

Obstacles to Powering Down to a Post-carbon Canada

By

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Abstract

This paper focusses on the political-economic obstacles to reorienting Canadian energy and environmental policies to deal with the triple crises of our time: climate change, peak oil and energy insecurity. The paper explores the main obstacles for Canada - Alberta's tar sands, NAFTA's energy proportionality clause, and fear of provoking Alberta's regional and pro-corporate reaction, and outlines ways of overcoming the obstacles. The paper concludes by reframing the debate around energy security and climate justice, guaranteeing all residents the right to a basic amount of energy, and using Canada's conventional oil as a transition fuel to a post-carbon society.

The problem with oil is that even after it spiked to \$147 a barrel in July 2008, it was still too cheap. A litre of oil in Canada costs about \$1.00, plus a few dimes. It's cheaper than a litre of free city water bottled and sold as 'nature's own'. What other liquid costs a dollar a litre? It's been called a 'free slave' because it replaces four and a half weeks of human labour. Soon it will seem a bargain at five or seven dollars a litre.

The world is about to experience severe international oil-supply shocks. Why else would oil corporations scrape the bottom of the barrel in their desperate search for more of the toxic stuff in the frontier fields in the tar sands, the Arctic, and the deep ocean? Would oil transnationals be in those costly and environmentally destructive sites if there were large supplies of easy oil left?

The Deep Horizon blowout in the Gulf of Mexico cost BP \$63 billion, the highest fine in history. The corporation's stock value fell by \$40 billion immediately after the spillⁱ. BP posted an additional \$20 billion for a compensation fund for victims of the blowout. Yet these huge hits haven't deterred BP and other oil giants from staying in the Gulf and risking other incidents and whopping fines. Why? The value of oil corporations' stocks rises and falls with the size of their reserves. The frontier regions are the main places they've got left to find new ones. Still, the frontier won't bring in enough new oil to counterbalance world declines of four and a half to five million barrels a day each year in old oil fields.

Lord Ron Oxburgh, former Chair of Shell Oil said in 2008: "There isn't any shortage of oil, but there is a real shortage of the cheap oil". "We know the earth much better [than in 1950s]. It is pretty clear that there is not much chance of finding a significant quantity of new cheap oil"ⁱⁱ. Soon, the world will have to live on less oil. Are there viable plans to powerdown?

Much has been written on what shifting away from a carbon-based economy would look likeⁱⁱⁱ. We know the main ingredients. Super insulate all homes and buildings, densify cities and stop urban sprawl. Reorient city transport around public transit, walking and cycling. Encourage much more telecommuting, so it actually replaces a

lot of real commuting. Build high-speed electric trains between cities and power the electricity through renewables only. Raise the fuel efficiency of autos substantially and encourage hybrids and electric cars. Return to less energy-intensive food production, locally grown and consumed. A one-hundred mile diet for everyone. They all add up to one thing - ending globalization in the sense of the death of distance.

Various routes to get to a post carbon future have been offered. Some rely mainly on new technologies like hybrid or electric cars, and wind, geothermal or solar power^{iv}. Others count on changing behaviour through market mechanisms like raising carbon taxes and putting a price on nature^v. None of these alternatives challenge business-as-usual capitalism with its underlying logic that the greed of each will lead to the greater good of all, that ever rising consumption helps the economy and leads to greater happiness.

The problem with these approaches is that they are unlikely to substantially cut carbon emissions any time soon. Most run into the Jevons paradox that conservation of a resource can lead to its greater use. In 1865, William Stanley Jevons argued that technological improvements in the efficiency of coal-use led ironically to greater coal consumption in a wide range of industries. Why? When many people conserve a fuel, its price falls. This stimulates greater use^{vi}. Build more efficient refrigerators, and families buy two. Better insulate houses and people supersize them.

An historic paradigm shift and changes to our way of life, especially in the global North, would be the most effective route to a post-carbon future. In *The Great Turning*^{vii}, David Korten adopts a Rousseauian model of that shift. He calls it 'earth community'. Korten contrasts it with the current dominant model, essentially Hobbesian, he calls 'empire'. Instead of viewing life as hostile and competitive, his earth model views it as supportive & cooperative. Humans are not flawed & dangerous; they have many possibilities. Order by dominant hierarchy is replaced by order through partnership. Compete or die become cooperate and live. Love life replaces love power. Defend the rights of the self is transformed into defend the rights of all. Masculine dominant becomes gender balanced. Rousseau summed up the model best. "You are undone if you once forget that the fruits of the earth belong to us all, and the earth itself to nobody"^{viii}.

The dominant master narratives of the western world present huge obstacles to our ability to confront the triple crises of climate change, the end of cheap oil and energy insecurity. In his 2008 book *The Long Descent*, John Michael Greer shows how those in the grip of Western world narratives tend to dart between faith in Progress, the prevailing religion, and its opposite, Armageddon. When confronted with evidence that continued growth in a finite world is impossible, people tend to abandon naive beliefs about lack of limits to what humans as the creators can do, and quickly turn to their opposite. If we can't have progress, humans, now viewed as the great destroyers, will cause collapse. Infinite Progress or Armageddon? Neither is likely or helpful. We oscillate between the two like teenagers' mood levels. Neither master

narrative is conducive to agency, to citizens taking democratic control, to coming to terms with nature by preparing realistically for the future.

