

Toward an Energy Security Strategy for Canada

A Discussion Paper

**Parkland Institute,
University of Alberta**

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About this Paper

The following discussion paper is the work of Parkland Institute's energy policy research team, which consists of David Thompson, Gordon Laxer, and Diana Gibson. Its writing began with a symposium of researchers and activists from around the country held in Calgary, Alberta in October 2005, and was further informed through significant consultation and input since then. Its purpose is to initiate discussion and set the stage for the publication of a comprehensive energy strategy proposal in early 2006.

About Parkland Institute

Parkland Institute is an Alberta research network that examines public policy issues. We are based in the Faculty of Arts at the University of Alberta and our research network includes members from most of Alberta's academic institutions as well as other organizations involved in public policy research. Parkland Institute was founded in 1996 and its mandate is to:

- conduct research on economic, social, cultural, and political issues facing Albertans and Canadians;
- publish research and provide informed comment on current policy issues to the media and the public;
- sponsor conferences and public forums on issues facing Albertans; and
- bring together academic and non-academic communities.

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Toward an Energy Security Strategy for Canada

A Discussion Paper

This paper is aimed at promoting discussion on the development of an energy security strategy. It is a made-in-Alberta initiative, in partnership with Canadians from energy producing and energy consuming regions.

In October 2005, the University of Alberta's Parkland Institute hosted an energy visioning session in Calgary, which was attended by individuals and representatives of organizations from across Canada. Many of the ideas informing this Paper were discussed at the Calgary session, and Parkland has also received significant input since then.

This paper is intended to take the discussion to the next stage. It sets out the context for an energy security strategy, and then provides principles to guide it. The next stage of this project will expand on the principles, setting out specific policy proposals to ensure that Canada's limited energy resources support the public interest and our distinct Canadian values. *An Energy Security Strategy for Canada and Alberta* will be published in early 2006.

BACKGROUND AND CONTEXT

In order to found a comprehensive energy security strategy, we need to consider the nature of our energy resources and the access that Canadians have to them, and may have in the future. We also need to consider related issues that are vital to Canadians; energy and how we use it has important ramifications for our environment, the economy, and our societal and cultural values.

This section provides a brief sketch of these issues. It does not aim to be comprehensive (nor could it be), but rather to remind readers of the ample discussions of such topics elsewhere.

The Future Security of our Energy Resources

This discussion paper focuses on fossil fuel sources of energy. Other energy sources contribute substantially to various needs in certain areas of Canada, but fossil fuels comprise over 90% of Canada's energy production. This proportion has held steady and actually slightly increased over 40 years, a period in which overall energy production has increased five-fold.¹ Just as reducing our dependency on fossil fuels is necessary, we also find it necessary to focus our analysis in this paper. Thus, where this paper refers to energy, resources and the like, it means fossil fuels (unless otherwise indicated).

Fossil fuels are non-renewable resources. There is only so much in the ground. The amount in the ground, although finite, is not known with precision. And not all the fossil fuels in the ground can be extracted. Even assuming better technology and more favourable economic conditions than we have today, what we will be able to extract is far less than what is there. Lesser still are "established reserves," defined as:

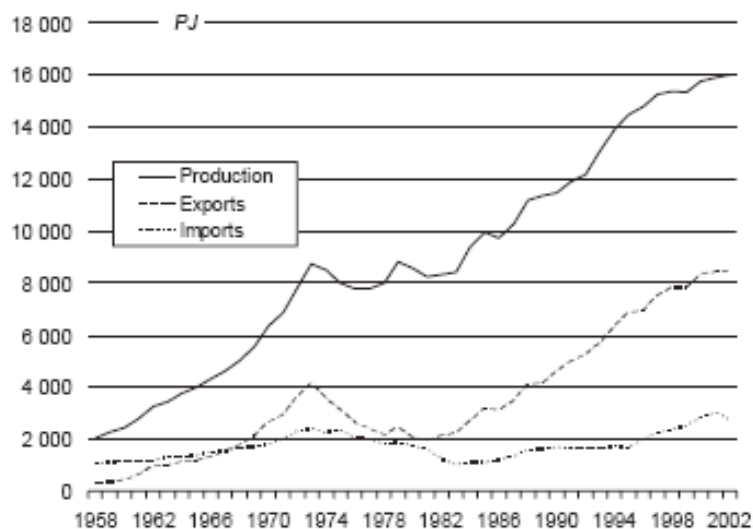
“all existing oil and gas wells, coal seams, etc. that can be profitably exploited under current economic and technological conditions. Established reserves fluctuate from year to year as existing deposits are depleted and new deposits are added (or previously non-economic deposits are reclassified as a result of changing technological and economic conditions).”²

A related concept, “reserve life” is defined as:

“the ratio of the size of established reserves to that of current annual extraction. It provides a measure of the number of years that reserves will last at current rates of extraction.”³

Reserves drop, and reserve life shortens, when extraction outpaces the discovery of new deposits. It appears that Canada’s coal reserves peaked around 1990 at a reserve life of 96 years, now down to less than 70 years.⁴ Natural gas reserves peaked in the early 1980s, with a reserve life of 27 years, which is now down to 8.7 years.⁵ Conventional crude oil reserves peaked around 1970,⁶ and the reserve life is now just 7 years.⁷ Short-term price hikes can slow the reduction of reserve life, but the long term trend is governed by a finite supply that we are extracting at an increasing rate (see the Production line in figure 1).

Figure 1
Primary energy production, exports and imports, 1958 to 2002



Source of data: Statistics Canada, Environment Accounts and Statistics Division.⁸

Canada needs to reduce domestic consumption. However, in order to substantially reduce extraction and extend our reserve life, we will have to tackle exports, which now constitute a majority of our production. And the proportion of exports is growing rapidly. Between 1982 and 2002:

- Natural gas consumption increased by 96%, while exports increased by 396%
- Crude oil consumption increased by 29%, while exports increased by 595%⁹

With the rapid growth in the percentage of production taken up by exports, Canada simply will not be able to substantially reduce its future rate of fossil fuel extraction through conservation. Extending our reserves requires cutting exports.

