility to keep its word or accept the consequences of failing to meet its reduction targets. These consequences entail a commitment to make up the difference along with a 30 per cent penalty beginning in 2012. Such a pledge will be disturbingly expensive, and likely unpopular among the Tory base in oil and emissions-rich Alberta. But it is necessary if the Conservatives hope to develop and maintain a reputation as a government that can be counted on to be true to its word.[117]

The annual 'Kyoto gap' is projected to be 265 million tonnes by 2010.[118] At an indicative carbon price of $20 per tonne, the purchase of emission reductions abroad could cost up to $5.3 billion per year. Although a considerable sum, it would arguably appear feasible for key interests to 'buy their way out'—at least for now.

Provinces have elaborated their own plans to curb climate change. These vary widely because emissions are highly concentrated in Canada. For instance Alberta and Saskatchewan contributed 57 percent of the Canadian greenhouse gas emissions increase

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[114] Schwanen, Daniel, "Canada and the Kyoto Protocol: When Reality Sets In." Chapter 15 from *Canada Among Nations 2006: Minorities and Priorities*, eds. Andrew F. Cooper and Dane Rowlands, Montreal & Kingston, QC & ON: McGill-Queen's University Press, 2006, pp. 292-354.
[115] Commissioner of the Environment. *Report of the Commissioner…*, p. 8.
[116] EIA. *Country Analysis Briefs, Canada: Environmental Issues*…, p. 3.
[117] Chapnick, Adam. "Caught in Between Traditions: A Minority Conservative Government and Canadian Foreign Policy." Chapter 4 from *Canada Among Nations 2006: Minorities and Priorities*, eds. Andrew F. Cooper and Dane Rowlands, Montreal & Kingston, QC & ON: McGill-Queen's University Press, 2006.
[118] The combined total greenhouse gas emissions are expected to be 828 million tonnes and Canada has a target of 563 million tonnes during the first Kyoto commitment period (2008-2012). The increase in total emissions (71 million tonnes) between 2004 and 2010 is mainly due to increases in the upstream and refining sectors (41 million tonnes). Source of data: Canada. NRCan, *Canada's Energy Outlook…,* p. 55.

between 1990 and 2003.[119] Alberta announced in 2002 and then legislated for itself a long-term target of reduced 'emission intensity,' calculated as the ratio of greenhouse gas emissions to gross domestic product: "The specified gas emission target for Alberta is a reduction by December 31, 2020 of specified gas emissions relative to Gross Domestic Product to an amount that is equal or less than 50 [percent] of 1990 levels."[120] This plan relies on cleaner oil and gas reclamation technology rather than on slowing development.[121] Alberta Environment Minister Renner announced recently that Alberta will set new targets for reducing emissions intensity. He conceded however that these new targets will not actually reduce total emissions, given the rapid expansion of Alberta's energy sector.[122] The National Energy Board confirmed that while the intensity of greenhouse gas emissions from the oil sands is projected to decrease, total emissions are expected to increase over the same period.[123]

The Government of Canada must build national consensus on what the major long-term goal of Canadian climate change policy should be, while ensuring that this goal is compatible with the major long-term goal of its oil and gas policy. Options include: achieving global reduction targets through multi-national agreements—possibly at the

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[119] Schwanen, "Canada and the Kyoto Protocol…"

[120] Alberta. *Climate Change…* 'Specified gas' means any gas that traps heat near the earth's surface and includes, without limitation, carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride.

[121] Alberta's Climate Change plan aligns with that of the United States, which reads: "Our overall objective is to reduce America's greenhouse gas emissions relative to the size of our economy, cutting such emissions per unit of economic activity by 18 percent over the next 10 years, by the year 2012." See: United States. *The National Security Strategy…*

[122] Renner, Rob. Paraphrased in "Alta. Premier Warns Against Penalizing Oil Sands." *The Canadian Press*, February 5, 2007.