A paradigm shift toward inwardly-directed development is the most convincing, but most difficult solution. Change our relations with nature, and call on different aspects of human possibilities, perhaps the empathy gene.

The problem is less about conceiving how a powered down society might work and the new narratives people might tell each other, than on how to manage the transition. It's much like the problem socialists have had in convincing people of the sacrifices needed to get there. Socialist equality and an end to exploitation sound good, and capitalist greed and unequal power bad. But, could we survive the turmoil of the transition, given the scorched earth opposition the corporations, the state, and the ruling classes would undoubtedly mount?

If they don't see the map showing the road to transitioning to a post-carbon society and ameliorating policies, people will likely hang on to what they have as long as possible. In a contest between the devil they know versus promises of a better, but uncertain future, the majority may well opt for the former. That would be short-sighted because business as usual is not sustainable for long. Hanging on to the present will likely mean a sudden fall.

There are many places to contribute to debates around these issues. In this paper, I limit myself to focussing on the political-economic obstacles to reorienting Canadian energy and environmental policies: Alberta's tar sands, NAFTA's energy proportionality clause, and fear of provoking Alberta's regional and pro-corporate reaction. This paper concludes by exploring how to reframe the debate around energy security and climate justice, guaranteeing all residents the right to a basic amount of energy and using Canada's conventional oil as a transition fuel to a post-carbon society.

What in Tar-nation?

The rapid expansion of Alberta's tar sands, and the export of most of the bitumen to the United States present huge obstacles to Canada even starting down the post-carbon road.

Alberta's Conservative government and CAPP, the Canadian Association of Petroleum Producers, call the oil sands a 'game changer', the main new source of oil that will enable the US to get off dependence on the Middle East oil and gain energy security. Are the bitumen sands that important? What would happen if we took them off the table?

CAPP estimates that oil sands production will reach 1.9 million barrels a day in 2015, based on projects that are currently operating and those that were under construction in 2009. CAPP's 'growth case' sees oil sands output at 3.3 million

barrels a day by 2025^{ix}. I doubt that the sands will reach quite that level, because of shortages of water, and eventually natural gas, once the temporary gas surge disappears, and political opposition to 'dirty oil'. But let's give CAPP's estimates the benefit of the doubt. That optimistic forecast puts the tar sands at three and a half to four per cent of expected world output. That would replace less than one year's worth of world oil depletion, as estimated by the International Energy Agency (IEA)^x. The sands will never deliver enough oil to significantly prolong the age of cheap oil.

If Alberta's tar sands are not a global game changer, how important are they for US energy security? In 2009, Michael A. Levi wrote a report on the tar sands for the New York-based Council on Foreign Relations. The Council is influential. Two weeks after issuing a 2005 report calling for the deep integration of Canada and Mexico into a greater America with the United States, the heads of governments of the three countries met in Waco, Texas, to launch the Security and Prosperity Partnership (SPP). Richard Haass, President of the Council, wrote that Levi's report concludes that the oil sands are not critical to U.S. energy security^{xi}.

The main worry about the tar sands is future growth. Michael A. Levi's report shows that it is unlikely that the tar sands will be allowed to expand in the long term:

"Imagine ... that oil sands emissions rose as expected over the next two decades and then stabilized in 2030, while total U.S. and Canadian emissions dropped by 80 per cent by 2050 (an oft-proposed target). Oil sands' emissions then become equivalent to about 10 per cent of U.S. emissions by 2050, **representing almost all emissions from Canada at that point.**" (emphasis added).

Unless Canada cuts all other emissions to near zero, including for things like heating our homes through winter, driving to work and fuelling industry, Canada will become the world's chief environmental rogue state. This will be due to the tar sands, whose sole purpose is to provide a 'fix' for US oil addicts. According to the Government of Alberta oil sands website, 1.4 million of at total 1.5 million barrels of oil sands daily production is exported to the United States. That's 93 per cent^{xii}.

In 2010, Alberta placed a full-page ad in the Washington Post to support pipeline expansion to Texas to carry more bitumen there. The ad claims the sands aren't dirty oil. "The oil sands ... produce about 4.6 per cent of Canada's carbon emissions". Is that all? Why worry?

Most life carbon-cycle studies like the one that Alberta relied on, ignore the destruction of forests and peatlands, that store so much carbon. They also ignore land disturbance caused by drilling for natural gas, the tar sands' key fuel. Many studies leave out emissions from the toxic lakes, flaring, venting, leaks, CO₂ from constructing and decommissioning projects^{xiii}. When these factors are considered, the tar sands exceed 4.6% of Canada's total carbon emissions.

Even if emissions are only in the five to six per cent range, they're of great importance because they're growing, whereas CO2 emissions must fall dramatically. Fossil fuel output, mainly from the tar sands, accounted for 30 per cent of the growth in Canada's total carbon emissions between 1990 and 2004^{xiv}.