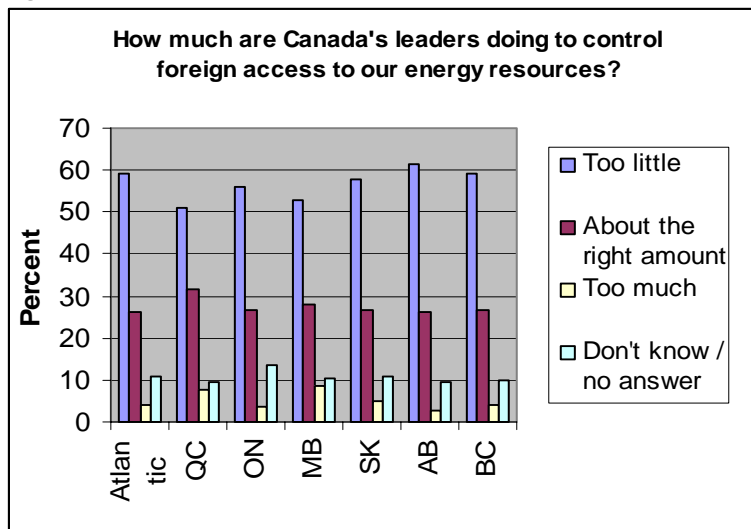
Exports

In the context of shrinking reserves and growing extraction, security of Canada's future energy supply is critical. And yet our provincial and federal governments have not created an energy security strategy. The United States has created one, called the National Energy Policy.¹⁰ It deals with a wide range of strategies to secure US supply in the future. And it is clear that the US is not afraid of taking strong action when its interests are at stake: witness the Congressional move to stop the CNOOC (Chinese state oil company) purchase of Unocal earlier this year, and the speedy installation of US firms in the Iraqi energy sector after the invasion and termination of contracts with German and Russian firms.

The US NEP focuses significant attention on security of supply for the US. Because the US imports most of its fossil fuels, the National Energy Policy includes an entire chapter devoted to supply from other countries, including Canada. Given that Canada's reserves are finite, and that the US considers them an integral part of their future energy supply security, Canada would be wise to focus its attention on energy supply security for Canada.

Canada does, of course, have a national policy governing energy exports to the United States, and it is contained in NAFTA, the North American Free Trade Agreement. Article 6.05 of NAFTA¹¹ prohibits Canada from reducing the proportion of our energy that we export to the United States and Mexico. This prohibition would require Canada to reduce its own consumption if it wants to reduce exports. When (not if) production of any of Canada's fossil fuels declines to the point where we become a net importer, we are still not allowed to restrict our export proportions. Even when domestic production falls to negligible amounts, Canada will be prohibited from acting to reduce exports.¹² Energy exports can go up, but they can't be brought down; this is the "ratcheting upward" nature of the proportionality rule.

Figure 2



Source: The Environmental Monitor: McAllister Opinion Research and Globescan Incorporated¹³

Almost all Canadian natural gas exports, and over 99% of oil exports, go to the US.¹⁴ When former Prime Minister Brian Mulroney signed NAFTA in 1992¹⁵, the percentage of natural gas and oil exports to the United States was 41% and 44% respectively.¹⁶ When it came into force in 1994, Canada could have capped exports at about those proportions. Just ten years later those export percentages had climbed to 56% and 62% respectively.¹⁷ And so by 2002, Canada would only have been allowed to cap gas and oil exports at 56 and 62%. This illustrates the “ratcheting upward” of the proportionality rule. Energy export percentages are rising fairly steadily. Will they reach 70%, 80% or higher?

Like the United States, our other NAFTA trading partner, Mexico, has an active energy strategy. It negotiated, within NAFTA, the authority to determine export quantities (not to mention price, production and imports). Unlike Canada, Mexico is not required to maintain export volume proportions.¹⁸ Autonomy in this area enables more democratic decision-making over conservation, economic development, and the social and cultural ramifications of energy production. As noted in the US National Energy Policy: “Mexico will make its own sovereign decisions on the breadth, pace, and extent to which it will expand and reform its electricity and oil and gas capacities.”¹⁹ In contrast, the US NEP points out Canada’s apparent willingness to yield to US demand for energy: “Canada’s deregulated energy sector has become America’s largest overall energy trading partner, and our leading foreign supplier of natural gas, oil and electricity”.

Considering the finite nature of the resource, and the ratcheting upward rule, it is clear that our current policy provides precisely the opposite of energy security. It could aptly be termed an “Energy Insecurity Policy”. Indeed it is hard to conceive of what policy could make Canada more insecure than a rule that says that energy exports can continue to rise and severely limits what we can do to reduce the proportion. Like the US and Mexico, Canada needs an energy security policy that places *Canadian* energy security first and foremost.

Interestingly, we used to have a Canadian energy security policy. RJ Dinning headed a commission in 1949 that recommended that Alberta retain 50 years supply of natural gas before exporting from the province. If there were surpluses, exports should go to other Canadians, before any exports, the Dinning Commission said.²⁰

Alberta’s Social Credit government implemented a rule that oil and gas could not be exported unless there was a 30 year supply for Alberta²¹ – the vital supply safeguard. This rule was eliminated by the current government of Alberta when NAFTA came into effect. Currently Alberta’s export system includes a requirement that there be a 15 year reserve for Alberta consumption, but allows reserves to be calculated as “expected reserves,” which include both proven reserves and “anticipated reserves,” and will soon include unconventional reserves.