[123] The intensity of emissions is projected to decrease from 0.076 tonnes per barrel in 2005 to 0.073 tonnes per barrel in 2015, while total emissions are expected to increase from about 36 tonnes to 67 tonnes over the same period. See: NEB. *Canada's Oil Sands: Opportunities and Challenges to 2015: An Update…*, p. 39.

expense of domestic reductions; leading by example and reducing domestic greenhouse gas emissions; and choosing to reduce emissions intensity rather than emissions *per se*.

Whatever long-term goal is adopted for the climate change policy, it will have important consequences for the oil and gas users and producers, and therefore contain elements of energy policy. And conversely, any oil and gas policy will have an impact on the environment. The two are inextricably tied, like the two sides of a coin.

Canada's oil and gas policy should recognize that Canada contributed only about two percent of the world's greenhouse gas emissions in 2000, and that a multilateral approach is often needed to effectively address global issues. Through the Security and Prosperity Partnership, Canada may enter in tri-lateral harmonisation of greenhouse gas reduction policies with Mexico and the United States. Then it may incite this North-American team to go to the next round of Kyoto together, like the Europeans did by going to the first round of Kyoto as a community under the European Union. This could go a long way in addressing fairness concerns and making a global difference. Canada may consider investing in technologies that have the potential to significantly cut emissions, like small nuclear power units to generate heat *in situ*, rather than continuing to use one carbon fuel (natural gas) to produce another (crude oil) from oil sands. These technologies could then be shared with large emitter countries. Canada may consider studying and nurturing the advent of renewable energy sources like bio-fuels. Canadians overwhelmingly support "more government commitment to non-CO2 producing energy sources."[124] Government should ensure that any environmental impact of these alternative sources is well-understood and only then influence the adoption of the most

[124] 93 percent of Canadians support that statement. See: Ispos-Reid, "Getting Real…"

environmentally-friendly of the available options.[125] Domestically, because Canadians care for the environment, the government may consider adopting conservation policies that will change their habits (like mass transit infrastructure), while showing them that this can actually improve their quality of life.

POLITICAL CONSTRAINTS

Political constraints have prevented recent governments from formulating and implementing a national oil and gas policy. Arguably the foremost political obstacle is the legacy in Western Canada of economical hardship attributed to the NEP. As a result, no government would presently even touch the subject of an energy policy.

It is Canadian junior companies in western provinces that suffered the most from the NEP. They did not get PIP grants if they stayed, and suffered heavier taxation through the PGRT.[126] Some did well by moving to Canada Lands where they had no previous experience. The number of rigs drilling in Western Canada more than halved between the height of the 1979-1980 boom period and 1983.[127] The highly employment intensive drilling sector was truly hurting.

The provincial-federal relationship and the regional tension between provinces that produce energy *versus* those that import energy add a layer of complexity to negotiations on energy. As explained above, the Government of Alberta is getting ready to challenge the federal jurisdiction to legislate on climate change. Alberta Premier Stelmach recently insisted that Liberals were threatening to control the oil sands: "When

[125] Leaders. "Castro Was Right—As a Green Fuel, Ethanol is a Good Idea, But the Sort that America Produces is Bad." *The Economist*, Vol. 382, Issue 8523 (April 7, 2007) pp. 13-14.
[126] Doern and Toner, "Energy Budgets and…"
[127] According to the Canadian Association of Oil well Drilling Contractors (CAODC), in 1980, there were about 425 rigs operating and by early 1984 there were about 200 rigs working out of about 500. See: Doern and Toner. *The Politics of Energy*..., Figure 9.4, p. 348.

we hear talk of perhaps nationalizing the oilsands [*sic*] – a moratorium on oilsands [*sic*] development will bring about dire economic consequences right across Canada."[128] According to a recent Ipsos Reid public opinion poll, Canadians are divided on how the wealth from Alberta's oil sands should be distributed: 55 percent say that Alberta should share its extra revenue from oil whereas 45 percent say Alberta should keep it.[129] They are also divided on how much oil Canada should export to the United States: 56 percent "agree that increasing the amount of energy Canada supplies to the United States is a bad thing because even though jobs and the economy will benefit, the long term national independence of the country will be undermined."[130]

