

Canadian Politics and Public Policy

Policy

A professional headshot of Alison Redford, a woman with short, wavy brown hair, smiling warmly. She is wearing a dark blazer and a multi-strand pearl necklace. The background is a soft, out-of-focus grey.

**Alison
Redford**

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*Canadian Politics and
Public Policy*

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Policy

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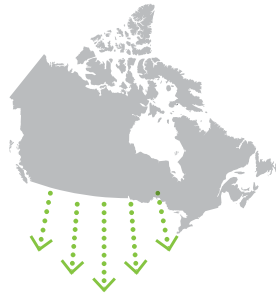
Alberta Premier Alison Redford at ease in her Calgary office. *Policy* photo

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WHY EXPORT CANADA'S OIL TO MORE MARKETS?

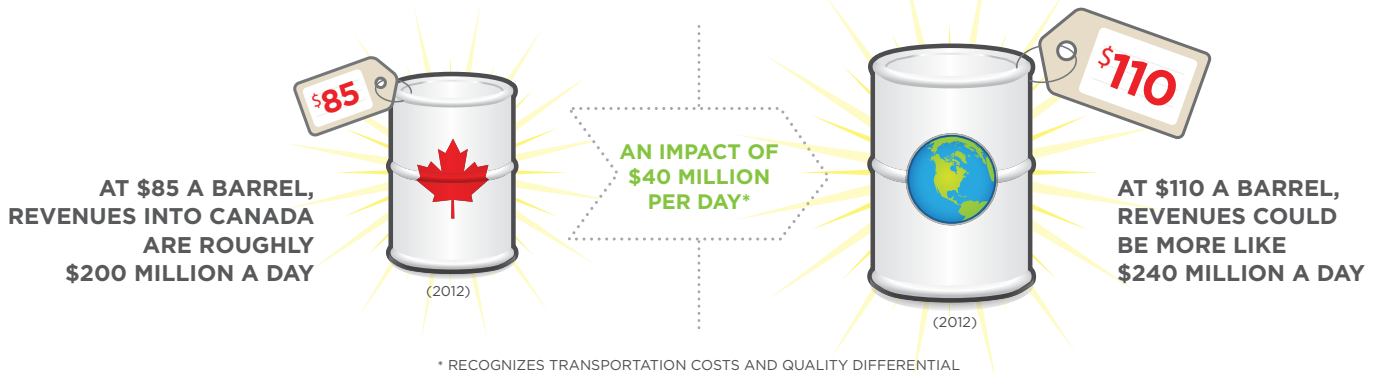
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From the Editor / L. Ian MacDonald

Solving the Energy Puzzle

Welcome to our special issue on The Great Canadian Energy Puzzle.

There are so many political and public policy pieces to the puzzle, all of them closely tied to the economy and the environment, as well as to Canada's prospects for prosperity.

For Alison Redford, the Canadian federation is at the heart of the matter, in which natural resources are owned by the provinces, but international trade is a federal jurisdiction. We met with Premier Redford in her Calgary office, and the resulting Q&A was an enlightening conversation.

In our *Verbatim*, Natural Resources Minister Joe Oliver reminds a Bloomberg energy conference in New York just how much the United States relies on energy from Canada. From oil and gas to hydro-electric power, Canada is by far America's largest supplier of energy. He also reminds Americans the oil sands account for only "0.1 percent or 1/1000th of global GHG emissions."

For their part, Kevin Lynch and Karen Miske of BMO Financial Group remind us of the economic imperative for Canada to diversify its energy trade beyond the US, which now accounts for nearly 100 percent of our oil and gas exports.

Velma McColl, our resident authority on clean energy, has followed the evolution of the Canadian Energy Strategy since the beginning. She writes how it is moving forward under the auspices of the Council of the Federation, the conference of provincial and territorial premiers. Robin Sears, her colleague at the Earncliffe Strategy Group, considers the politics of pipelines, north-south, east-west, and west-east.

For New Brunswick Premier Gary Alward, the prospect of refining and shipping Canadian oil from the Irving facility and deep water Port of Saint John is a potential game changer

for the New Brunswick and Atlantic economies.

Douglas Porter and Earl Sweet, senior economists with BMO, consider the impact of the oil discount on Canadian crude in the US, which has been as high as \$40 per barrel, with significant consequences for fiscal frameworks in both Ottawa and the producing provinces. Canada's cut rate oil, as they call it. Is it temporary or permanent?

As a former minister of Indian Affairs, Industry and the Environment, CIBC Vice-Chair Jim Prentice has a deep understanding of the many pieces of the puzzle. He writes of the geopolitics of North American energy independence, "until recently perceived as a pipe dream." Today, the prospect is real.

Catherine Cano, a former senior news executive at CBC and Radio-Canada, looks at the energy puzzle and wonders whether the media 'get' energy. While the industry needs to be more transparent, the media can do a better job understanding the business and policy challenges around energy.

In terms of public attitudes towards energy and infrastructure, pollster Greg Lyle of Innovative Research looks across the entire policy field, and has some fascinating answers on where Canadians come out on the puzzle, and why.

Dan Gagnier, a former chief of staff to Ontario and Quebec premiers, now leads the Energy Policy Institute of Canada, and provides an update and outlook from the EPIC perspective.

David McLaughlin, former head of the National Round Table on the Environment and the Economy, looks at Canada's Copenhagen target of reducing GHG emissions to 17 percent below 2005 levels by 2020. Getting there, he writes, "will be tough, very tough."

Dan Woynillowicz and Merran Smith of Clean Energy Canada look at the

Canadian and world economies in terms of adapting to market-driven demand for lower carbon outputs to mitigate the effects of climate change. Bob Oliver of Pollution Probe writes that energy literacy must become a national priority.

Green Party Leader Elizabeth May considers all the pieces of the puzzle and observes that "a grown-up discussion starts with acknowledging that Canada needs an energy strategy." She suggests seven national goals, including energy security and "an effective GHG reduction plan."

For NDP natural resources critic Peter Julian, it's "a question of stewardship." On the question of pipelines to carry bitumen to tidewater, he reminds us that Peter Lougheed, the late "great premier of Alberta," was an advocate of refining product here at home.

Scott Thurlow of the Canadian Renewable Fuels Association, writes that demand in that growing sector has already resulted in emissions reductions "equivalent to taking 1 million cars a year from our roads." And Michael Bourque of the Canadian Railway Association notes the growing shipments of crude by rail, from virtually zero four years ago to nearly a quarter million barrels per day.

While each of our contributors comes at the question of Canada's energy puzzle from a particular perspective and some are stakeholders, political and otherwise, in particular outcomes, there are surprising areas of consensus, beginning with the need for a Canadian Energy Strategy. It has to begin with greater diversification of and access to markets. There's also agreement on the need to factor in clean energy alternatives and a lower carbon future. And, most of all, we need to achieve a sense of national purpose. We hope this issue of *Policy* contributes to that national conversation. **P**



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Premier Alison Redford meets with CNOOC CEO Li Fanrong at her Calgary office on February 26. On the rules on foreign investment, like the CNOOC takeover of Nexen, Redford says: "We need investment and we need to have a clear and transparent process that allows people to have confidence." Flickr photo

Q&A: A Conversation With Alison Redford

Managing energy in the Canadian federation

Alberta Premier Alison Redford met with *Policy* Editor L. Ian MacDonald in her Calgary office May 3 for a wide-ranging Q&A on the Canadian energy puzzle. Of all the political elements, Redford concurred that managing the energy issue within the Canadian federation was the most important. "I think back to those conversations with Premier Lougheed," Redford recalled. "He said the most impactful way to come to a Canadian consensus, was to understand that every premier who comes to the table is promoting the interests of their province, and if you understand that there can be wins for everyone, then that allows for greater success."

Policy: There are so many pieces to the great Canadian energy puzzle. How do you see them all fitting together?

Alison Redford: I think that if we carry on with that analogy, that it is a puzzle, and in Canada, where, because of our perspective on provincial jurisdiction around energy, particularly if you happen to come from Alberta; we haven't been prepared to engage with each other across provincial borders. A lot of the work that we started to do, that we needed to do, triggered by Keystone and some of the work that we want to do to open up international markets, was allowing us to engage differently.

So the pieces are quite different. The Alberta piece of the puzzle is around conventional energy. The Ontario piece is more green energy. It's not only about energy sources, it's also about manufacturing capacity, and how we actually bring together an economic plan that's based around both conventional and unconventional energy, as well as renewables.

Policy: So if you had to pick one piece of the puzzle that was most impor-

We always run the risk with any federal government, and maybe I have a little bit of suspicion around this because I'm an Albertan, that when the federal government gets involved, if their approach was to impose a solution, that that would be problematic. But I do think there's a role for everyone to be at the table.

tant, would it be managing the energy issue in the federation?

Alison Redford: I think so. Understanding that even though these are issues that are part of provincial jurisdiction, the only way we can have impact is to come together as provincial partners, and set a direction together. And that's a very difficult issue because we've never done that before. And there's always been an idea that if issues are of national importance, then the federal government has to lead on the agenda.