Likewise the National Energy Board replaced its previous supply safeguard, which was based on reserve life, with a market-based rule.²² The new rule requires prospective exporters to make their offer to foreign buyers available on roughly the same terms as to Canadian buyers. Given that this merely places into policy the market reality of obtaining the best price for one’s goods, it is no surprise that there has never²³ been a complaint under this rule. In any event, industry and the Board have largely circumvented this rule by replacing long-term licences with short-term export orders that do not have even this

requirement.²⁴ Indeed, for gas exports, there hasn't been a long-term licence issued in over seven years; for oil exports all licences are short-term orders.²⁵

The government and industry response to our rapidly dwindling conventional oil and gas reserves is not that we need to protect them, but rather that we will shift over to unconventional sources – tarsands to replace conventional oil, and coal-bed methane to replace natural gas. Tarsands reserves are huge, and coal-bed methane supplies are potentially huge, though unproven.²⁶ However, as we will see later in this paper, the environmental costs of relying on these reserves would be very high.

Securing Economic Benefits from our Energy

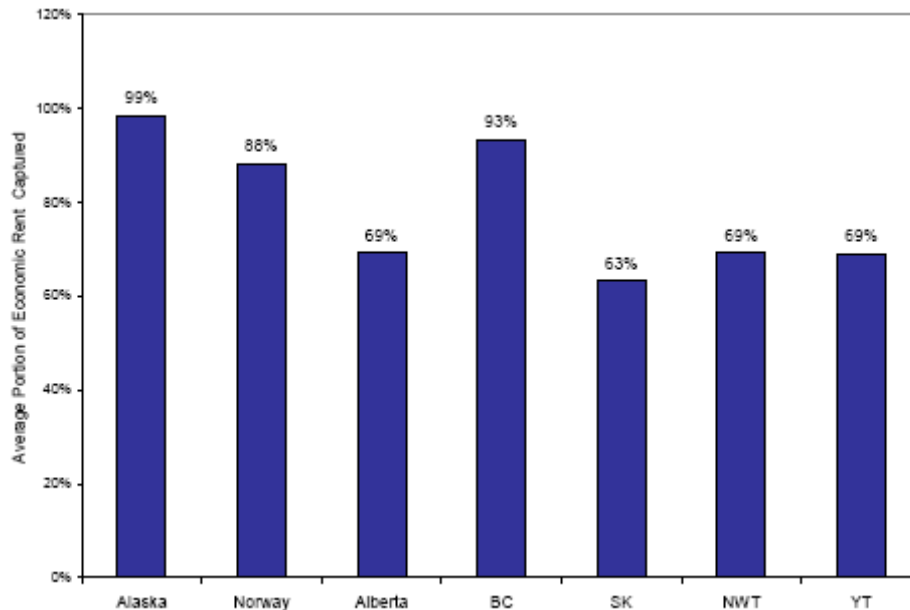
Canada's energy resources are a tremendous endowment, and we should be receiving a significant economic benefit from them. And we are receiving an economic benefit, but it is far short of what it should be.

Rents, Royalties, and Selling off the Family Silver

There has been significant debate over energy rents and royalties in Canada in recent years. Energy "rents" are the financial surplus available from the proceeds of selling the resource. Rents are simply the price obtained for the product minus the costs of finding, developing, extracting, and transporting it and a "normal" level of profit (i.e. a level of profit that assumes a competitive market with other investments). Rents are a measure of nature's capital.

"Royalties" are not taxes. Rather they are the portions of the rents collected on behalf of the owners of the resource (i.e. the public in the producing provinces and territories) when it is sold. In theory, 100% of rents could be collected by the public,²⁷ and resource corporations would still have enough money to cover all their costs and make normal levels of profit.

As a number of previous studies have pointed out, Canada's provincial government collect less in rents than they could. Figure 3 below illustrates the rents collected by some provinces and by Alaska and Norway.²⁸ Notably, the jurisdictions collecting fuller rents still manage to attract private sector energy investment.

Figure 3: Canadian provinces collect inadequate rents (average 1995-2002)

Source: Pembina Institute for Appropriate Development²⁹

Figure 3 above shows that Canadian provinces are foregoing anywhere from 7 to 37% of available fossil fuel rents. To provide meaning to this, Alberta fossil fuel revenues are currently forecast at \$13.2 billion for 2005-2006.³⁰ If Alberta is capturing rents at the historic average rate, it is foregoing \$6 billion in revenues this year. This represents a forced "gift" to energy corporations from every family in the province of about \$6,000,³¹ dwarfing the province's natural gas rebates and the one-time \$400 per person resource rebate.

In particular, the tarsands operations are paying a mere 1% royalty rate until their capital investments are paid off. This royalty holiday is essentially a subsidy to energy corporations. However, if subsidies are needed to extract the tarsands, then it appears that tarsands development is not a good financial investment at this time. If the tarsands are a good investment, then they can financially stand on their own feet, and subsidies are not needed.

In Alberta, government fossil fuel revenues have not always been low. Premier Lougheed increased rents collected to assist in developing the value-added petrochemical industry. And to use the increased rents to help diversify Alberta's economy beyond oil and gas. During his tenure as Premier, they were more than double the rates per barrel than under his successors Don Getty and Ralph Klein.³²

The royalties which are collected in Canada tend to be treated as ordinary revenue by governments, and are used to offset the costs of program spending, tax cuts and corporate subsidies. However, fossil fuel resources are finite. They are nature's capital and should only be converted to equivalent forms of capital. In proper business accounting, sales of assets would show up only on the balance sheet, not on the income statement. In other words, the cash derived from the sale of an asset is also considered an asset, not ordinary income. The government of Alberta makes no bones about the fact that it is selling off finite natural capital assets to fund ordinary expenses:

"Energy related royalty revenues account for about one-third (about \$9.74 billion in 2004-05) of the total revenue collected by the Province. These revenues help to keep Alberta's overall taxes low, and are critical to the delivery of public programs, such as health and education."³³

This stands in marked contrast to what economists say is required to achieve sustainability. Consistent with the normal accounting rules on assets and incomes, economists state that sustainability requires, at a minimum, that natural capital rents should be invested in other forms of capital.