Alberta and CAPP also brag that Canada emits only two per cent of global carbon emission. Actually it's 2.3%. That doesn't sound like much, but Canada has only 0.5% of the world's population. This means that Canada emits about four and a half times as much as its share of the world's population warrants. Why should Albertans and Canadians have the right to disproportionately dump their destructive wastes into the earth's shared biosphere?

Canada and Alberta cannot continue to emit at such levels in the long run. Something will have to give. Don't bet on usually docile Canadians agreeing to freeze in the dark, so oil transnationals in Alberta can export ever more bitumen to the US.

A more likely scenario, but also repugnant, would be that tar sands output rises as planned, and Canadians continue to consume twice as much oil per capita in their daily living as Swedes or Britons did in 2004^{xv}. If Canada combines overuse with rapid tar sands expansion, Canada would become by far the world's highest per capita carbon emitter, its international eco-outlaw. Canadians will not tolerate their country earning that label, nor in the long run, will Canada's trading partners. But, Canada will be cast as eco-villain as long as it sticks with NAFTA's proportionality clause.

NAFTA guarantees the US secure access to Canadian energy

Canadians should be sitting pretty. With the end of easy oil looming, Canada is one of the few industrial countries with enough conventional oil to last decades. We could phase out Alberta's tar sands and still have enough oil to get Canadians through the transition to a post fossil-fuel future. However, Canada is squandering its advantage by giving the US first access to two-thirds of its oil, including the less dirty, conventional kind. Meanwhile, we import half the oil we use^{xvi}. Thus, despite our rich endowment, Canada would not be able to provide enough domestic oil to Eastern Canadians in an international supply crisis.

Canada has less than ten years left of proven reserves of natural gas, and could be forced to import some, yet it still exports almost two-thirds of it, all of it to the US. NAFTA's proportionality clause says Canada cannot redirect its energy – oil, natural gas and other forms - to Eastern Canadians even if they face shortages.

No other developed country is forbidden from guaranteeing its citizens first access to the majority of their own energy. This matters because international oil supplies will very likely be disrupted in the near future. The questions are when, how long shortages will last, and how deep the shortfalls will be.

In contrast to well-laid out plans to combat the return of SARS, swine flu or other pandemics, Canada has no effective energy plan to deal with oil cuts. We used to have a National Energy Program aimed at supplying Canadians first with their own energy. Now we have a new NEP – No Energy Plan. If energy supply is disrupted in winter, Canadians could face a disaster like the 1998 Montreal ice storm. Or worse. Instead of hoping for the best, Canada needs to plan for supply crises, cut energy usage substantially, phase out most oil exports, and either build an oil pipeline to the East on Canadian soil, or use a rail-great lakes alternative.

Why must Canada offer so much of its oil and natural gas for export even if its citizens are shivering in the dark? Because **proportionality**, an obscure-sounding clause in NAFTA (article 605), says so. Proportionality is “unique in all of the world’s treaties”, writes Richard Heinberg, a noted California energy expert. There are only three free trade agreements in the world that have energy chapters. The other two do not have NAFTA-like proportionality clauses^{xvii}. It’s unclear how many other countries the US tried to impose mandatory, proportional exporting on. None have bitten. Mexico said no to proportionality when it joined NAFTA. The clause doesn’t really apply to the US either, because it exports little oil to Canada^{xviii}. Mexico’s exemption means the US is not subject to forced proportional sharing of its natural gas exports to Mexico. In essence, proportionality is a Canadian clause. Heinberg concludes that “Canada has every reason to repudiate the proportionality clause, and to do so unilaterally and immediately”^{xix}.

Proportionality requires Canada, and Canada alone, to maintain its current share of energy exports to the United States, even if Canadians face shortages. US negotiators of the 1989 Canada-US Free Trade Agreement (CUFTA) insisted that Canada agree to proportionality to prevent this country from reducing oil exports to the US as we did after the 1973-4 Arab oil embargo^{xx}. Then, Canada redirected oil that had previously been exported to the US, to Eastern Canadians to ward off oil shortages in Quebec and the Atlantic provinces.

Ronald Reagan’s government did not want to see such an action repeated. They got their chance to block it in the CUFTA. In *Yankee Doodle Dandy*, author Marci McDonald, contends that James Baker, then Secretary of the Treasury, got the energy proportionality provisions on the table during a dramatic show down in the negotiations. It was very likely an American initiative^{xxi}. Still, there was glee in some Canadian quarters over proportionality. “Critics say the problem with the [FTA] is that under its terms Canada can never impose another NEP on the country”, stated Pat Carney, Canada’s Minister of Energy during the FTA talks. She oversaw the negotiations. “The critics are right”, she continued, “that was our objective ... If the Americans promise not to block our energy exports, we promise in turn not to turn off the tap on energy supplies shipped under contract”^{xxii}. Peter Lougheed stepped down as Alberta Premier at the start of the FTA talks. He was the deal’s most effective booster. “The biggest plus of this [Free Trade] agreement is that it could

preclude a federal government from bringing in a National Energy Program ever again", he enthused^{xxiii}.