In some instances in this area, it's difficult for the federal government to lead, partly because as provinces we want to retain jurisdiction, but also because, very often, these cross-border issues have to involve real-time conversations around energy, environment and industrial growth.

And from my perspective, that's probably the biggest challenge, not just as a federal-provincial constitutional issue, but in terms of actual business development and growth.

Policy: This issue seems to be evolving slowly under the umbrella of the Council of the Federation, and under the brand name of "the Canadian Energy Strategy." How do you see that progressing?

Alison Redford: I'm not sure that I'd say they're evolving slowly, but they're not issues that are part of the national conversation right now. For example, the work we're doing around investing in renewables, looking at east-west grids for transmission, is work that's essentially happening at an officials or a technical level, and it's not something that's necessarily capturing the public imagination. But that's okay, it's still work that needs to be done. And then there are other pieces that are going to develop much more quickly than even we've anticipated, such as the reversal of the east-west pipeline, and the partnership that we now have between Alberta,

Quebec and New Brunswick. That is an issue that has now captured the public imagination, not only in Alberta, but across the country.

Policy: You mentioned the role of the federal government in all of this. At the end of the day the feds are responsible – and you're a lawyer, you learned this in law school – for international trade, and interprovincial trade with the provinces. And they can invoke Section 92 (10) of the Constitution if they want to invoke the declaratory power and declare things like pipelines to be in the national interest. Leaving that aside, how would you feel about the Prime Minister calling an energy summit, with all the players, the 13 provinces and territories and the First Nations at the table?

I think back to those conversations with Premier Lougheed. He said the most impactful way to come to a Canadian consensus, was to understand that every premier who comes to the table is promoting the interests of their province, and if you understand that there can be wins for everyone, then that allows for greater success.

Alison Redford: Well, I think that's a very important conversation to happen. My concern would be that we have developed now a pattern, under the Canadian Energy Strategy, where we're beginning to understand that as equal players we need to come to the table. We always run the risk with any federal government, and maybe I have a little bit of suspicion around this because I'm an Albertan, that when the federal government gets involved, if their approach was to impose a solu-

tion, that that would be problematic. But I do think there's a role for everyone to be at the table.

Policy: We were kind of in that movie during the Lougheed years, weren't we?

Alison Redford: (Laughs) We were! We were!

Policy: With the NEP, dare I say that word in Calgary?

Alison Redford: You know it's so funny, because there are people in this city who've moved here recently who don't even know what the NEP was, which is rather ironic, because it was so fundamental to my psyche as an Albertan growing up, and for many others across the country.

Policy: Speaking of Peter Lougheed, no Alberta premier since him has stepped onto the national stage the way you have since you've come to office. He used to say, "We were Canadians first," he said that in the last speech of his life in June of last year. And you've said famously in Toronto, "we rise together or we fall together, there is no other way." So how do you see Alberta's leadership role in the federation on this issue, among others?

Alison Redford: Well, I'm pretty excited not just as premier, and head of government, but in our discussions with industry leaders who've really engaged across the country, in terms of communicating with people about how economic growth in Alberta really does matter to Canada. And the way that industry leaders in other parts of the country, and other political leaders in other jurisdictions, have understood that this really is, as you have said, a puzzle or mosaic that needs to come together. And I think we're making very good progress on that. At the beginning, when you were talking about what this means in terms of the federation, I think back to those conversations with Premier Lougheed. He said the most impactful way to come to a Canadian consensus, was to understand that every premier who comes to the table is promoting the interests of their province, and if you understand that there can be wins for everyone, then that allows for greater success.



Alberta Premier Alison Redford and *Policy* Editor L. Ian MacDonald in conversation at the premier's Calgary office on May 3. On the need to diversify export markets, she said: "Getting our product to tidewater is fundamental to doing what we as a government have an obligation to do, which is to get the best possible price for the resources that are owned by Albertans." *Policy* photo, Lee Richardson

Policy: What's your sense of First Nations equity in this conversation?

Alison Redford: I think it's fundamental that we bring First Nations in to talk about this in a way that ensures everyone receives economic benefit from this. In fact, last year when I was in Toronto at a mergers and acquisitions panel, and someone asked the question: "What are you most worried about in terms of infrastructure growth and economic development in Canada?" I said that I thought that it was that we weren't yet at a place where we were engaging honestly and at an equal level with First Nations.

We've really been at the forefront in terms of developing consultations policies, with developing partnerships with groups like the Fort McKay First Nation, with the Metis Settlement General Council, where we really understood that apart from the fact there are First Nations and constitutional issues, everyone who lives in Alberta has a stake in economic growth, and everyone needs to be able to benefit from that.

Policy: On the oil sands, 170 billion barrels of proven reserves, maybe twice that much, who knows? But you've got this problem with the oil discount. More than 99 percent of our oil and gas exports go to the United

States. How do you feel about the need to diversify our markets?

Alison Redford: Well, we have to, and I remember the first time that I went to Washington, and I was talking to legislators. And they said: "Well, if Keystone doesn't go, then what do you do next?" And I said: "Well, make no mistake about it, Alberta is an export driven economy. And we are putting in place plans to export all of our products, not just oil and gas, but agriculture and lots of other things."

It's an interesting statistic that if you were to take our product to New Brunswick, to Saint John, that the cost of transporting that product to India is not greater or not much greater than if we were to export that product from the West Coast.

There's no doubt that getting our product to tidewater is fundamental to doing what we as a government have an obligation to do, which is to get the best possible price for the resources that are owned by Albertans. You know, it's an interesting statistic that if you were to take our product

to New Brunswick, to Saint John, that the cost of transporting that product to India is not greater or not much greater than if we were to export that product from the West Coast. Now the other thing which is wonderful is that there's so much product in Alberta that we have the ability to be able to use that to continue to develop refinery capacity in Quebec, and upgrading capacity in New Brunswick, and still to export that product to emerging markets, and that's where we need to get to.

Policy: The oil discount, up to \$35 and even \$40 a barrel isn't just a problem for you in terms of lower royalties, is it? As you know, in the federal budget there was a line that jumped out: a \$28 billion decline in exports because of the oil discount, and \$4 billion in revenue shortfall for the federal government because of lower tax receipts, which is more than the contingency reserve of \$3 billion.

Alison Redford: That's right. And here's another element in the conversation. I had a great conversation with some journalists in Quebec, and we were talking about those sorts of numbers, and then one of them, a very young fellow, said that the other thing we have to remember is that this will also impact equalization payments. And it does. It fundamentally

changes the economics of the country, if we can't find a way to make sure that we're getting that product to market.

It fundamentally changes the economics of the country, if we can't find a way to make sure that we're getting that product to market.

Policy: How do you feel about ownership of the resource by Canadians? The poll numbers on this are very strong, as you know. For example, where did you come out on the Nexen-CNOOC deal and on the Progress Energy-Petronas deal?

Alison Redford: Well, we were very clear on those deals. First of all, as I've said before, the resources in Alberta are owned by Albertans. At no point in time in those international transactions, whether it's CNOOC or any other international enterprise, at no point do we sell our ownership of those resources. All we've ever done is signed contracts with producers to allow them to develop the fields, to extract the resources, to sell the product and to pay us for that access.

The resources in Alberta are owned by Albertans. At no point in time in those international transactions, whether it's CNOOC or any other international enterprise, at no point do we sell our ownership of those resources.

That still allows us over the long term, probably the next 50, 60 to a hundred years, to retain the ownership of that asset. So that's the first thing, but the second thing from our perspective is that because we retain ownership of those resources, we have a strong regulatory process in place with respect to sustainable development and the environment, and with respect to corporate governance.

We're not afraid of foreign interests coming in and investing in the oil

sands, we welcome those investments, because they allow us to continue to grow the projects, and to make sure that we're building the capacity that we need to continue to be an economic engine, both in the province and in the country.

Policy: Mr. Harper said on the day he announced approval of those two deals last December: "It is important that Canadian and also foreign investors understand that this is not the beginning of a trend, but rather the end of a trend." Are you on the same page as he is on that?

Alison Redford: I was surprised by those comments, because I don't think that you need to presume that it is either the beginning of a trend or the end of a trend. I think it's part of what we need to be doing in order to grow our economy and to be international players.

We're not afraid of foreign interests coming in and investing in the oil sands, we welcome those investments, because they allow us to continue to grow the projects, and to make sure that we're building the capacity that we need to continue to be an economic engine, both in the province and in the country

Policy: So we need investment.

Alison Redford: We need investment and we need to have a clear and transparent process that allows people to have confidence. One of the things that troubled me a little bit was after those transactions were approved, when I was spending time in investor markets, to hear comments from people about the uncertainty around the rules to foreign investment. Period. And I thought that people might say, well, there's uncertainty with respect to state-owned enterprises investing.

But it was a bit wider than that, and so it's very important for us, I believe, as Canadians, if we truly want to be the international leaders that we claim to be, that we understand that we need

to be sophisticated about how we put in place a set of criteria, which I'm fine with, that ensure that the investments allow for a net benefit to Canada. But we have to stay committed to those criteria, and we have to make sure that all investors understand that those are the ground rules and that that's what we expect compliance to look like.