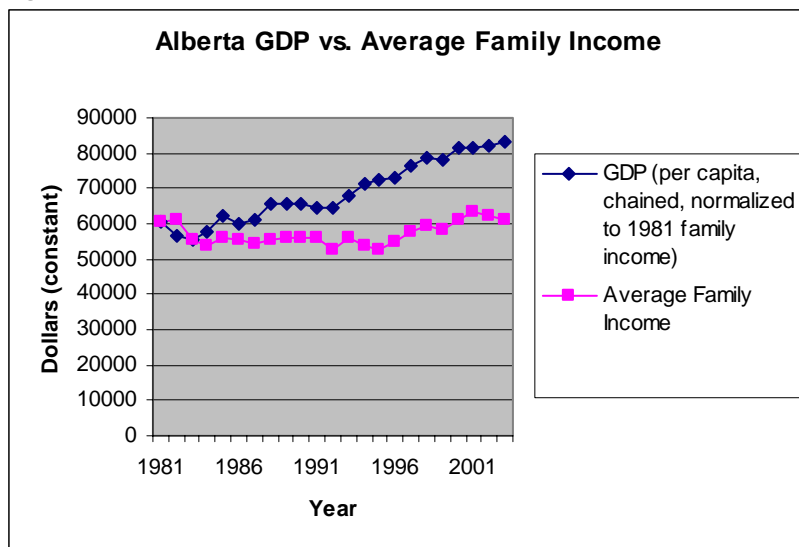
Where Have All the Dollars Gone?

The news we hear from governments on the economic benefits coming from the fossil fuel industry is perpetually rosy. For instance, Alberta's government gushes:

"Energy also accounts for almost 70 per cent of the value of our province's \$66 billion in total exports and about one-quarter of the total \$170 billion in Gross Domestic Product. (GDP)."³⁴

Certainly Alberta's GDP per capita is high - the highest in Canada. And it has been going up, as has Canada's overall GDP. Energy extraction has been largely responsible. However, it is less clear how much Alberta's citizens have benefited from this aggregate wealth. GDP states how big the pie is, but it does not state who is eating it. Figure 4 shows the strongly rising GDP, but also shows that family incomes have not risen significantly in over 20 years.

Figure 4

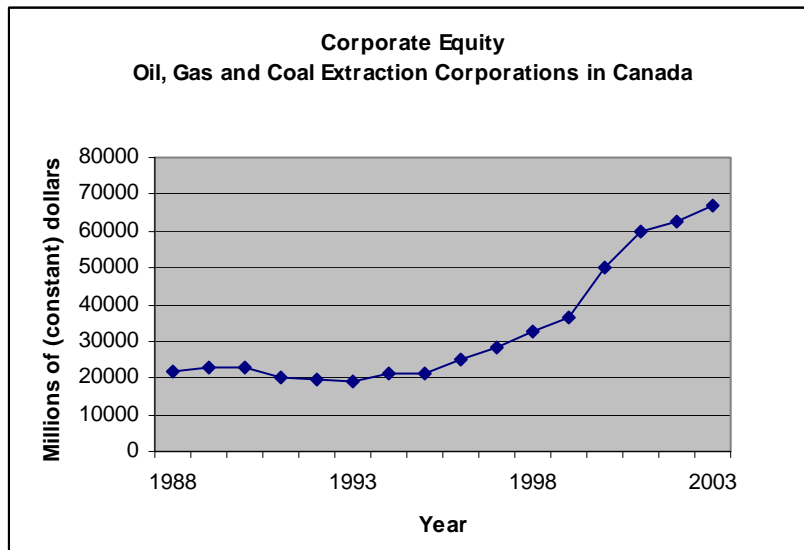


Sources: Statistics Canada CANSIM Tables Table 384-0013 (GDP) and 202-0403 (Family Income)

Clearly the dollars from the bonanza have not been shared with all of the Alberta households who are the collective owners of the resource in Canada's most fossil fuel-rich province. However, those dollars have been shared – amply – with energy corporations. As figure 5 shows, energy corporations have been socking away rising levels of profits and increasing their holdings dramatically.

Given the high levels of foreign corporate ownership in the fossil fuel sector – not just multinationals and foreign-owned subsidiaries, but also foreign share holdings of “Canadian”, publicly-traded corporations – it is clear that a significant portion of Canada’s energy wealth is flowing out of the country.

Figure 5



Source: Statistics Canada CANSIM Table 187-00011 (Equity) and 326-00011 (Inflation).

Energy and Environmental Security

Energy exploration, development, production, and transportation all carry significant environmental costs. The combustion of fossil fuels is behind the smog that kills “more Canadians than car accidents, breast cancer, prostate cancer and melanoma.”³⁵ In fact smog kills over 5,000 people and costs over \$7 billion per year - in Ontario alone.³⁶ It is also – by far – the leading cause of climate change gas emissions.

According to data from the National Pollutant Release Inventory, facilities in the energy sector are among the worst air polluters in Canada.³⁷ The concentration of the energy sector, and particularly the tarsands developments, in Alberta has made it the worst industrial polluting province in the country. For absolute emissions (not per capita), Alberta is ranked:³⁸

- #1 for air releases of pollutants with suspected respiratory effects
- #2 for air releases of pollutants suspected of causing cancer
- #2 for air releases of pollutants with suspected developmental and reproductive effects
- #1 for air releases of pollutants considered toxic under the *Canadian Environmental Protection Act*

It must be borne in mind that although Alberta failed to take top spot in two of these categories, it is fourth in population, behind BC, Quebec and Ontario (the latter has nearly

four times the population of Alberta). Alberta contributes 25% of Canada's air pollutants, despite having 10% of its population.³⁹