Most countries would not sign such a stipulation. The proof is that none has. Domestic politics usually demand that first priority to domestic energy resources goes to citizens and residents. Not in Canada though. This is a big mistake, which urgently needs correcting.

Until his death in 2010, Matt Simmons, headed the world's largest oil investment bank and had been an advisor to George W. Bush. Simmons told me in a telephone interview that "governments often don't take care of their own people, but they sure aren't going to look after anyone else's^{xxiv}".

As we saw, Canada cannot substantially cut carbon emissions if it produces tar sands oil mainly for US consumption. If they don't see a direct link between their actions and lower emission levels, it will be difficult to convince Canadians to seriously conserve. Unfortunately, NAFTA puts Canadians on a negative feedback loop. The more oil Canadians conserve, the more oil and gas will be exported to the US and the higher will become our export obligation under NAFTA's proportionality clause. Cuts Canadians make to their wasteful use will have little effect on those carbon emissions that are generated from the output side of domestic oil production. It has already been noted that those are the fastest growing source of carbon emissions in Canada. Canada cannot cut carbon emissions by 80 per cent if it grows or even maintains current tarsands output.

Fortunately, an alternative virtuous circle is available. The key is to tie Canadian oil output to domestic use and phase out most or all energy exports^{xxv}. Then, when Canadians buy less gasoline and oil, domestic oil output will fall commensurately and so will carbon emissions. It would be a positive feedback loop everyone can see. Canadians cannot determine what Americans and Chinese do, but they can decide what they collectively do. An effective campaign could well persuade Canadians to make major, energy lifestyle changes if they know it is within their national grasp to control oil output and emissions.

Canada is lucky to produce about the same amount of conventional oil as Canadians use because it means we can more easily lower domestic output to Canadians' use level. As I will show, Canada could use its slowly falling output of conventional oil as the key transition fossil-fuel to a powered-down future run on renewables. Consume less, produce less, cut emissions.

It won't be as simple as it sounds. Dead hands of the past weigh on the present and hinder shifts that are needed to make it happen. No hand is heavier than the National Energy Program.

Fear of Alberta's reaction

Ever since Trudeau's National Energy Program (NEP) that lasted from 1980 to 1984, all federal governments and all major political parties have shied away from advocating a national energy and environmental strategy for fear of offending Alberta. They all dread a replay of the bruising battles of those years, that saw well-attended Alberta separatist rallies in Edmonton and Calgary, and cuts that Alberta imposed on oil shipments to other provinces of 180,000 barrels a day.

Pushed by the political left and centre amidst a surge favouring Canadian economic nationalism, and as a response to the major international energy crises of the 1970s, the Trudeau government adopted Canada-first energy policies. They culminated in the NEP in 1980. The NEP's Canadianization goals were wildly popular across Canada, hitting an 84% approval rating, and even winning over a majority of Albertans for a time^{xxvi}.

While popular in Eastern Canada, the NEP was greatly resented by big oil, and the US government. After a first burst of support for its Canadianizing policies, the NEP caused an explosive reaction in Alberta, home to most of Canada's oil and natural gas industry. Outside the territories and coastal waters, provinces, not the federal government, own crown resources outright. The NEP was seen widely as a federal attack on Albertans' ownership and share of their energy wealth. They were partly right. Aspects of the NEP that attempted to move oil and gas activity away from Alberta to the Canada lands and to take a higher portion of economic rent for the federal government at the expense of Alberta's share could rightly be seen as anti-Alberta. But those policy elements meant to encourage Canadian ownership and energy security for eastern Canadians were not intended to weaken Alberta's powers.

Alberta's counter attack against the NEP reflected the intense opposition of the mainly foreign-controlled oil industry, but also that of aroused Albertans. This could be seen in many ways including the popularity of a bumper sticker that read 'let the Eastern bastards freeze in the dark'^{xxvii}. Albertans cherish and closely guard provincial control over resources, at least when the federal government comes knocking.

The NEP did not last long. Its timing was unfortunate. World oil prices plummeted in 1982 after sharp spikes caused by the 1973 Arab-Israeli war and the 1979 Iranian revolution. Although all oil producing regions in the world suffered devastating declines after boom times, most Albertans blamed the NEP for Alberta's economic crash in the mid 1980s. Alberta's corporate media and provincial government repeatedly, even hysterically, targeted the NEP as responsible for Albertans' economic misery. The stage was set to overturn the National Energy Program and use a Canada-US Free Trade Agreement to lock in the change. The NEP was replaced by a new NEP – No Energy Policy. The latter still reigns and explains why Canada is so ill-prepared to face today's environmental and energy security challenges.

It's time to get over it. Other countries have moved on from much more serious internal conflicts like those in South Africa, and Northern Ireland. They healed over severe internal battle scars. If they can move on, so can Canadians. It won't be easy though. Unlike Northern Ireland that went through a catharsis after decades of killings, and South Africa after hardships caused by international trade embargoes, Canadians have not had experiences serious enough to force them to change.

Alberta has a peculiar political culture that fiercely guards its resources against real or perceived threats from Ottawa. But it opens its doors to oil transnationals based in Texas and other foreign sites, and readily accepts their control over Alberta's energy resources. Alberta's political culture is not strongly aroused by its government setting lax environmental regulations and charging among the lowest economic rents in the world on Alberta's energy resources. The latter are formally owned by the people of Alberta, as Peter Lougheed keeps reminding them.