Policy: The markets don't like uncertainty.

Alison Redford: Absolutely. And it's regulatory uncertainty in every way. I spent a lot of time recently talking to some very large investment funds, and they're as interested in what we're going to do with respect to tax policy, royalty policy, subsidies for corporations, which we don't really have. But just to know, if they come in and make the sorts of investments that they're looking to make, in the billions of dollars, that they would have certainty over the next 25 to 30 years. They are entitled to ask for that if we want them to invest here.

Policy: What about the environment? Is the industry doing a better job of extracting more cleanly, and in R&D, than they were, say, 10 years ago?

Alison Redford: Absolutely. They are. The irony is that there are two different things that we need to look at. One is the environmental impacts of the projects in the physical location where they are, and the work that we've put in place in order to ensure that we're monitoring environmental impact on air and land and water. And even in communities, just the social impact now is tremendously different than what it was 10 years ago or 20 years ago. We're doing that in partnership with industry, and in fact Alberta industry is involved supporting the monitoring work that allows us to have confidence in that investment.

But the other piece that's important, and it's a little ironic, and one of our greatest challenges is that when you're having a climate change discussion, and you're talking about emissions, we know that what industry is doing right now is reducing the intensity of emissions with respect to production on a per-barrel basis.

However, we also know that global demand is increasing so much that pro-

duction is increasing and therefore you don't always see a net reduction in the emissions, even though, based on intensity, there is a reduction, we don't see that drop because customers want the product. That's probably one of the most frustrating conversations to have with people.

But it is important, even apart from that on the emissions side, to actually look at what the net contribution of oil sands production is, in terms of GHG emissions worldwide is only 0.15 percent, according to Energy Alberta, and only 6.8 percent of all the emissions in Canada.

We also know that global demand is increasing so much that production is increasing and therefore you don't always see a net reduction in the emissions, even though, based on intensity, there is a reduction.

Policy: And this new federal-provincial information portal, that was recently opened, is this a good development in terms of transparency and disclosure?

Alison Redford: It's really important, and it's important for a couple of reasons. One is, it's going to allow public information in real time, that will be scientifically verifiable so that everyone can use the same data to have the conversation.

There will be people who have different views as to what the environmental impacts should – or shouldn't – be, but what I'm hoping that we'll be able to do, because it is independent, and it does have scientifically verifiable data that's assessed by an independent committee, what it should allow us to do is at least agree on what the impact is, because so much of the discussion that we've heard about has been the different interpretations of data, or the debate around how data has been collected that doesn't allow you to compare apples and apples, that very often in this discussion we've been comparing

apples and oranges. And so for us to be able to have real-time, scientifically independent, and verifiable data that's completely transparent should allow for a much better conversation.

Policy: Now, to pipelines, north-south, east-west. Let's begin with Keystone XL, 830,000 barrels a day to be potentially exported from Alberta to the Gulf Coast of Texas, and the opposition to it.

My sense, and we would like to have your view of it, is this isn't about the pipeline at all, it's about the oil sands.

Alison Redford: Sure, it is. My sense is after having had four trips to Washington, if you look at the misinformation and the data that many activists are providing, that they're simply using Keystone as a platform to try to have a wider conversation. Which takes us back to what I talked about before, which is if we're going to have that conversation, let's make sure it's factual. We may not all agree, but at least let's agree on what the facts are.

But as we move ahead, what I think is interesting, that very often in the past what we've seen is that in good economic times people spend an awful lot of time talking about sustainable energy and then when the economy isn't as strong, and people are losing their jobs, I wouldn't say it falls off the radar, but it's probably

My sense is after having had four trips to Washington, if you look at the misinformation and the data that many activists are providing, that they're simply using Keystone as a platform to try to have a wider conversation.

a more balanced conversation. And my sense it's okay right now for that discussion in the United States to be talking about the importance of jobs, because we're proud of our environmental record, and we actually think that it's fair to have an honest conversation and say, it's all right to want jobs for Keystone, because the other thing you have to know is that the product that's flowing through Keystone is a product that's produced in an environmentally responsible way, it's a sustainable product, certainly in contrast to other product that's being imported into the United States, whether we're talking environmental impact or production from places like Venezuela or Nigeria, plus the fact that we have really and truly a transparent process that allows the information to be available, that what we can see is that Canadian oil, Alberta oil, should be compared quite favourably to those other sources.



David Manning, Alberta's representative in Washington, and Premier Alison Redford speak to the media on Capitol Hill. April 10, 2013. Flickr photo

The other thing you have to know is that the product that's flowing through Keystone is a product that's produced in an environmentally responsible way, it's a sustainable product, certainly in contrast to other product that's being imported into the United States.

Policy: There's an element of hypocrisy in play here, isn't there? The GHG emissions from the coal-fired electricity industry in the United States are reportedly 44 times those of the Alberta oil sands.

Alison Redford: Well, it's funny because you talked at the beginning of this interview about a puzzle around energy, but there's also another puzzle around what we need to do around environmental development, and as I said, you do see coal-fired generation in the United States that's quite heightened compared to what we see in the oil sands. You also see a very large population, as I said, that is demanding the product, and wants to use the product, and so from my perspective there is work that needs to be done, but the work needs to be done by everyone. And in fact as the State Department environmental impact said, approving Keystone would not in any way adversely impact greenhouse gas emissions, which just speaks to the fact that that's not actually the problem.

Policy: If you had two minutes alone with Barack Obama what would you say to him about this?

Alison Redford: I would say exactly what I just said. You know, I remember when I first got involved in politics and Jock Osler said to me when I was trying to answer questions, he said, "you can't answer questions like that anymore. You can't start by saying this is a complicated issue." But it is a complicated issue. And I believe that Secretary Kerry is committed to making an impact with respect to this issue. And we are as well, but the way to do that is to come together and understand that the 49th parallel is actually a pretty permeated border, and it doesn't in any way allow us to get to the real issue. And I think we should be able to do that.

Policy: Brian Mulroney, the father of free trade, and Derek Burney, who

negotiated it, have both said that the delay on Keystone violates the spirit if not the letter of the energy chapter of the Free Trade Agreement.

It is a complicated issue. And I believe that Secretary Kerry is committed to making an impact with respect to this issue. And we are as well, but the way to do that is to come together and understand that the 49th parallel is actually a pretty permeated border.

Alison Redford: Yeah, there's very specific wording in that and that wording has been brought to my attention. And I've spoken to some of the other negotiators, and it's quite clear that we promised to be good suppliers if they promised to be good customers. I was asked the question in the United States last time I was down there, would this impact Canada-US relations? It's not going to impact Canada-US relations in terms of us being unfriendly neighbours or trading partners, but I come back to the fact that 50 or 60 years ago, when we think about the energy industry in the United States and the energy industry in Canada, and the titans of those industries, they worked together to build what I consider to be a very connected energy economy...And so from my perspective I think it's important that Keystone goes ahead so that we can continue that dialogue, whether it's about economic growth and industrial development, whether it's about infrastructure not just around oil and gas, and perhaps water, transmission, that kind of thing, but also in terms of what we want to do around environmental sustainability.

Policy: Has Keystone been a bit of a wakeup call in terms of east-west, and what we have to do in diversifying our energy exports, particularly oil, to be specific, Gateway, Kinder-Morgan, the TransCanada proposal west-east, and Enbridge's proposal to reverse the flow of Line 9, using refining capacity in Montreal and Levis? This comes back to managing the economics of the federation, doesn't it?

Alison Redford: That's right. Keystone really focused the discussion. It speaks to one of the challenges that we've had in Canada for some time, and that is that we are very fortunate to live where we live, and very often we get comfortable, and we haven't always thought through what some of the long-term scenarios might have been.

I don't think we can have separate conversations going on anymore, either between just two national governments not taking into account what's happening in states and provinces. We also can't leave this to industry. One of the reasons that we ended up in the challenging situation when we're talking about Keystone or Gateway is that for a long time, everyone took for granted that the public in general understood what energy infrastructure was, why it mattered and where it was, and what was under the ground.

One of the reasons that we ended up in the challenging situation when we're talking about Keystone or Gateway is that for a long time, everyone took for granted that the public in general understood what energy infrastructure was, why it mattered and where it was, and what was under the ground.

And so at no point in the past, certainly when I was growing up, did we see any policy discussion or any political leadership around explaining to people that there is energy infrastructure under the ground right now, that in fact Keystone in the United States

would only add 1 percent of linear volume to the pipeline infrastructure that's currently in place in the United States. Now that there's sort of been a wakeup call, we're having to do that work at the same time as we're trying to resolve the issue. If we'd been able to have a different public conversation earlier, we would have been able to say to people, now you understand why we do need to have all of this in place, but if we don't have this in place, we can't actually run an economy. And the economy is what allows us to have the quality of life we have in North America.

Policy: Let me ask you about women in politics and public life.

Alison Redford: Okay.

Policy: Margaret Thatcher. You were 14 years old when she took office in 1979, and 25 when she left office in 1990.