Climate Change: Kyoto and Beyond

Canada needs to take serious action immediately in order to honour our commitments under the Kyoto Protocol. Canada's greenhouse gas emissions have risen by 24% above our Kyoto commitments since 1990.⁴⁰ Our emissions have shot upward, placing us at 6th worst of the 40 developed "Annex 1" signatories to Kyoto. Our emissions percentage increases are almost double those of the United States, which has refused to ratify the Kyoto Protocol. Unless we take action, by 2010 our greenhouse gas emissions will be "about 36 percent above 1990 levels, or about 45 percent above our Kyoto target."⁴¹

The scientific consensus is that in order to head off serious climatic disruption (far greater than the US hurricanes of 2005) we need to cut emissions well beyond the small starts anticipated in Kyoto. Other jurisdictions are developing plans to cut greenhouse gas emissions by 40-85% in the long term, as noted in figure 6 below. Canada can, and should, have a strategy to achieve significant, long-term reductions in greenhouse gas emissions. Given that some of the largest emitters in the country are in the energy production sector, our strategy needs to include substantial reductions from that sector.

Figure 6
Post-2012 GHG emission reduction commitments by governments in industrialized countries (relative to 1990 levels except where noted).

	% REDUCTION IN EMISSIONS 1990-2020	% REDUCTION IN EMISSIONS 1990-2050
California	0 ^a	80
EU (25 countries)	15-30 ^b	60-80 ^c
France	-	75-80 ^d
Germany	40 ^e	-
New England states/ Eastern Canadian provinces	at least 10	75-85 ^f
New South Wales	0 ^{a,h}	60 ^h
Sweden	-	43 ⁱ
UK	ca. 27-33 ^j	60 ^j

a This does not imply zero effort but rather that emissions will be brought down after having risen.

b Government leaders' recommendation for developed countries, rather than a commitment.

c Environment ministers' recommendation for developed countries, rather than a commitment.

d Reduction below "current" level in 2004.

e Offer conditional on the EU committing to a 30% reduction by same date.

f Suggestion based on "current science"; reduction below "current" level in 2001.

g Reduction by 2025.

h Reductions below 2000 level.

i Reductions in per capita emissions below "current" level in 2001.

j Reductions apply to CO₂ only. The emission levels (MtC) used in the White Paper are 164.5 (1990), 110-120 (2020) and "around 65" (2050).

Source: David Suzuki Foundation⁴²

Local Environmental Impacts

In addition to their substantial contributions to climate change, energy exploration, development, extraction and transportation also cause local environmental harm. Offshore energy exploration and development, which constituted the last remaining new supplies of conventional oil and gas, carry significant ecological risks. Pipelines fragment forests and, in some areas, energy development is responsible for as much forest loss as industrial forestry. In particular, tarsands and coal-bed methane development, because of their enormous potential reserves, will have significant environmental costs.

The tarsands are generating large and mounting environmental costs in several areas, including:

- excessive water consumption, the accumulation of tailings, and water pollution;
- the fragmentation and entire removal of delicate boreal ecosystems, with no serious amount of reclamation; and
- air pollution and acid rain.

The growing environmental footprint of the Alberta tarsands has been documented elsewhere.⁴³ Now it appears that even the Alberta government is beginning to acknowledge the environmental implications of tarsands development; its Mineable Oil Sands Strategy (MOSS) discussion paper states that:

The development zone will be managed recognizing oil sands mining as the priority resource use. Specific conditions related to the protection of wildlife habitat within the development zone will not be implemented prior to or during oil sands mining.⁴⁴

The MOSS will formalize the developing reality that the tarsands area has been made into an environmental sacrifice zone.

Coal-bed methane is, as the name suggests, methane present in coal formations. Accessing the methane is normally more costly – financially, for the environment, and for local communities – than accessing conventional natural gas. In addition to the normal exploration and drilling, coal-bed methane exploitation often requires:

- dewatering of coal formations in order to release absorbed methane, often requiring disposal of brackish water and putting freshwater resources at risk;
- venting and flaring of gas produced during the dewatering process and prior to economic production, leading to local air quality problems and increased greenhouse gas emissions;
- high-pressure injection of water and other substances into coal seams to fracture them, which can deplete fresh-water aquifers;
- noise from compressors and pumps, often disturbing wildlife or quality of life for rural neighbours; and
- very high density of wells in order to access the pockets of gas, and resulting land fragmentation and wildlife, farming and community impacts.

With the higher environmental costs, it is far from clear that unconventional fossil fuel production is a panacea to our shrinking conventional reserves.

70% of Canadians feel that our leaders are not doing enough to protect the environment.⁴⁵ An energy strategy that provides security for all Canadians must also provide security from the environmental impacts of energy production and use.

Securing the Canadian Social and Cultural Context

First Nations

The First Nations of Canada lived across this land for thousands of years prior to the invasion and occupation by Europeans. The land was removed from them by a variety of means ranging from well-intentioned treaties to simple theft. And yet at the time of confederation, the issue of who would obtain rights to subsurface resources, including fossil fuels, was between the federal government and the provinces. In the end, the provinces took title to subsurface rights; provinces subsequently created by the federal government, such as Alberta, were eventually granted subsurface rights by the federal government.

In addition to the clear need to share the wealth of the land with the First Nations who owned it before the Crown did, there is a need to address the profound impact that energy development has on hunting grounds, fisheries and other traditional uses. Land fragmentation and pollution from energy development (see above) damage habitat and affect hunting and gathering of country food, with associated health impacts. Any energy strategy must recognize the prior uses and rights of First Nations people.

Producing and Consuming Regions

Our common heritage as Canadians includes our natural resources. Canada's federation is founded upon sharing the good times and the bad, and history shows that this sharing of good and bad fortunes has extended to the energy sector. Prior to the National Energy Program, during which other Canadians shared in Alberta's energy wealth, we had the National Oil Policy, in which Canadians west of the Ottawa Valley paid above-market prices for Alberta oil.⁴⁶

The sharing ethic also prevails among the public, despite outbursts of "hands off our resources" from Alberta Premier Ralph Klein. The majority of Albertans - like other Canadians - feel that resources belong "to all Canadians" and not "only to the people who live in the provinces where they are found." Likewise the majority of Albertans and Canadians feel that royalties from resource extraction should be shared with other Canadians, regardless of where they live.⁴⁷ An energy security strategy should provide energy security for all Canadians.