For the Conservatives energy has been a slippery political terrain on which they did not always fare well. Back in 1979 the first question that Leader of Opposition Trudeau asked newly elected Prime Minister Clark was:

> We intend to co-operate in some of the measures in respect of consumption and the reduction of consumption indicated in the Speech from the Throne. However, in the more immediate future, can the Prime Minister tell us if any arrangements have been made in terms of pricing petroleum in Canada?[131]

The Clark Conservatives, unable to reach consensus on petroleum pricing with Alberta and Ontario, increased the petroleum tax by 18 cents per gallon. Two months later they lost power on a Liberal-NDP motion that read: "That this House condemns the government for its budget which will place an unfair and unnecessary burden of higher gasoline prices, higher fuel prices, and higher taxes on middle and lower-income

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[128] Stelmach, Ed. Quoted in "Alta. Premier Warns Against Penalizing Oil Sands." *The Canadian Press*, February 5, 2007.
[129] Ipsos Reid. "Canadians Divided Over Alberta's Oil Windfall." Poll of Canadian voters, conducted on behalf of CanWest News Service/Global News on December 12th, 2005, released on December 20th, 2005.
[130] Ipsos Reid. "Canadians and Americans Give Their Views…"
[131] On October 10, 1979, at the beginning of Oral Question Period. See: Canada. House of Commons. *Commons Debates*. 31st Parliament, 1st Session, October 9 to December 14, 1979, p. 21.

Canadians..."[132] The Conservatives were defeated in the subsequent election by Toronto area voters and to a significant extent on energy issues.[133] The Mulroney Conservatives, on the contrary, were elected in September 1984 partly on the promise of ending the NEP.[134]

But the prospects for an oil and gas policy may not be as dire as the above considerations may suggest. Canadians have a tradition of supporting energy policies. The NEP was extremely popular: the Canadian Petroleum Association's own poll indicated that 84 percent of Canadians supported making the oil and gas industry at least 50 percent Canadian-owned.[135]

Prime Minister Harper may remember that it is another Conservative, Prime Minister Diefenbaker, who implemented the National Oil Policy (NOP). Adopted in February 1961, the NOP attempted to use oil as a domestic economic stimulus, and protected the Canadian market for expending western oil production. It defined the Ottawa Valley Line, or 'Borden line,' projecting to the West a protected market for Alberta crude, and allowing to the East lower-priced offshore oil. Prime Minister Diefenbaker could have let Central Canada use whatever oil was cheapest, but he chose instead to intervene. The NOP enjoyed consensus among key interests: the Pearson Liberals agreed that if defence had to be considered on a continental basis, then so should the resources and materials for continental defence; the oil 'majors' saw some of their practices legitimised; the U.S. government saw a step towards continental integration of

[132] Before the vote, an amendment to this amendment was moved by the NDP, adding the words: "and this House unreservedly condemns the government for its outright betrayal of its election promises to lower interest rates, to cut taxes, and to stimulate the growth of the Canadian economy, without a mandate from the Canadian people for such a reversal." The amendment to the amendment was agreed by the House 139 Yeas against 133 Nays on December 13, 1979. See: *Ibid*., pp. 2299, 2304 and 2361.
[133] Doern and Toner, "Energy Budgets and…"
[134] Brownsey, "Canadian Energy Policy…"
[135] Canadian Petroleum Association, "Public Opinion Poll on the NEP," 1981, Question 41, p. 8, quoted in Doern and Toner, *The Politics of Energy*..., p. 107.

energy; Alberta benefited from protection of the Ontario market against cheaper oil competition; Quebec and the Maritimes could enjoy lower prices; and Ontario saw an opportunity to develop its own petrochemical industry.[136]