Alison Redford: She had a pretty profound impact on my life. I remember her so clearly. I remember the Barbara Frum interview, that was classic, that was like nothing I'd ever seen before. I remember watching that interview with my mother, and we were almost speechless afterwards, because you saw two strong, intelligent women, who were just engaged in the most specific and defined conversation. I think a lot about her. And I think a lot about her early life and the challenges that she faced. When she first decided to run for politics, if I'm not mistaken, I think she was single when she ran the first time, for the first nomination. Imagine that, a single woman in the 1950s in the UK, running for the Conservative Party, coming from the family background that she did. I have nothing but respect for what she accomplished in her life.

Policy: So the grocer's daughter became the Iron Lady. She famously said, "if you want someone to say something, get a man; if you want something done, get a woman."

Alison Redford: It's true.

Policy: Not a bad motto.

Alison Redford: It's a very good motto. And I'm heartened by that.

Policy: There are six women, as we speak, at the table of the Council of the Federation, as provincial and ter-



Premier Redford at an Edmonton kindergarten class on May 2. On becoming a role model for girls, she says: "I'm a little surprised by it and I take it seriously." Flickr photo

ritorial premiers. I wonder whether you've been there long enough to see whether the chemistry is different with all these women around the table other than the league of guys.

Alison Redford: It's very funny you say that. Margaret Thatcher, if you'd asked her that question, she probably would have told you she wasn't going to talk about this issue because from her perspective she was the prime minister of the country and she was the leader of the party and the fact that she was a woman was pretty irrelevant. I've got to say from my perspective....

Policy: You all defend your provinces' interests, obviously...

Alison Redford: That's right, just taking a step back I think I am more of that view, more of her view. I've had some time to think about whether or not you see those differences. I will say that there is one premier who has said they are very optimistic that having more women around the table will allow for a different dialogue to happen. I am skeptical. I don't think that's a bad thing, I just think that what we have at the table is 13 premiers, who are advocates for their provinces and territories, that want to ensure that

they are doing well for their provinces, are certainly prepared to work together when it's in their best interest, and sometimes in Canada's best interest, and that's where we're going to see the real dialogue take place. That's where we've seen success. I'm not so sure that we've seen a different tone around the table simply because there are women at the table.

Policy: How do you balance the demands of this job and role, and family, because you're a Mom, too, and your daughter's at the age, 11, where she's rising on her teenage years, but she's also at the age where she probably hears things in the school yard about her Mum?

Alison Redford: Well, I'll tell you first of all on the family side, Glen (Jermyn) is fantastic, he's a great husband, he's a great dad, we've been able to manage that quite well. He doesn't do a lot of politics. He prefers to spend time living his own life and being with Sarah. We're very focused on family time when we have the chance to spend it together. From our perspective, when I started in politics, our goal was to try to make sure that Sarah's lens on the world didn't change. And that's not always possible, but it's been a pretty good guiding principle, because it gave her a sense of safety. So in the last year or so, as things changed a bit, she's gotten a bit older, a little more aware of what's going on. She watches the news, with Glen, and she knows that there's a lot of political criticism, and that some people are quite critical of me. It really is like water off a duck's back to her. She is sometimes aware, if I come home and I'm tired or something, she'll talk to me about it.

Policy: And you've become kind of a role model yourself, do you accept that?

Alison Redford: I'm a little surprised by it, and I take it seriously. You don't wake up every day and think about it, but you are aware of the fact. Actually, I was in a kindergarten class yesterday, and there was a little girl, and I know this sounds funny, but she was wearing pearls. And her teacher told me that her Mum had told her that she could wear pearls if she wanted because I was going to be in the class. **P**

TRAFFIC KEEPS MOVING ABOVE BECAUSE OF WHAT WE'RE SAFELY MOVING BELOW



For nearly forty years, our Line 9 pipeline has delivered reliable energy between Quebec and Ontario. We monitor it every second of every day to protect the environment and the communities nearby. We check the entire route twice monthly by air, inspect the interior of the pipe using sophisticated in-line inspection tools, and regularly conduct digs that visually inspect its structural integrity. As the operator of the largest liquids pipeline system in the world, we know that constant care and diligent monitoring are the best ways to ensure a safe network.

Re-establishing the original easterly flow of the Line 9 pipeline will provide a secure source of more affordable domestic energy to Canadian refineries, reducing the dependency on foreign oil. It's a positive change in direction that will be good for the Canadian economy.

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Verbatim: Joe Oliver

Bloomberg
NEW ENERGY FINANCE

Natural Resources Minister Joe Oliver at the Bloomberg Energy conference in New York. "Canada" he reminded his audience, "is by far the largest source of US energy imports." Photo, NRCAN

Dispelling the Myths About Canada's Energy Future

Keystone XL is just part of Canada's narrative of adaptability in the face of seismic shifts in the fundamentals of the energy market. As Joe Oliver told a Bloomberg conference in New York recently, Canada is actively pursuing a strategic imperative to diversify energy export markets while enhancing energy security for North America. Within that framework, asserts Oliver, Keystone should be judged solely on its merits.

We have come here to talk about the Future of Energy.

As governments and policy leaders, we are tasked with balancing increased demand with what we have, what we know and quite frankly, what we can afford, in a changing and complex global energy market.

In the world of energy, change was a constant but looking back it seemed to have fluttered like a gentle breeze. Now it blows at gale-force – all the time.

The future of energy is fraught with risk. But it is also brimming with potential. For countries that have what it takes in resources and determination. Like Canada.

I want to tell you our story, a narrative of adaptability in the face of seismic shifts in the fundamentals of the energy market. It is about Canada's ambition to harness the power of innovation to create a cleaner energy mix for today and for the future. And it is about our strategic imperative to diversify energy export markets, while enhancing energy security for North America.

Canada is a source of abundant hydrocarbons and clean energy. Consider these numbers.

Canada is:

1. The world's sixth-largest producer of oil... with the third-largest proven reserves: 173 billion barrels, with 169 billion in the oil sands.
2. The third-largest producer of natural gas. With recoverable gas resources approaching 1,300 trillion cubic feet, some 200 years of domestic supply.
3. The third-largest producer of hydroelectricity.
4. And the second-largest producer of uranium.

Our electricity supply is one of the cleanest on Earth, more than 77 percent from non-emitting sources. Almost 15 percent from nuclear.

We are also fortunate that our resources do not end at the land's surface. We know that renewable energy sources are a key to the long-term sustainable future of energy.

Hydropower is our biggest source of renewable energy. And it is getting bigger. Take the Lower Churchill project in Newfoundland and Labrador. This \$7.7 billion investment will create enough zero-emitting, renewable power to supply 430,000 US households.

The New York Public Service Commission just approved a plan to build the Champlain Hudson transmission line, which would move 1,000 megawatts of hydropower from Quebec to New York. The Commission said the project could provide up to 10 percent of the power used in New York City — and would likely reduce power costs.

But hydro is only part of it. Canada has invested \$10 billion in clean energy since 2006. This includes government partnerships with the private sector in demonstration projects such as solar and smart grid through our Clean Energy Fund and ecoENERGY Innovation Initiative.

In the past decade, we have gone from pretty much a standing start in wind power to ninth in the world. In 2012, we had 6,200 MW of installed capacity. Experts say we could add another 1,500 MW this year alone.

Canada has aligned its overarching emissions target with the United States – to reduce emissions by 17 percent below 2005 levels by 2020. The Copenhagen target of 2009. It is estimated we are halfway there. How did we do it? By taking a sector-by-sector approach.

With that, let me tell you about Canada's environmental record.

As many of you may know, Canada has aligned its overarching emissions target with the United States – to reduce emissions by 17 percent below 2005 levels by 2020, the Copenhagen target of 2009. It is estimated we are halfway there. How did we do it? By taking a sector-by-sector approach.

Transportation makes up about one quarter of Canada's emissions. So, we introduced tough regulations for light-duty and heavy-duty vehicles, in lock-step with the US.

Coal is the single largest source of GHG emissions in the world. As the International Energy Agency stated in its report in April, the increasing use of coal to make electricity is the greatest threat to a low-carbon future for the world, and governments need to take action to address it.

We are the first major coal user to ban the construction of new coal-fired electricity plants using traditional technology. And we now require all existing coal plants to shut down on a schedule that reflects their economic life, the first country in the world to do so.

Canadian governments have also made major investments in Carbon Capture and Storage technology.

And our new coal regulations are helping to make CCS a reality in Canada. SaskPower is in the process of commissioning the world's first commercial-scale power plant with a fully-integrated carbon capture and storage system. It aims to reduce GHG emissions from coal generation by 90%, the equivalent of taking 250,000 cars off the road.

Fossil fuels have to be part of responsible energy development since, according to the IEA, they will be the source of over two-thirds of global energy in 2035. So we need to be resilient and intelligent to develop workable options for the environmentally-respon-

sible use of fossil fuel that can meet that growing demand.

Further, our efforts to address climate change already include concrete action in the oil and gas sector through regulations at the provincial level. We are also working on additional federal regulations covering the oil and gas sector, all part of Canada's commitment to responsible resource development.

Creating a clean energy future does require substantial capital investment. With our strong focus on economic growth, Canada's government has been able to secure the capital for those projects.