Jobs and Workers

Between 1990 and 2000 the energy industry, through a variety of corporate restructuring and cost-cutting initiatives, managed to shed over 20,000 jobs.⁴⁸ This occurred during a period in which energy corporations were amassing almost \$30 billion in equity, as noted in figure 5 above.

An increasing focus and reliance on, and preferential treatment of raw resource extraction over value-added processing has resulted in job losses for Canada. In the petrochemicals industry, plants are shutting down due to unregulated market fluctuations in natural gas prices, in combination with rising natural gas and natural gas liquids exports. In 2005, the

Celanese Plant in Edmonton and the Methanex plant in Kitamat, B.C. were both shut down, eliminating hundreds of good jobs that supported families and communities.⁴⁹ The industry is expanding dramatically in other regions of the world while Canada, previously a world leader in petrochemicals is seeing no new investments.

These statistics and examples illustrate the point that Canada's energy strategy needs to be sensitive to the needs of workers, their families, and their communities. Canada should have an energy strategy that creates good jobs in the value-added processing sector, and provides job security and just transitions for displaced workers.

Consumers

Whether they live in net-energy-producing regions or net-energy-consuming regions, Canadian consumers pay for the financial costs of fossil fuel production and for substantial corporate profit-taking. And they know they are paying for the profit. In a September 2005 poll on gasoline price hikes, 59% of decided Canadians said they "would agree with the government nationalizing Canadian oil resources."⁵⁰ Protecting the environment also has costs, and some of these will be borne by consumers. Most obvious in the past year have been high fuel prices – the direct result of being bound by trade rules to a global market for fossil fuels, in which hurricanes thousands of kilometres away send prices rising at Canadian pumps.

Governments are giving home heating rebates to deal with the political fallout of high fuel prices. However, these *ad hoc* handouts fail to adequately address wildly-swinging market prices, and often appear less than a genuine consideration of the needs of consumers and more like election promises and retirement monuments. An energy security strategy should protect consumers in a reliable and predictable way.

ENERGY SECURITY PRINCIPLES

As noted from the above, Canada essentially has an "Energy Insecurity Policy." In order to deal with serious concerns about Canadians' access to energy in the future - not to mention the environmental, economic, social and cultural implications - we need a comprehensive Energy Security Strategy. Because of the constitutional and political realities of the Canadian federation, such a strategy needs to guide government action at both the provincial and federal levels, and in both the net-producing and net-consuming regions of Canada.

In general, governments should exist to serve the domestic public interest. Canada's fossil fuels are owned by the public in energy producing provinces, through the Crown. They are not owned by the corporations that extract them. Nor are they owned by the various governments in power from time to time. Those governments are to steward our fossil fuels - to protect and use them for the public interest. Service of the public interest is the broad, overarching principle that should guide the development of an energy security strategy.

However, the way Canada's energy resources are managed today suggests that the priorities are exactly the reverse of this. Our government practices tend toward:

1. extracting and exporting the resources as quickly as possible, with little or no consideration to resource availability for future generations;
2. giving much of the value of our resources to corporations, many of them foreign-controlled, and spending the rest as if it were ordinary revenues instead of irreplaceable natural capital;
3. sacrificing the environment in order to enable faster extraction; and
4. placing First Nations, employment and communities at the mercy of corporations and international markets instead of actively protecting our unique cultural and societal arrangements.

The public-interest approach suggests that instead of the bonanza mentality that currently guides provincial and federal government actions, an energy security strategy should provide for:

1. future security of the resource;
2. economic security;
3. environmental security; and
4. security of Canadian societal and cultural arrangements.

Each of these principles is briefly discussed below. As noted earlier, these general principles will be fleshed out with specific policy proposals in an Energy Security Strategy document to be released in early 2006.

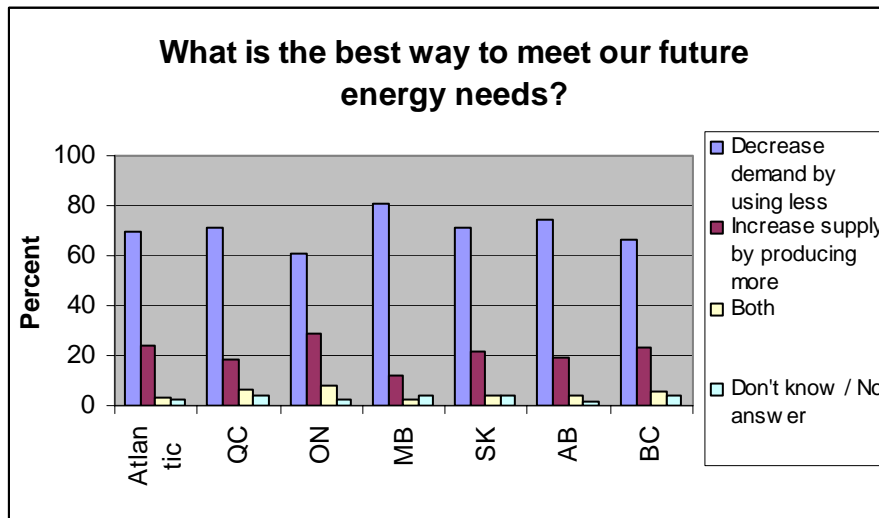
Principle #1 - Future Security of the Resource

Conserve

As a non-renewable resource, fossil fuels can be depleted quickly or they can be depleted gradually. However, they can only be depleted; there is no such thing as sustainable extraction of a non-renewable resource. We, the current generation, should not be the sole beneficiaries of Canada's resources. *We should manage our non-renewable resources as responsible stewards, and carefully conserve their economic availability for future generations.*

Figure 7

Canadians prefer conservation as a way of meeting our future energy needs.