The TNCs are lucky to have a powerful provincial government with a combative regional political culture, ready to invoke it to defend corporate interests in the name of regional autonomy. It would be hard to see resolution happen prior to the onset of the problem – an impending oil shortage. If the Federal government adopted a Canadian energy security strategy, positions are likely to start from where they ended off 30 years ago. It will probably take a major crisis, widely perceived as such or a paradigm shift, to move public opinion in Alberta off the prevailing view that what's good for transnational oil corporations is good for Albertans.

Meanwhile, the oil lobby and its supporters have developed new arguments to thwart an effective national strategy on energy security and environmental protection. Oil's main arguments are as follows. First, the oil sands are Canada's economic engine and its major job creator as the country slowly pulls out of the 2008-9 recession. The sands have spread-effects to industry in other provinces, as well as attracting jobless Canadians elsewhere to work in Alberta. Second, Alberta's energy boom sends billions of extra tax dollars to Ottawa with which the latter finances equalization payments to poorer provinces. It's good for national unity and the wellbeing of Canadians in other provinces. Third, too high carbon taxes or cap-and-trade prices will punish Alberta and recycle dollars made in Alberta to go to other parts of the country^{xxviii}.

That the third argument – recycling Alberta dollars to the rest of the country is bad – contradicts the second argument – that such recycling is good, may not diminish the political effectiveness of each point. These are formidable arguments appealing to short term interests and will likely mobilize most Albertans, the federal Conservative government, other Western Canadians, and indeed sizeable numbers of citizens in Eastern Canada. At least for a time. Only a crisis is likely to shift such entrenched positions.

The main counter argument is Dutch disease, a concept that has not been put before Canadians to the same extent as the above ones. Dutch disease refers to the case where a resource boom in a national economy that has its own currency, leads to a real exchange appreciation and to the crowding out of the tradable manufacturing sector. While they employ tens of thousands of very temporary construction workers, the massive imports of capital for new tar sands projects raise the value of the Canadian dollar and likely kill more jobs than they create. A 2009 Industry Canada report found that 54 per cent of Canada's manufacturing job losses from 2002 to 2008, numbering in several hundred thousand, was due to the tar sands boom^{xxix}.

Of course manufacturing and tar sands jobs are largely located in different parts of the country. Manufacturing jobs have been lost overwhelmingly in Ontario and to a lesser extent in Quebec, while most Canadian jobs connected with the tar sands are situated in Alberta. These conditions set the stage for a renewed regional battle over energy and environmental issues. They will be impossible to avoid, but the threat of such a battle must not impede Canada from taking action to protect energy security and the environment.

The best way to avoid recreating the regional battles of the 1970s and 1980s is to frame current debates around new issues, that were not seen as central then. Peak oil and resource depletion more generally; the threat of climate change disasters; and energy security in a post September 11 atmosphere, hold the promise for different kinds of debates.

Reframing the debates

Alberta's bitumen sands is not a world game-changer. They will never deliver enough oil to significantly prolong the age of cheap oil. The rest of the world will move on. It has to.

It's dangerous for Alberta to place all its eggs in the tar sands basket. The danger is that Alberta will likely sink into a carbon belt that could soon resemble the US rust belt of abandoned auto plants. Sheik Yamani noted that "The Stone Age didn't end for lack of stone, and the oil age will end long before the world runs out of oil".

The peril is that Canada and Alberta will be stuck in the last gasp of fleeting, fossil-fuel extraction and be left behind if they do not start now on the transition to a post carbon society. They should not wait for the market to do it for them. Look at how markets abandoned the auto rust belt in Michigan, Ohio and southwestern Ontario. Markets moved on rather than pulled those jurisdictions into the next economy.

In 2007, two thirds of Albertans supported raising royalty rates, while the oil patch decried such a move. Division between Albertans and the oil transnationals can happen again. For a Canadian energy security strategy to succeed, it is crucial to divide the majority of Alberta's citizens from support for the oil transnationals's position. The more that Albertans hear that the tar sands are bad for their long-term

future, the better. Initiatives for a change of direction are needed from major, non-oil voices in Alberta.

Even the Alberta Premier's Council for Economic Strategy, headed by David Emerson, former Trade Minister in Mr. Harper's government, acknowledges that Alberta must diversify its economy. Their May 2011 report states that "the creation of an affordable, environmentally friendly alternative to oil would be a great thing for the world. It could be economically devastating for Alberta if, when it happens, we are still heavily dependent on oil exports^{xxx}".

The return of this kind of talk, reminiscent of the Lougheed Conservative days, 1971-1985, but absent from Ralph Klein's Alberta, 1993-2006, with its emphasis on letting the market decide, will strengthen conversations around diversification and moving away from too much dependence on the tar sands.