In particular, our government has made major investments relative to our size to increase energy efficiency. Over 640,000 or one in 20 Canadian households took advantage of almost \$1 billion in grants to help retrofit their homes to reduce household energy use and GHG emissions.

We recently committed an additional \$325 million over the next eight years to support R&D in Canada's many innovative clean-tech companies. As a result of these efforts, the IEA ranked Canada second in its rate of energy efficiency improvement among 16 developed economies.

We recently committed an additional \$325 million over the next eight years to support R&D in Canada's many innovative clean-tech companies. As a result of these efforts, the IEA ranked Canada second in its rate of energy efficiency improvement among 16 developed economies.

As Canada looks to the energy future, we see a compelling economic case to diversify our energy market, to meet the growing energy demand of China, India and other rapidly developing countries.

But we are mindful of today's realities. The US and Canada currently enjoy the world's largest, most important and integrated energy market.

So our two countries are working together to make this integrated energy market work better. Since 2009, Canada and the United States have been engaged in the Clean Energy Dialogue. By developing cutting-edge science and technology, we can move closer to a low-carbon economy.

Canada is by far the largest source of US energy imports. Every day, the US imports three million barrels of oil and petroleum products from Canada – more than from Saudi Arabia and Venezuela combined.

As you know, the IEA has projected that the US will be the world's biggest producer of oil as early as the end of this decade.

At the same time, the IEA predicts that, by 2035, global energy demand is expected to grow by 35 percent. In this scenario, China, India and the Middle East will account for a commanding 60 percent of the increase in world energy demand.

Like it or not, for many decades fossil fuels will be crucial for developing countries to address energy insufficiency and bring their citizens out of poverty.

As production rises and demand falls, US dependence on imported oil is expected to decline sharply. But the US will still need to import significant quantities of oil to meet its daily needs. Even in 2035, according to the IEA, the US will still rely on imports for some 3.4 million barrels a day.

Canada has the resources to meet all of America's future needs for imported oil – to fill its one-third gap between domestic supply and demand. So a goal that even five years ago would have been unthinkable is now within our reach.

In 2011, the oil sands accounted for 0.1 percent or 1/1,000th of global GHG emissions – similar to emissions originating from coal-fired electrical plants in Alabama.

North America can be energy independent within 20 years. This opportunity provides America with a fundamental choice:

Either continue to rely for oil on offshore countries, which can be politically unstable, even hostile, and have weak environmental standards, or none at all.

Canada is by far the largest source of US energy imports. Every day, the US imports three million barrels of oil and petroleum products from Canada – more than from Saudi Arabia and Venezuela combined.

Or rely on your neighbour to the north. A long-time partner and friend. A source that is safe, secure, and reliable. And environmentally responsible. This is the choice of North American energy security.

Now I want to tell you about how we're developing the Canadian oil sands in a responsible way. About how we want to deliver this product safely through the Keystone XL pipeline.

Let me start with the context. In 2011, the oil sands accounted for 0.1 percent or 1/1,000th of global GHG emissions – similar to emissions originating from coal-fired electrical plants in Alabama.

I am proud to say that, when it comes to investing in innovation, no country has a better record than Canada. Innovation goes beyond government policies and supports. Industry, too, is taking environmental leadership.

Fourteen major oil producers have created Canada's Oil Sands Innova-

tion Alliance. They share intellectual property... innovative practices... and technology advancements. All to reduce the environmental impact of the oil sands. To date, they have shared more than 300 patents to improve environmental performance. Between 1990 and 2011, we reduced emissions per barrel of oil produced in the oil sands by 26 percent.

The environmental requirements on the Canadian oil sands go beyond GHG regulations. They include water quality, air quality, and restoring disturbed land to a natural state. And the oil sands are subject to a world-class program of environmental monitoring and reporting.

Very few oil exporters in the world subject their industry to this kind of environmental performance and monitoring. No other major oil exporter to the US does this.

So the Canadian oil destined for the US is being developed responsibly. The US State Department, in its 2000 page Supplementary Environmental Impact Statement, concluded that Keystone XL would not create significant environmental damage.

The next question is how to deliver the product safely. Keystone XL will actually be safer than other typical pipelines in the United States. That is not coming from me. That is the opinion of the State Department.

Compared to pipelines already built, Keystone has 57 additional safety features. Welding of pipe seams. Inspections of full right-of-way 26 times a year. These will all be standard for Keystone.

Now let's look at the current network of oil pipelines in North America. They stretch more than 200,000 miles. Decades of experience tell us that pipelines are among the safest, most efficient and most environmen-

tally responsible method to deliver oil.

All observers agree the US will have to build more pipelines to grow its economy. Seven thousand miles of new oil pipelines have been built in the US in the last five years alone. But even that has not been enough. The demand to move oil is outstripping the capacity of the US pipeline network.

Railways are filling some of the gap. In 2012, rail transport of crude oil jumped by a whopping 256 percent. That represents about 250,000 barrels per day compared to 2011 levels. The rail sector plans to invest \$24.5 billion to build, maintain and upgrade the US rail network, in part to move oil. But the fact is pipelines are less expensive, especially for longer distances.

So it is Canada's fervent wish that Keystone XL will be judged on its merits and those merits are considerable – a safe pipeline that will not cause environmental damage, enhanced national security, jobs

Let's look at the current network of oil pipelines in North America. They stretch more than 200,000 miles. Decades of experience tell us that pipelines are among the safest, most efficient and most environmentally responsible method to deliver oil.

and economic growth. On its merits we feel confident Keystone should be approved.

Canada is looking forward with confidence, and with good reason.

Armed with tremendous energy resources, we are aggressively expanding our export options. At the same time we can make possible North American energy security for today's generation.

We have a strong enabling business environment – one that encourages investments in the energy sector. We are devoted to market principles,

and enjoy a track record of reliable governance.

Finally, we are committed to producing energy responsibly, giving appropriate consideration for environmental and safety concerns.

For countries that have what it takes, there is an increasingly important role to play in the global future of energy. A role that has key players supporting a diversified energy mix that responsibly meets their own needs, while also being part of the global community. In a complex global energy market, Canada is proud to have the resources, the know-how and the track record to help the lead the way. **P**

Joe Oliver is Canada's Minister of Natural Resources. Excerpted from an address to an energy conference organized by Bloomberg News in New York, April 24, 2013.



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Keystone XL: The Choice of Reason


After more than four years of comprehensive and exacting economic and environmental review by the U.S. State Department, the Obama administration will soon make a decision about whether to approve the Keystone XL pipeline from the oil sands in Alberta to refineries in America's Gulf Coast. Alberta's collaborative relationship with other governments in Canada and internationally will play a pivotal role in the success of the pipeline in the years to come.

America's desire to effectively balance strong environmental policy, clean technology development, energy security and plentiful job opportunities mirrors that of the people of Alberta.

And these joint values reflect the actions of the Government of Alberta. This is why choosing to approve Keystone XL and oil from a neighbour, ally, friend and responsible energy developer is the choice of reason.

The State Department has indicated that Keystone XL will not have a significant impact on the environment. Yet some still argue Keystone should be decided on emotion rather than science and fact about responsibly developed oil sands resources.

Learn more about the oil sands and Alberta's environmental track record at jointoilsandsmonitoring.ca



Did you know?

- In 2008, Alberta was the first place in North America to legally require all large industry to curb greenhouse gas emissions, and Alberta already has a \$15 price on carbon.
- Alberta is committed to pushing the bar higher on its leading climate change policy that already includes a \$1.3 billion investment in carbon capture and storage and a fund that is helping to finance more than 40 clean technology projects.
- Canada and the U.S. share the world's closest trading relationship. For every dollar of oil the U.S. imports from Canada, 90 cents returns to the U.S. economy through Canadian imports of goods produced in the U.S. This compares to 33 cents for Saudi Arabia and 46 cents for Venezuela.
- Greenhouse gas emissions from the oil sands in Alberta make up just over 1/10th of one per cent of the world's emissions.

*Source: U.S. State Department

**Source: Canadian Energy Research Institute, July 2012 (CERI)

Just one of the many ways
we're Building Alberta



Energy supply and energy security are overarching policy and economic issues driving the diversification of energy trade. Shutterstock photo

An Unconventional Energy Revolution

Kevin Lynch and Karen Miske

On a global scale, security of energy supply and security of energy demand are shifting, profoundly, with the advent of unconventional energy supplies from shale gas and the oil sands and unconventional sources of energy demand from developing markets. The imperative for Canada implied by these global shifts is urgent diversification of our export markets, most likely to the Asia Pacific region. But above all, we need a comprehensive energy strategy if we are to bring the various Canadian interests together with a shared sense of national interest and common purpose commensurate with the scale and scope of the energy opportunity before us.

An unconventional oil and gas revolution is sweeping global energy markets. It will ensure that fossil fuels (oil, gas and coal) remain the dominant sources of global energy for the next quarter century at least, if not longer. It will propel the US, once the world's largest energy importer, into (net) energy self-sufficiency over the next two decades. It will incent movement towards a world gas market, creating arbitrage opportunities among today's regional gas markets in Asia, Europe and North America. It will alter the geopolitics of energy security as Asia, led by China, becomes the predominant buyer of Middle East oil and gas; not Europe or the United States. And, it will fundamentally affect the security of demand for Canada's energy exports.