Source: The Environmental Monitor: McAllister Opinion Research and Globescan Incorporated⁵¹

Be Smart with Money - Sell High

Fossil fuel prices will only rise in the long term. It makes little financial sense to sell off your assets when you know the price is going to be higher later. *We should "bank" more of our fossil fuels now, and sell and use them over a longer period into the future when their value is higher.*

Canadian Resources Are for Canadians

It goes without saying that Canadian resources should be managed in the interests of Canadians, including future generations, first and foremost. Yet the proportionality rules of the NAFTA trade regime prevent Canada from reducing export proportions in order to protect domestic supply. *We should eliminate any arrangements that limit the ability of Canadian governments to protect domestic energy supplies for Canadians. We should create new arrangements that require governments to protect domestic energy supplies for Canadians.*

Democratic Management

The corporations that currently extract our resources owe their sole (not primary, but sole) allegiance to their shareholders. Their directors are prohibited by law from reducing profits in order to conserve the resource, protect the environment or otherwise serve the broader public interest. *We should increase the democratic management of the resource and its extraction. The organizations managing resource extractions should be doing so with the public interest as their primary, if not sole, allegiance.*

Principle #2 - Economic Security

Don't Give It Away

Governments collect fossil fuel rents on behalf of the owners of the resource – namely the citizens. Royalty rates should be treated in a business-like fashion, as they are in other jurisdictions. Specifically, the highest price possible should be obtained. No business would sell anything for less than it is worth; nor should the financial agent of the people (i.e. the government). *The maximum practicable royalties should be collected from our resource extraction.*

Treat Assets as Assets

Smart people treat assets as assets. Businesses don't sell their assets and pretend that they are inventory, and if they did they would go out of business. Our fossil fuel resources are natural capital. Proceeds of their sale should not be treated as if it were an ordinary revenue source to support consumption. Any sale of assets should be regarded as an extraordinary event requiring careful consideration, and the proceeds should be invested in other forms of capital such as education or heritage savings funds. *We should ensure that the benefits from our fossil fuels are invested in other forms of capital that will ensure our future prosperity and energy security.*

Plan For the Future

Our fossil fuels will run down, even if we delay that decline through adopting wise conservation policies. We need a solid, realistic plan for that inevitability. Businesses do long-term strategic planning, and so should governments. *We should create a long-term economic plan that explicitly takes into account the decline and depletion of the resource, and contains realistic measures to ensure our future prosperity.*

Principle #3 - Environmental Security

Global Environmental Security

Fossil fuel resource extraction, processing and combustion release gases that are already causing significant climate disruption. Record temperatures, record hurricanes, and other manifestations of climate change are now commonplace. *We should ensure that the extraction and use of our resources minimize the impacts on the planet. Global problems require global solutions, and we cannot "go it alone;" we should cooperate with other jurisdictions in an effective global solution to climate change.*

Local Environmental Security

As Canadians we are unique in the world in our profound cultural connection to, and economic and physical dependence upon, our land and water. Fossil fuel combustion air pollution kills thousands per year, and causes serious health and economic costs. We should minimize the impact of our extraction and use of fossil fuels on the local environment. *Effective domestic policies to protect the environment should be created and enforced. This will include a mix of policy instruments designed to ensure that all sectors, regions, and people share the task of protecting our environment.*

Principle #4 - Security of Canadian Societal and Cultural Arrangements

Putting First Nations First

The diverse First Nations of Canada lived across this land for thousands of years before the now-dominant European culture. Recognition of the rights and interest of First Nations people requires going beyond bare adherence to the letter of treaty and constitutional law; it means recognizing that we are on First Nations land and that we owe them for it. *The benefits received from our massive extraction of the land's resources should be used for education, social and health services, land claims and land use settlements, and the elimination of poverty among First Nations people. Energy development should not occur where there are any outstanding land claims. First Nations peoples should be seen as full partners in negotiating the terms for proceeding where land claims have been addressed through treaty.*

Benefits for Both the Producing and the Consuming Regions of Canada

Canada's history is one of sharing, and Canadians (including Albertans) feel that resources belong to all Canadians, and that royalties from resource extraction should be shared with all Canadians regardless of where they live. Of course each province and region has its own unique set of endowments, and we must recognize the legitimacy of the local people's

interests in those endowments. *As we increase the domestic, public benefits that we obtain from extracting our resources, those benefits should be shared among citizens of both the producing and consuming regions, with the majority of benefits flowing to citizens of producing regions.*

Protecting Jobs and Workers

Because fossil fuels are finite, their extraction will not provide jobs that last forever. Indeed, energy corporations have cut jobs even over a long period of increased production, consumption and profit-making. Although slowing the rate of resource depletion would also have an impact on jobs, transforming our raw-resource-extracting economy into a value-added-processing economy will create many more. So will investing in the development of renewable energy. Both fairness and the wise management of Canada's human resources require that energy workers be treated with dignity and respect. *We should protect energy-related jobs and workers by developing an industrial strategy that includes: investing in value-added processing; investing in renewable energy development; and just transitions for energy workers.*

Protecting Consumers

Canadian consumers pay for the financial costs of fossil fuel production, and also for substantial corporate profit-taking. Protecting the environment also has costs, and some of these will be borne by consumers. *Ad hoc* government handouts inadequately address wildly-swinging market fuel prices, and seem more political than helpful. *We should use consistent, depoliticized policies to reduce the impact on low-income Canadians of both free-market price swings and the unavoidable costs of environmental protection.*

CONCLUSION

Canada must get out of the energy proportionality clause in NAFTA - either by seeking a Mexican exemption or by abandoning NAFTA on the grounds that the US has torn up the agreement by ignoring its rulings. If one party to an agreement ignores the agreement, it means the other parties are not bound by it either.