There is a parallel need to reframe the discourse in Canada as a whole. The frame needs to be around energy security for Canadians. In Canada, we hear a lot from the peak oil and climate change camps, but the third element – energy security is peculiarly neglected. Security of supply is a focus almost everywhere else. It makes sense. Most countries either have little oil or are past their peak oil production. They must depend on imports from the dwindling number of countries that export. In the United States, security of supply is the main focus. It's strange that the usual American influence in Canada in almost everything else, stops at the border on this issue.

It's ironic because Canada is more dependent on Mideast oil than the US is. A little over half our oil imports come from OPEC countries. Algeria is now Canada's number one supplier, having surpassed Norway in 2009. Algeria is not very stable, suffering from a low-level civil war since its military stopped a democratically elected government from assuming office. Also, Algeria is just east of Tunisia, Libya and Egypt.

Despite its current plentiful supplies of oil and natural gas and net exports, Canadians rely on imported oil for a bit more than half their oil. Imports supply Quebec with 92% of its oil, Atlantic Canada with 75% and Ontario with over one third.

Canada is the only industrial country without strategic petroleum reserves (SPRs) to use in international oil supply disruptions. Every other member country in the International Energy Agency (IEA) has petroleum reserves. The US has the biggest SPR, but will not share it with Canada in a crisis. Most Canadians don't know that they are so vulnerable because no one tells them, not least their governments. Most Canadians simply assume that Canada has excess energy resources and that their governments have plans for shortages. They don't.

The real picture is as usual. The US is taking care of its own and Canada is helping take care of the US. No one is taking care of Canadians.

It's ironic that Canadians do not discuss energy security because Canada is one of the few countries in the world where people could literally freeze in the dark, if cut off from energy in winter. The reframing needs to tie climate change catastrophe and the dwindling of international supplies of cheap fossil fuels, with energy security. We face three challenges not two. A reframe needs to encompass all three simultaneously and show their interconnections.

I conceived of reframing Canadian debates around energy security in 2004 when I started reading about US energy debates in the aftermath of September 11. 'Security trumps trade' became the new US catch-phrase. Vice-President Dick Cheney headed the US National Energy Policy [NEP] in 2001. Ironically, it had many of the same elements as Canada's 1980 NEP. The Cheney NEP promoted energy security, 'energy self-sufficiency', and 'American-owned energy firms'. The US followed through when it stopped a Chinese buyout of American-owned Unocal in 2005. Americans have framed their debates around energy security ever since. July 4th celebrations regularly include energy independence declarations.

US leaders talk about national energy security, not North American security. They call it North American only when talking to Canadians and Mexicans. When they use North American, it means they want Canadian and Mexican oil.

Energy security has opposite implications in Canada compared with those in the United States. It's the difference between an empire and a satellite. For the US, energy security has often meant grabbing someone else's oil, whereas in Canada it means energy sovereignty - the right of Canadians to have priority use of their own energy resources.

The political right in Canada took up the security angle after 9-11 to keep open the border and please the US government and corporate elite. But, security framing could be their undoing. How could the Canadian Council of Chief Executives and the Conservative government justify promising energy security to Americans using Canadian energy while denying it to Canadians? It's untenable. Using the language of security is disconcerting for the right in Canada, because it's their language. But, security can be reclaimed as progressive: social security, environmental security, security of the person, and a secure access to domestic energy.

One of the right's favourite calls against advocates of Canadian economic sovereignty and charting a course contrary to the US agenda, is that it's anti-American. An effective response is to counter that imitation is the sincerest form of flattery. If the US can have a NEP, why not Canada? How can it be anti-American to pursue the United States' official goals of 'energy security', 'self-sufficiency', 'energy independence', and domestic ownership? If they can have those policies why can't Canada? That's why energy security for Canada is a truly subversive goal.

Every Canadians' right to a basic amount of energy

In his book, *Your World is about to get a whole lot Smaller*, Jeff Rubin expresses great faith in markets' ability to force a relatively smooth transition to everyone making do on less energy. His faith is misplaced. Markets won't do the right things for the environment and social justice and will, for good reason, be strongly resisted by middle and low-income earners. At five dollars a litre, filling a 60-litre gas tank would cost an astounding \$300. That would deter lower income workers from buying essentials like heating their homes and driving to work, but have negligible effects on the rich. A zero-sum game of who has access to energy will likely spark the return of a visible class struggle.

Expensive energy will scale back living standards. As we enter the age of costly oil, and with it fewer material goods per capita, the social justice issues of who has how much will return again with a vengeance. Many will question whether it's right for a rich few to get to use most of the world's scarce energy supplies and get to dump unlimited amounts of CO2 into humanity's common biosphere, while the majority do without many necessities. That's why the issue of access to a declining per capita amount of energy cannot be left to the market to choose. We know what markets would determine - that the rich get access to the lion's share of last of the world's oil and natural gas. State power will also ensure that the military get privileged access to scarce supplies. The resulting, unfair distribution of energy will be sharply contested in an age of mass democracy.

There are two kinds of solutions to scarcity. Both involve rationing, one invisible and unfair, the other fair but painfully visible. The first relies on rising prices while the second on government controls. Market solutions are less visible and involve gasoline prices of several dollars a litre. They would cut demand. The problem is that high prices can force the poor, and even the 'middle', to do without necessities such as driving to work, while letting the rich head off to parties in their Hummers and limos, without a second thought.