Security of energy supply and security of energy demand are shifting, profoundly, with the advent of unconventional energy supplies from shale gas and the oil sands and unconventional sources of energy demand from the "rise of the rest", in Fareed Zakaria's evocative term. Global energy demand is expected to grow by more than one third from 2010 to 2035, with China and India alone accounting for 50 percent of this growth, and other emerging economies for most of the remainder.

Global energy demand is expected to grow by more than one third from 2010 to 2035, with China and India alone accounting for 50 percent of this growth, and other emerging economies for most of the remainder.

Over this same period of time (see Charts 1a and 1b), OECD countries will account for only three percent of global energy demand growth, and US imports of both oil and gas are expected to fall substantially. Indeed, the US could be a sizeable net exporter of gas, depending on the willingness of the US government to permit LNG gas exports to non-FTA countries in Asia (see Chart 2). In a May 3, 2013 speech in Washington, Japan's minister of economy, trade and industry, said: "New flow of LNG supply from the US to Asia is an essential game changer that would contribute to energy security as well as economic and geopolitical stability in Asia." Whether this happens depends on a tug-of-war within the US between those who see cheap, plentiful gas as a domestic stimulus, and those who see gas exports as a geopolitical tool. With question marks hanging over the future of electricity generated by nuclear power post-Fukushima, Japan, which imports 100 percent of its oil and gas, has become a massive buyer of gas from the Middle East.

These shifting sources of energy demand and supply are creating new opportunities and new risks. Security of energy supply is soaring in the United States (and in Israel with large offshore gas finds). Security of energy

supply is falling in China, India and South Korea and plummeting in Japan. Security of energy demand is impacted, and negatively, in Canada, Australia and Russia, although for different reasons in each.

With question marks hanging over the future of electricity generated by nuclear power post-Fukushima, Japan, which imports 100 percent of its oil and gas, has become a massive buyer of gas from the Middle East.

In Canada's case, we have an increasingly unreliable single buyer for our energy, the United States – in terms of future US energy demand as well as in the infrastructure needed to supply incremental unconventional oil to US refineries (Keystone XL). Russia faces more potential competitors in supplying gas and oil to Western Europe while Australia fears Canada, the United States and Russia could become competitors in the lucrative Asian gas markets. The Middle East becomes even more complicated and riskier with these shifting global energy markets. Domestic energy de-

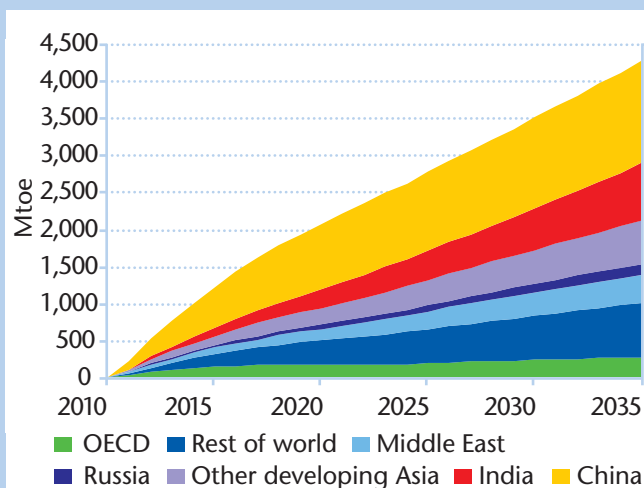
mands are soaring due to huge price subsidies, political tensions in the region are on the rise, and the new Asian customers for Middle East oil and gas must now worry about the security of their supply.

The imperative for Canada implied by these shifting global energy markets is diversification of where we sell our energy resources, and urgency in effecting this diversification.

Consider, for the moment, what these tectonic shifts imply for global gas markets. Today, unlike with oil, there is no global gas market and no benchmark global gas price. Gas markets are regional, and gas price differentials are huge (see Table 1). Herein lies a huge opportunity for Canada, and for others.

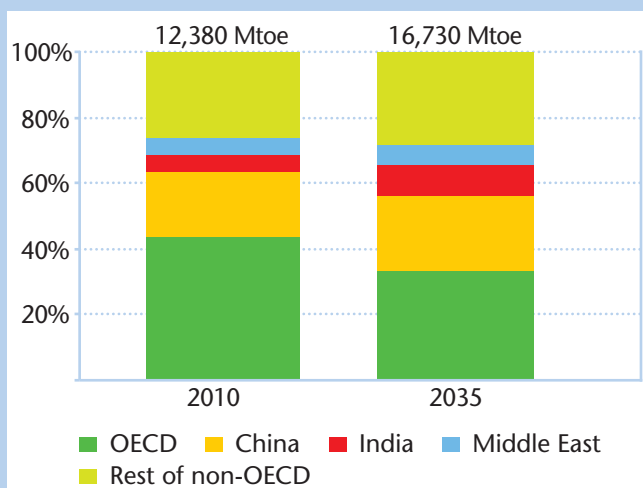
Exporting LNG from Canada to Asia, for example, would benefit both Canadian gas producers and Asian gas consumers. Currently Asian gas prices are indexed to global oil prices (Qatar is the price setter), North American gas prices are set by continental demand and supply, and European gas prices are largely set by Russia. Unconventional gas from North America and elsewhere, delivered through massive LNG transportation systems, could create something closer to a global gas market. In this world, the potential for gas price arbitrage is enormous, and so is the uncertainty about what future gas prices might be. Being the early mover in LNG gas sales to Asia will extract the maximum upside price arbitrage and

Chart 1a: GROWTH IN PRIMARY ENERGY DEMAND



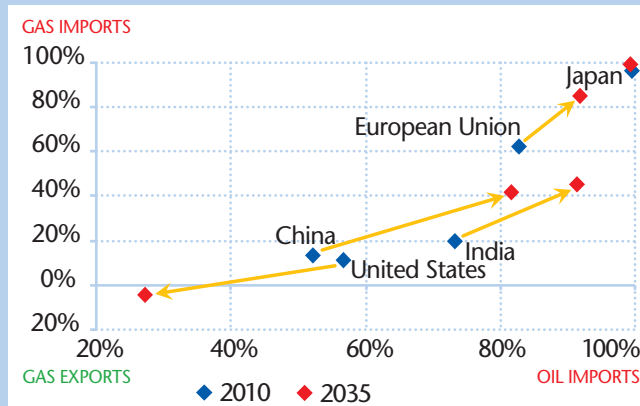
Source: World Energy Outlook, 2012 OECD/IEA

Chart 1b: SHARE OF GLOBAL ENERGY DEMAND



Source: World Energy Outlook, 2012 OECD/IEA

Chart 2: NET OIL & GAS IMPORT DEPENDENCY IN SELECTED COUNTRIES



Source: World Energy Outlook, 2012 OECD/IEA

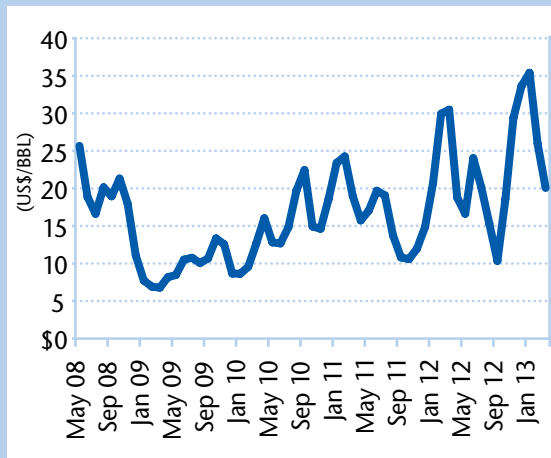
Table 1: GAS PRICES (2013 YTD AVERAGE)

(US\$/mmBtu)

North America	\$3.68 (USD)
Asia	
Japan	\$17.00 (USD)
South Korea	\$17.00 (USD)
Europe	\$10.24 (USD)
U.K.	\$10.17 (USD)

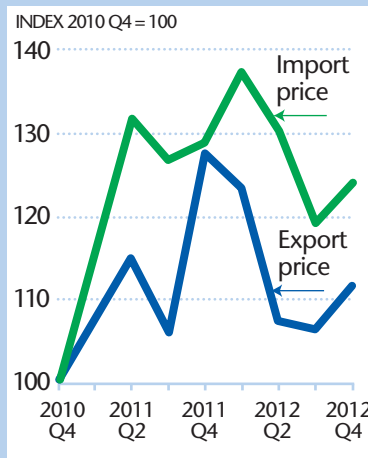
Source: Bloomberg, (Jan 1-May 2, 2013)

Chart 3: CRUDE OIL PRICE: WESTERN CANADA SELECT – WTI CUSHING DISCOUNT MONTHLY AVERAGES (MAY 08 – MAR.13)



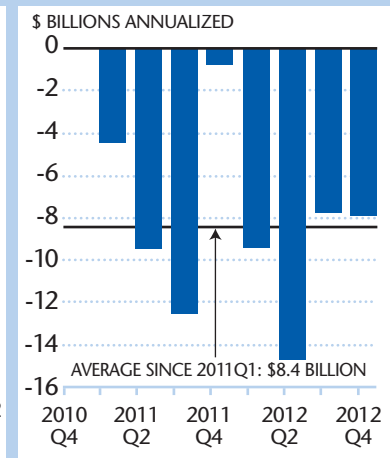
Source: Bloomberg

Chart 4a: CANADIAN EXPORT AND IMPORT PRICES FOR CRUDE OIL



Sources: Statistics Canada; Department of Finance Calculations

Chart 4b: IMPACT OF CRUDE OIL PRICE DIFFERENTIALS ON NOMINAL EXPORTS



minimize the downside future price risk. Japan, with its huge gas requirements in the aftermath of the Fukushima disaster and the high spot price it pays as a result, is an obvious potential market for Canadian LNG.