To unite Canadians around a Canada-first energy security strategy, and avoid West versus East divisions, the strategy must avoid being anti-Albertan. What can unite all Canadians is an emphasis on security of supply. All of us live in this cold, vast country. If we Canadians do not look after our own needs for energy, who will?

Endnotes

¹ Coal is approximately 9%, oil 33%, gas 49%, and electricity 9% for the most recent year of data (2002). 1982, fossil fuels comprised less than 87% of production. Source: Statistics Canada, *Human Activity and the Environment 2004*, Feature Article "Energy in Canada", Table 1.3, at p. 3.

² Statistics Canada, *Human Activity and the Environment 2004*, Feature Article "Energy in Canada", Text Box 1.1, at p.6.

³ Statistics Canada, *Human Activity and the Environment 2004*, Feature Article "Energy in Canada", Box 1.1, at p.6.

⁴ Statistics Canada, *Human Activity and the Environment 2004*, Feature Article "Energy in Canada", Table 1.8 at p.8.

⁵ Statistics Canada, *Human Activity and the Environment 2004*, Feature Article "Energy in Canada", Table 1.8 at p.8.

⁶ Statistics Canada, CANSIM Table 130-0001.

⁷ Statistics Canada, *Human Activity and the Environment 2004*, Feature Article "Energy in Canada", Table 1.8 at p.8.

⁸ Statistics Canada, *Human Activity and the Environment 2004*, Feature Article "Energy in Canada", Table 1.2 at p.2.

⁹ Statistics Canada, CANSIM Table 128-0002.

¹⁰ *National Energy Policy: Report of the National Energy Policy Development Group* (US Government Printing Office: Washington, May 2001). Available online at <http://www.whitehouse.gov/energy/>. Accessed November 28, 2005.

¹¹ The text of NAFTA is available at <http://www.dfait-maeci.gc.ca/nafta-alena/chap06-en.asp?#Article605>.

¹² Article 6.05 states that "a Party may adopt or maintain a restriction... with respect to the export of... energy... only if... the restriction does not reduce the proportion of the total export shipments of the specific energy... made available to that other Party relative to the *total supply* of that good of the Party" [emphasis added]. "Total supply" is defined to include domestic production *and* imports.

¹³ McAllister Opinion Research and Globescan Incorporated, *The Environmental Monitor - Tabular Report* (McAllister Opinion Research: Vancouver, 2005) at p.42.

¹⁴ US Department of Energy, *Country Analysis Brief, Canada*. <http://www.eia.doe.gov/emeu/cabs/canada.html>. Accessed November 28, 2005.

¹⁵ <http://www.sice.oas.org/trade/nafta.asp>.

¹⁶ Statistics Canada, CANSIM Table 128-0002.

¹⁷ Statistics Canada, CANSIM Table 128-0002.

¹⁸ T.Turner and D.Gibson, *Back to Hewers of Wood and Drawers of Water: Energy, Trade and the Demise of Petrochemicals in Alberta* (Parkland Institute, University of Alberta: Edmonton 2005) at p.25. Also available at <http://www.ualberta.ca/~parkland/research/studies/PetroChemWeb.pdf>. Accessed November 29, 2005.

¹⁹ *National Energy Policy: Report of the National Energy Policy Development Group* (US Government Printing Office: Washington, May 2001) at p.8-9. Available online at <http://www.whitehouse.gov/energy/>. Accessed November 28, 2005.

²⁰ Alberta, *Enquiry into Reserves and Consumption of Natural Gas in the Province of Alberta*. Natural Gas Commission. 1949.

²¹ J.Richards and L.Pratt, *Prairie Capitalism* (McLelland and Stewart: 1979) p. 64.

²² Paul G. Bradley and G. Campbell Watkins, *Canada and the U.S.: A Seamless Energy Border?* (CD Howe Institute: Ottawa, 2003) at pp.6-7. http://www.cdhowe.org/pdf/commentary_178.pdf. Accessed November 30, 2005.

²³ Paul G. Bradley and G. Campbell Watkins, *Canada and the U.S.: A Seamless Energy Border?* (CD Howe Institute: Ottawa, 2003) at p.7. http://www.cdhowe.org/pdf/commentary_178.pdf. Accessed November 30, 2005.

- ²⁴ T. Turner and D. Gibson, *Back to Hewers of Wood and Drawers of Water: Energy, Trade and the Demise of Petrochemicals in Alberta* (Parkland Institute, University of Alberta: Edmonton 2005) at p.19. Also available at <http://www.ualberta.ca/~parkland/research/studies/PetroChemWeb.pdf>. Accessed November 29, 2005.
- ²⁵ Personal communication, B. Bingham, Technical Leader, North American Gas Markets, National Energy Board of Canada, November 30, 2005.
- ²⁶ The Alberta Energy Utilities Board states "there are insufficient data at this time to provide a meaningful estimate of what portion of this resource may be recoverable" *EnerFAQs 10: Coal Bed Methane* <http://www.eub.gov.ab.ca/BBS/public/EnerFAQs/EnerFAQs10.htm#cbmpotential>. Accessed November 29, 2005.
- ²⁷ Other avenues for collecting rent include taxes, lease sales and dividends from public ownership.
- ²⁸ Parkland Institute, *Giving away the Alberta advantage: Are Albertans receiving maximum revenue from our oil and gas?* (Parkland Institute: Edmonton, 1999) at p.4. Executive Summary available at <http://www.ualberta.ca/~parkland/research/studies/execsum/ESABAdv.html>. Accessed November 29, 2005. A. Taylor, C. Severson-Baker, M. Winfield, D. Woynillowicz, M. Griffiths, *When the government is the landlord* (Pembina Institute: Drayton Valley, 2004). Available at http://www.pembina.org/publications_item.asp?id=171. Accessed November 29, 2005.
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