It's much like the debate on access to health care. Why shouldn't a rich man go to the head of the line to purchase the best and fastest health care services? That's how capitalism works after all. The problem with market solutions is that they would push sicker and less affluent people farther down the line. When dealing with the scarcity of necessities, a different ethic needs to apply. Few Canadians complained when H1N1 swine flu vaccines were in short supply and reserved first for pregnant women, and children under five and older than six months. So it should be with something as important as everyone's access to a basic amount of gasoline, the essential fuel to get around.

In wartime Britain, ration books limited each person - father, mother and child - to one egg a month. Using slogans like "use your cook stove to cook Hitler's goose" and "put your family on the Victory diet", Canadian governments attempted to convince

civilians that rationing helped the war effort. Would these kinds of appeals work in today's more individualist times? Would we need a wartime sense of crisis to win acceptance for limiting each person or household to a set amount of gasoline per week?

Conventional oil as a transition fuel

Statistics Canada puts Canada's annual conventional oil output at 1.39 million barrels a day (b/d), while CAPP puts it at 1.84 m b/d. Canadians use about 1.7 m b/d a year. Thus, Canada produces about as much as its residents consume. As domestic conventional oil output slowly dwindles, Canadians can live off it as they reduce use, without touching any oil sands oil. If Swedes and Britons can thrive at about the Canadian standard of living while using 50 per cent and 40 per cent respectively as much oil as we do, so can Canadians.

The first step to limiting tar sands toxins is to cap oil sands output at current levels and phase them out over 10 to 15 years, starting with the oldest plants that have already more than paid off their capital costs. At the same time, new industries and jobs must be created around a green economy that builds upon Alberta's highly educated and skilled work force.

Conclusion

This paper has looked at roadblocks to Canada moving seriously towards a post-carbon future. The tar sands, NAFTA's proportional exporting clause, and fear of provoking Alberta, hinder Canada from taking the necessary steps to deal with current energy and environmental challenges. In each case, ways of overcoming each hurdle has been suggested. But solutions are more difficult than they can appear to be. Power and ideology, in a word, hegemony, lie behind the obstacles.

To move to a post-carbon future built around principles of equity, we must make a cultural turning, an economic turning and a political turning. Business as usual is a death economy. It took the earth tens of millions of years to transform stored sunlight embedded in dead plants and animals into fossil fuels. We have cavalierly used up the cheapest and easiest part of that stored solar power in 150 years, most of it in the past 30 years. We can either deny that and attempt to continue with business as usual for a few more years, and then suffer sudden collapse. Or, we can start now to powerdown so we can make a soft landing.

To get there we need a paradigm shift from neoliberal, predatory capitalism. That dominant ideology of rampant deregulation encouraged a speculative, ponzi-style economy to the detriment of the real economy. That, and oil that reached as high as \$147 a barrel in July 2008, caused the Great Recession from which the global north is taking a long time to recover.

The goal of an economy should be strong communities, healthy kids, caring, resilience, and security. A new economy values life, power in communities and workers, and converts phantom, financial fictitious wealth into real wealth. Think

holistically – shared prosperity, ecological balance, healthy biosphere, democracy as a living practice.

As stewards of one fourteenth of the world's land mass, with only one two hundredth of the world's population, Canadians have a large international responsibility to curtail and limit green house gases and save remaining supplies of natural gas for high-use ends such as plastics.

We have seen that Canada is unlikely to even start to make the transition to a post-carbon society, if it does not have oil independence. Oil independence is not an end. It's a means to get to the twin goals of energy security for every Canadian and low carbon emissions. It's a necessary condition. Cutting consumption must happen simultaneously with gaining a Canada-first eco-energy policy.

Adherents of the capitalist model label my perspective 'pessimistic'^{xxxi}. I reject the label. The world is at the brink of peak oil and many other non-renewable resources, but is nowhere near peak equality, peak social justice, and peak real-democracy, the kind that comes 'from below' by active citizens. We are nowhere near peak living in tune with nature, nor near peak in deriving happiness from what matters most. Once basic needs are met, most of us get much more satisfaction from valuing each other and nature than from more stuff. I believe we can develop that kind of society. That's why I'm an optimist.

ⁱ NYT, 'BP's Oil Spill fines could hit \$63 billion'.

<http://www.cbsnews.com/stories/2010/06/17/business/main6590719.shtml>.

ⁱⁱ Industry Taskforce. 'The Oil Crunch. Securing the UK's energy future'. 2008. Task force member companies include Arup, FirstGroup, Foster and Partners, Scottish and Southern Energy, Solarcentury, Stagecoach Group, Virgin Group, Virgin.

ⁱⁱⁱ For example, see Richard Heinberg, *Powerdown. Options and actions for a Post-carbon world*. Gabriola Island BC: New Society Publishers, 2004; John Michael Greer, *The long Descent*. Gabriola Island BC: New Society Publishers, 2004.

^{iv} Richard Gilbert and Anthony Perl, *Transport Revolutions. Moving People and Freight without Oil*. London: Earthscan, 2010.