Twenty years later, Mulroney actually gave the NEP some credit before the start of the 1984 election campaign, noting that "some elements of the NEP have been helpful to the economy in parts of Canada."[137] The Mulroney Conservatives once elected did not 'scrap' the NEP as promised; instead they made changes to it. Domestic oil price was raised from 85 percent to about 100 percent of world prices. Instead of eliminating the PGRT right away, the government phased reductions until January 1st, 1989, while introducing taxes on profits. It replaced PIPS grants gradually by transferable tax credits—still favouring Canadian firms. Likewise, the 25 percent Crown interest rule was replaced by a new version, but one that is not retroactive.[138] The Mulroney Conservatives waited until 1990 to introduce legislation to begin privatisation of Petro-Canada, the flagship of the NEP.

Would now would be a good time for action by the Harper Conservatives? Canadians like to think that their country protects the environment. They are concerned about the relationship between greenhouse gas emissions from the burning of carbon fuels and climate change. An environmentally-friendly energy policy should therefore draw high aggregate concurrence among Canadians.

Compared to the Conservatives, the Liberals would be hard pressed to implement a new energy policy. To succeed, they would need to convince both Albertans and their provincial government that the federal government will not betray them. But 25 years

[136] Doern and Toner, *The Politics of Energy*..., p. 81.
[137] Mulroney, Brian, Statement on Energy Policy, Prince Albert, Saskatchewan, July 5, 1984, quoted in Doern and Toner, *The Politics of Energy*..., p. 469.
[138] Doern and Toner, *The Politics of Energy*..., pp. 469-471.

after the NEP, Albertans have not forgiven the Liberals. And by agreeing to a Liberal policy, the Government of Alberta would risk loosing its own provincial support.

Fortunately for the Conservatives, the NEP is not their legacy. By virtue of their western roots, they have more credibility in the area of energy than the Liberals can ever aspire to have. Prime Minister Harper would need to convince on the one hand Albertans that an oil and gas policy is unavoidable, and on the other hand Quebecers and Ontarians that Conservatives are better positioned than Liberals to reach a deal with Alberta.

The Government of Alberta might remember that when it took an aggressive stance on energy with Ottawa in the spring and summer of 1980, the Clark Conservatives lost power. Shortly afterwards when it counted on the Trudeau Liberals closing a deal with Alberta over Ontario, the Liberals imposed the NEP.[139] So perhaps it is pure coincidence, but the Government of Alberta recently softened its stance. Alberta Finance Minister Oberg announced just before the 2007 federal budget that his province would not oppose the new formula including resource revenues in the calculation of equalisation payment. He said: "It doesn't matter to us … We also recognise that there's certainly a high chance that this is going to come in whether we say anything or not."[140] This is in sharp contrast to Alberta's prior siding with Newfoundland and Saskatchewan against the 2006 report that recommended the new formula.[141]

In a minority position, the Conservatives would require the backing of enough opposition members in the House of Commons to implement their new policy. In practice this means the support of either one of the three opposition parties.

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[139] Doern and Toner, *The Politics of Energy…*, pp. 43-46.
[140] Oberg, Lyle. Quoted in Chase, Steven, "Alberta Withdraws Objection to New Equalization Formula," *Globe and Mail*, March 12, 2007.
[141] Canada. Department of Finance. *Achieving a National Purpose: Putting Equalization Back on Track*. Expert Panel on Equalization and Territorial Formula Financing (May 2006). Ottawa, Ontario: Department of Finance Canada, 2006.

Support by the Liberals would actually be a drawback. Indeed the Conservatives eventually need to convince Albertans and their government that if they don't work with them, they risk having to deal with the Liberals. For this argument to be credible, the Conservatives need opposition from the Liberals, not support. Fortunately for the Conservatives, it would be natural for the Liberals to try to block the policy.