While Canadian gas prices have been depressed by the supply imbalance in North American gas markets as a result of unconventional gas, Canadian oil prices have been depressed for a more insidious reason: while world oil prices have remained relatively high, the “discount” on Canadian crude oil shipped to US markets for refining and sale (see Chart 3) has climbed in recent years for a variety of reasons, reaching above \$30 per barrel at times.

The impact of this discount on the value of Canadian oil exports to the US – our only oil export market at

present — is enormous. Absent the US discount on our oil exports, Canadian energy exports and nominal GDP would have been over \$8 billion higher in 2012 (Charts 4a and 4b). The 2013 Budget calculated that, if the oil price discount were eliminated and LNG gas exports allowed Canadian gas producers to receive a price closer to European levels (not Japanese), the impact on Canadian exports and GDP would be roughly of \$28 billion per year — quite a boost to Canadian incomes and over \$6 billion annually in additional federal and provincial revenues.

So, how is Canada positioned for this global energy revolution? The answer is mixed. We rely on a single customer for all our oil and gas exports, the United States,

which itself will increasingly be able to supply more and demand less. At the same time, we have the capacity to dramatically increase our supply of unconventional oil and gas, provided we secure new customers and do so before our competitors. Asia is similarly wedged between an increasingly risky reliance on a predominant energy supplier, the Middle East, and rapidly increasing energy demands to fuel growth and consumer needs. Herein lies the seed for a mutually beneficial energy partnership between Canada and Asia. But, to turn this potential into reality, Canadian energy producers must be able to access new energy markets in Asia, and this requires energy transportation infrastructure that we currently lack.

Without the ability to reach these Asian energy markets through new

oil and gas pipelines, rail capacity and port facilities, our unconventional energy potential will remain unrealized. We must recognize that the need for Canadian energy in Asia is an opportunity that may disappear if we do not act decisively, and quickly, to capture these markets in the face of stiff competition. Without new market access and the transportation infrastructure linking us to those markets, our unconventional energy resources have limited economic value.

The immediate challenge for Canada is putting in place the energy transportation infrastructure necessary to supply these Asian markets with LNG and oil. However, for such large, complex energy projects, there is an emerging “triple-licensing” requirement:

1. Commercial licence: The project has to make economic sense on a risk-adjusted basis. This includes costs, financing, revenues, risks of cost over-runs, and price uncertainty.
2. Policy licence: The project has to obtain policy approval to move ahead, and this entails conditions and costs. Pipeline approvals (both oil and gas) are key policy licence requirements to access the Asia Pacific, and likely port infrastructure approvals as well.
3. Social licence: Major projects that raise complex environmental issues, affect communities directly or indirectly, or impact on lands with indigenous rights all have to effectively obtain a social licence to operate. If not, there is a high risk of public backlash, political pressure and litigation.

Dialogue matters, greatly, as we consider this complex shift in North American energy production and the imperative for Canada to diversify its energy trade to new markets, most likely in the Asia Pacific region. And we need to intensify this dialogue both within Canada and with potential energy trading partners.

The Pacific Energy Summit held in Vancouver in April – co-hosted by the

US National Bureau of Asian Research and the Asia Pacific Foundation of Canada – brought together energy and environment experts, business and policy leaders from Canada, Asia and the United States to wrestle with this new energy era and what it could mean for Trans-Pacific trade and investment. There was a clear sense that Asian countries were approaching the issue of security of energy supply with a much clearer perspective of national interest and urgency than that with which Canadian participants were addressing the growing insecurity of our energy demand.

Where does this all take us? Dialogue matters, greatly, as we consider this complex shift in North American energy production and the imperative for Canada to diversify its energy trade to new markets, most likely in the Asia Pacific region. And we need to intensify this dialogue both within Canada and with potential energy trading partners.

But more than this, we need a comprehensive energy strategy if we are to bring the various Canadian interests together with a shared sense of national interest and common purpose commensurate with the scale and scope of the energy opportunity before us. It is difficult to envisage how a collection of private sector projects can obtain the triple licensing requirements that are needed for an enterprise of this magnitude absent a comprehensive approach. And it is even more difficult to foresee how Canada can move forward with the urgency required in the competitive environment to develop LNG and oil exports markets in various Asia Pacific countries if we continue as we are.

Indeed, developments on the energy supply and energy demand sides, as well as the energy transportation front, since the release in June, 2012 of the Asia Pacific Foundation Task Force Report “Securing Canada’s Energy Future,” only serve to reinforce its main recommendations, namely: that Canada needs to diversify its energy export markets (principally to Asia) and urgently; that Canada needs massive new energy transportation infrastructure to tidewater to achieve this; that investments in R&D and innovation are crucial to the continued development of unconventional energy supplies in Canada; and, that

a comprehensive energy strategy is needed to establish common purpose and create mutual advantage.

The report also advocated that consideration be given to a “public energy transportation corridor” to the West Coast, established by the federal government in concert with the relevant provincial governments. The “corridor” would incorporate specific environment standards, remediation capacity and insurance, revenue sharing with aboriginal communities and interprovincial commitments. Private sector entities would build, own and operate transport infrastructure in the corridor on a competitive basis, with policy certainty to both them and the public.

LNG exports from British Columbia to Asian markets have enormous potential for Canada’s major gas producers, B.C. and Alberta, but they need pipelines, facilities, and contracts to make this opportunity a reality, and they face competitors. For example, the US has approved one LNG export project, the Sabine Pass plant in Louisiana, to export LNG and a further 19 applications have been filed with the US Department of Energy. Similarly, Asia Pacific countries want to diversify their sources of oil imports, and Canada would be a preferred export partner for a variety of reasons. But B.C. is locked in a dispute with Alberta over the building of pipelines, and there is opposition from Aboriginal, community and environmental groups to “granting” a social licence to pipelines moving oil from the oil sands to the West Coast for export – an impasse that benefits no one in the longer term.

Energy markets are increasingly global but energy policies remain stubbornly national. The unconventional energy revolution offers Canada the possibility of a new energy relationship with Asia at a time when its traditional energy market is becoming more uncertain. The opportunities are clear, but we have to work harder, collectively, if we are to realize them. **P**

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Provincial and territorial premiers around the table of the Council of the Federation annual meeting in Halifax last year. Part of the reason the premiers are making progress on a Canadian Energy Strategy, writes Velma McColl, is that the feds aren't "leading or even in the current conversation." COF photo

Custom-Built by Provinces: Creating a Flexible Canadian Energy Strategy

Velma McColl

At last year's Council of the Federation meeting in Halifax, three premiers – Newfoundland's Kathy Dunderdale, Manitoba's Greg Selinger and Alberta's Alison Redford – agreed to prepare recommendations on creating a Canadian Energy Strategy. Part of the reason that individual provinces have been willing to consider developing a strategy is that the federal government is not leading or even in the conversation, at least at this point. Prime Minister Harper has been cool to the idea and Natural Resources Minister Joe Oliver openly dismissive, but in many ways it is a positive that the federal government remain outside the COF process. It has allowed the provinces to lead from their strengths and to be more creative within the federation.

In the quiet of summer, our provincial and territorial leaders will gather in Niagara-on-the-Lake for the annual Council of the Federation (COF) meeting. They will report on how to strengthen the economy and address fiscal imbalance, infrastructure and energy. It will be a lively conversation among a spirited set of leaders.

You may recall the impassioned discussions between British Columbia and Alberta at last year's meeting in Halifax. What you may not remember is that, despite the dust-up and B.C.'s objections, three Premiers – Newfoundland's Kathy Dunderdale, Manitoba's Greg Selinger and Alberta's Alison Redford – agreed to prepare recommendations on creating a Canadian Energy Strategy.

While the process got off to a slow start last fall, the three premiers, energy ministers and officials from all the

provinces have been working to better understand progress and priorities on energy in each province and territory and then craft a pan-Canadian vision. The premiers are building on a 2007 COF report titled, *A Shared Vision for Energy in Canada* though some of the context has changed, including the imperatives around market diversification for Canadian energy and the changing environmental and supply pictures in North America and globally.