^v See Mark Jaccard, "Peak Oil and Market Feedbacks: Chicken Little versus Dr. Pangloss", in Thomas Homer-Dixon ed., *Carbon Shift*. Toronto: Random House Canada, 2009. Pps. 97-134.

^{vi} William Stanley Jevons, "VII". *The Coal Question* (2nd ed.). London: Macmillan and Co, 1866 retrieved

^{vii} Korten, *The Great Turning. From empire to earth community*. Bloomfield Conn.: Kumerian Press, 2006, p. 32.

^{viii} Rousseau, *A Discourse on Inequality*, London: Penguin Books, 1984 [1754] p. 109.

^{ix} CAPP, '2009-2025 Canadian Crude Oil Forecast and Market Outlook', <http://www.capp.ca/aboutUs/mediaCentre/NewsReleases/Pages/2009-2025CanadianCrudeOilForecastandMarketOutlook.aspx#satUBCHRVGHK>. Retrieved 21Apr 2011.

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^{xi} Michael A. Levi, 'The Canadian Oil Sands. Energy Security vs. Climate Change'. New York: Council on Foreign Relations. Special Report No. 47. 2009 p. vii.

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- ^{xii} Alberta, 'Alberta's Oil Sands' and 'Oil Sands. The Resource'. The first site states that the oil sands export 1.4 m b/d to the US. The second site states that the oil sands produce 1.5 m b/d. http://oilsands.alberta.ca/FactSheets/fs_The_Resource_online.pdf. Retrieved 22 Apr 2011.
- ^{xiii} Andrew Nikiforuk, 'Alberta Hides Dirty Truth as US Demands Tar Sands Facts'. The Tyee 29 Jul 2011. <http://thetyee.ca/Opinion/2010/07/29/AlbertaHidesTruth/print.html>. Retrieved 22 Apr 2011.
- ^{xiv} Andrew Nikiforuk, 'Dirty Oil. How the Tar Sands are fuelling the Global Climate Crisis' Greenpeace. p. 11.
- ^{xv} BP, 'Statistical Review of World Energy 2009' (2004 stats. Oil only). My calculations.
- ^{xvi} Statistics Canada. The supply and Disposition of Refined Petroleum Products in Canada. Apr 2009. Cat no. 45-004-X. p. 8.
- ^{xvii} Cyndee Todgham Cherniak interview. 28 Jn 09.
- ^{xviii} The US EIA, calculates that the US exports oil in the 1.4 million barrels per day range - about 12% of US imports. The oil industry considers North America a single market. Much product goes back and forth across the border. "Weekly Imports and Exports". Accessed 21 July, 2008. http://tonto.eia.doe.gov/dnav/pet/pet_move_wkly_dc_NUS-Z00_mbbldpd_w.htm
- ^{xix} Richard Heinberg, 'Proportionality'. *Energy Bulletin / blog*. 7 Feb 2008.
- ^{xx} Marci McDonald, *Yankee Doodle Dandy .Brian Mulroney and the American Agenda*. Toronto: Stoddart, 1995. pp. 221-2.
- ^{xxi} Interview with Cyndee Todgham Cherniak, a trade lawyer at Lang Michener in Toronto. August 25, 2008.
- ^{xxii} Frances Russell, 29 November, 2007, http://www.vcn.bc.ca/outlook/current_issue/Jan-Feb%2008/OL%20Free%20Trade.pdf.
- ^{xxiii} Loughheed, Peter, "The Rape of the National Energy Program Will Never Happen Again", in Earle Gray, ed., *Free Trade, Free Canada*. Woodville, Ont: Canadian Speeches, 1988.
- ^{xxiv} Telephone interview 31 January 2008.
- ^{xxv} Canada should return to the 25 year rule of proven natural gas supply for Canadians before exports are allowed. This existed prior to CUFTA. The rule should be applied as well to other forms of energy including oil.
- ^{xxvi} G. Bruce Doern & Glen Toner, *The Politics of Energy*. Toronto:Methuen,1985, pps. 107-8.
- ^{xxvii} *Ibid.*, 266-75.
- ^{xxviii} Michael Wood, 'Hands off our oilsands, Stelmach warns party leaders', Herald-Tribune (Grande Prairie). <http://dailyheraldtribune.com/articleDisplay.aspx?e=3071083>. David Staples, 'Carbon Policy must not punish Alberta', Edmonton Journal. Apr 29, 2011 B1.
- ^{xxix} Beine, Michel, Charles S. Bos and Serge Coulombe, 'Does the Canadian economy suffer from Dutch Disease?' Center for Research in Economic Analysis. Paper written for Industry Canada. April 2009. Pps 1-33.
- ^{xxx} Alberta. *Shaping Alberta's Future*. Executive summary. The Premier's Council for Economic Strategy. May 2011, p. 2. http://www.premier.alberta.ca/plansinitiatives/economic/RPES_ShapingABFuture_Report_web2.pdf
- ^{xxxi} My approach was characterized this way in a public conversation on Energy Frontiers with Joseph Doucet, energy economist at the University of Alberta's School of Business. Sponsored by the Circumpolar Institute, December 2010.