Support by the NDP is unlikely. It is hard to imagine a meaningful policy that could resonate at the same time with the Conservatives and the NDP. Besides, the tradition of the NDP on energy questions is to side with the Liberals. They backed the Petro-Canada Act (Bill C-8) of the Trudeau Liberals against the Conservatives.[142] In 1979 they voted with the Trudeau Liberals to oust the Clark Conservatives from power.[143]

This leaves support by the Bloc Québécois as the remaining possibility. Members of this regional party do not aspire to power in Parliament: rather their agenda is to defend the interests of Quebecers in the House of Commons. A good strategy for the Conservatives would therefore be to formulate a policy that, in legitimate ways, warrants the support of Quebecers. Possibilities include new infrastructure for energy security (*e.g.*, terminals for liquid natural gas) or a role in protection of the environment (*e.g.*, establishment of a carbon exchange in Montreal). This would put the Bloc Québécois in a dilemma: voting for the policy could increase the popularity of their Conservative rivals in Quebec; voting against it could decrease their own.

So while Canada needs an overarching oil and gas policy, long-standing political barriers prevent any government from tackling the matter at this time.

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[142] Marsden, Guy W. "The Liberal Third Option…"
[143] Canada. House of Commons. *Commons Debates*. 31st Parliament, 1st Session, October 9 to December 14, 1979, pp. 2361-2362.

CONCLUSION

A political economist announced recently that Canada now has a new NEP: the no energy policy.[144] Some argue that the government is better off regulating indirectly competitive markets than intervening directly in the energy sector itself. Presently in Canada a complex system of multiple horizontal regulators regulates the activities of market-driven energy companies. Others argue that the context of the energy sector changes too rapidly for a policy statement to yield meaningful results before the policy needs to be changed. For instance, the Government of Canada had to rapidly update the NEP in the early 1980s and the oil sands market assessments in the 2000s in response to unanticipated changes in energy prices.

Despite these arguments, past energy policies of Canada and the United States did meet their intent overall. The NEP succeeded in increasing ownership and control of petroleum-related revenues. Two serious U.S. studies published almost three decades ago have stood the test of time quite well. The fact that most of their recommendations implemented through policies did improve the posture of the U.S. energy security shows that energy policy statements can yield results.

There are in Canada energy issues that require government attention. The Government of Canada has a role in educating Canadians about some fundamental energy facts. It has a role in building consensus on what should be the major long-term goals of a national oil and gas policy, including considerations like: Western Canada's oil resources base (which will be called to play an important role within North America), the secure supply of crude oil to Eastern Canada, alternatives to conventional natural gas for

[144] Laxer, Gordon, "Canada's Energy Insecurity," *Toronto Star*, April 26, 2007.

the fast-approaching day when Canada will no longer be self-sufficient, Canada's energy-intensive economic structure, and emergency preparedness for oil supply chocks.

Scientific evidence on the causes of climate change reminds us that energy and environmental matters are inextricably tied. The Government of Canada thus faces another challenge in the management of clean air, an environmental resource that no one owns, but everyone depends on, in a global context such that Canada's contribution would in the best case have a minuscule impact relative to that of the main emitters. But Canadians like to believe that their country can set an example in environmental protection, and on a per capita basis Canada ranks third in emissions among countries in the Organisation for Economic Co-operation and Development. [145]

Today, it is reassuring to read that three decades ago the government did its best to look after the future energy needs of Canadians. For instance it wrote in its 1973 energy policy statement—before the first oil crisis:

> The use of energy, in amounts equal to any reasonable demand, is essential to the attainment of a high quality of life in Canada. It is indispensable to generate the wealth that will enable Canadians to … improve the quality as well as the prosperity of our living. Our energy policy must make this possible."[146]

It is indeed the responsibility of Canada's politicians to develop appropriate policy that reflects the society's expectations, aspirations and the needs of its citizens. Will today's politicians leave Canadians in as good a position three decades from now than they are today?

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[145] After the United States and Luxemburg. See: NRCan. *Energy in Canada 2000…*

[146] Canada. *An Energy Policy for Canada: Phase 1*, Ottawa: Information Canada, 1973, p. 29, quoted in DEMR. *An Energy Strategy for Canada…*

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