The provinces have now agreed to focus their work on sustainability and energy conservation; technology and innovation; and improving the systems that move energy to people and markets, whether through electricity infrastructure, pipelines or other means. Governments are compiling information on what's happening across the country in energy efficiency, renewable energy, the state of energy R&D for clean and conventional sources, human resources, regulatory approvals and what measures are currently in place to transition to a low-carbon economy. A secretariat is managing the process and is consulting internally with governments as well as reaching out to stakeholders.

Surprisingly, we have little central data on energy in Canada – and even less on the current state of programs and policies across all jurisdictions.

Surprisingly, we have little central data on energy in Canada – and even less on the current state of programs and policies across all jurisdictions. Part of the exercise between the provinces will be to gather this information and create a more complete picture. There are also some innovative ideas emerging to increase energy literacy among Canadians so that the energy systems that power our homes and office buildings are better understood – and so that we know where our energy comes from and have a clearer picture of Canada's economic, environmental and social opportunities from the full range of resources we are blessed with.

While the three premiers will update their colleagues in July, with the complexity of these files and some underlying political tensions, it was wisely decided that an integrated strategy would not be ready before 2014. What's interesting is that Premiers Dunderdale, Redford and Selinger have decided that while they want to compile a solid reflection of what their governments are doing, they also want to create practical, action-oriented initiatives between provinces that share an interest in particular areas. This means that provinces are free to pursue partnerships with jurisdictions that share their priorities. This provides the necessary flexibility for common interests to be pursued, while still working to knit together the overarching economic, trade and environmental imperatives for the country.

Premier Redford has been an active proponent of a Canadian Energy Strategy from the beginning. She has gone out to meet with the premiers of Quebec, Ontario and New Brunswick and has sought common cause with her own priority around market diversification. There is an expectation that, over time, other provinces will identify different priorities and build support for more work in areas like clean technology, renewables and energy conservation.

While Ontario had played a lower profile role in the energy debate until now, Premier Kathleen Wynne becomes the Chair of the COF in July through to 2014 and may take a stronger role in shaping the conversation with her colleagues. B.C. remains a mystery under Premier Christy Clark since she has stated that they will remain an observer until they have a satisfactory response from Alberta and the federal government on the Gateway pipeline proposal through northern B.C..

We also cannot ignore the fact that the deepest remaining vein of political tension over energy exists between Quebec and Newfoundland and Labrador. It is somewhat ironic that Alberta has made progress over the last three years in overcoming its own historic aversion to discussing energy in a national context but, without efforts to contain the bilateral issues around hydro, the animosity between

Newfoundland and Quebec may ultimately limit the interest in setting a longer-term energy vision for the country. Perhaps the other premiers will be able to help isolate specific inter-provincial disagreements (B.C./Alberta and Newfoundland/Quebec) in the interest of realizing the other benefits of a collaborative approach on energy.

Part of the reason that Alberta and Quebec have been willing to consider developing a Canadian Energy Strategy is that the federal government is not leading or even in the current conversation.

Part of the reason that Alberta and Quebec have been willing to consider developing a Canadian Energy Strategy is that the federal government is not leading or even in the current conversation. Though Prime Minister Harper has been publicly cool to the whole idea and Natural Resources Minister Joe Oliver openly dismissive, in many ways it is a blessing that the federal government remains outside the COF process. The federal government does place a high priority on the energy file and has invested significant political capital at home and abroad in advancing its vision for regulatory streamlining, market diversification for oil and gas and a limited set of environmental and technology initiatives. But the federal vision is not broad enough for some provinces and so they are stepping up. That could change over time but, for now, it raises some interesting questions for our vision as a federation on the energy file.

Over the last several decades, when we heard from premiers together, it was only at First Ministers' meetings where they were criticizing the federal government or demanding more dollars for health care, social programs or equalization. The news conferences became predictable, with the only question being which premiers would be most vocal; most often those closest to an election. After the failure of the Meech Lake and Charlottetown accords,

there was also little public appetite for grand national designs set from above. This unfairly oversimplifies much of the good work done in the 1980s and 1990s but it is perhaps why there was little public outrage when Stephen Harper simply did away with the annual gatherings of all of Canada's political leaders when he came to power in 2006.

While it took a few years to break the old fed-bashing patterns, COF has become a rare space for the expression of collective views on the future of the country.

It was a good thing that in 2003, the premiers, led by Jean Charest, created the Council of the Federation, their own table for dialogue and problem-solving. Since then, provincial and territorial leaders gather annually, work by consensus and generate strong policy analysis on issues ranging from transportation to health care to the environment to economic growth. While it took a few years to break the old fed-bashing patterns, COF has become a rare space for the expression of collective views on the future of the country. Saskatchewan Premier Brad Wall and Prince Edward Island Premier Robert Ghiz issued an important report on health care last year and there is good work being done on fiscal imbalance, infrastructure and energy. Premiers also worked together on economic issues after the financial crisis of 2006 and embarked on a shared trade mission to Asia last fall.

If you take the time to read the recent COF reports or listen to their news conferences, you find that these premiers are also passionate defenders of Canada as a federation, a country more than the sum of its parts. And if the federal government will not come to the table, then they are prepared to forge ahead themselves, as they have on energy.

The skeptics will say that provinces alone have no real power to change things, that they have control in their own jurisdictions but little influence

where the federation is concerned. But we have seen successful regional experiments where provinces are leading change through initiatives like the Trade, Investment and Mobility Agreement (TILMA) among B.C., Alberta and Saskatchewan that was so successful that it was expanded to become the New West Partnership Trade Agreement; or the Atlantic Energy Gateway to increase the level of regional cooperation on electricity systems across the region; or increased dialogue between Ontario and Quebec on a wide range of issues. Most of these initiatives are less than five years old but each has yielded a number of practical solutions that hold lessons that can be applied across the country.

We should watch the dynamics between our current set of premiers. As a cohort, they are younger, relatively early in their mandates, have a keen sense of political history and, of course, are fierce advocates for their own provinces. Some will face elections soon but the majority will sit together for a few years at COF.

We should watch the dynamics between our current set of premiers. As a cohort, they are younger, relatively early in their mandates, have a keen sense of political history and, of course, are fierce advocates for their own provinces. Some will face elections soon but the majority will sit together for a few years at COF. They are leaders who are managing changing economies, fiscal pressures and demands for better service delivery in healthcare, infrastructure and social programs. The balance of power among the Premiers has changed recently, with a marked shift West. And with six women at the table, COF is now the most gender-balanced political body we have ever had in this country. They have the potential, individually and collectively, to set and implement practical ideas that will shape the future of Canada.

Perhaps we're ready to leave behind the 1970s image that progress for the country meant a prime minister and all premiers standing together, singing from the same song sheet. Perhaps we're ready to accept that we can find harmony in a "mash-up" of melodies across the federation, recognizing that, in a world that is changing around us, experimentation and diversity can be strengths. Our premiers can proudly defend what's working in their own province or territory, advocate regional coalitions where practical, and still selectively seek pan-Canadian solutions on issues like health care, equalization and labour markets. We will need to find new, more agile ways to engage between regions and provinces, through COF or other mechanisms. As for energy, we can do all three – make progress within each jurisdiction, engage in broader regional solutions and, in time, be ready for a pan-Canadian vision – perhaps even involving the federal government.

In the meantime, Premiers Dunderdale, Redford and Selinger will present their update to their colleagues this summer, framing practical steps for moving energy to people, building our capacity in innovative technologies, and moving toward a more sustainable, low-carbon economy. The challenge for their final report in 2014 will be to fit pieces into Canada's energy puzzle so the picture reflects the full range of opportunities for our future. But there's no mistake that the provinces are leading on the path toward an integrated energy vision for the country. **P**

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B.C. Premier Christy Clark with national Aboriginal leaders at last July's Council of the Federation meeting. It's clear that provinces and First Nations along the route of proposed pipelines will have an important say in any of them going ahead. B.C. government photo

The Politics of Pipelines

Robin V. Sears

The arc of modern pipeline history begins with the triumphant battle by C.D. Howe to force feed his project through a recalcitrant Canadian Parliament. From the 1956 pipeline victory, TransCanada Pipeline was born. Flash forward to the approval process for the Keystone XL project, also a mega-project championed by TransCanada, and the process could not be more different. Years of consultation, legal battles and political delay and still TransCanada is fighting a rearguard action against ranchers, environmentalists, scientists and many local, state level and national politicians. It will probably be approved, after many concessions by TCPL, but at a heavy cost to the political capital of all the governments involved.

Saved by the prodigiously inept campaign of British Columbia NDP leader Adrian Dix, the Canadian pipeline sector has been breaking out the champagne, Sun TV has been celebrating the death of socialism, and editorialists from coast to coast have been uttering predictably pious platitudes about the triumph of economic probity among B.C. voters.

Not so fast.

Some pipelines might get built, sometime, but none soon or quickly.

First, the B.C. NDP decided to oppose the Kinder Morgan pipeline for the sound, if opportunistic, reason that opposition was also the view of a majority of B.C. voters. How was it possible then, you might ask, that Adrian Dix got trounced? Hypocrisy, or more gently put, "conflicted political values," is not rare among Canadian voters.

B.C. voters appear to have applied a version of the famous aphorism about Quebec voters, who allegedly used to pine for "a free Quebec within a united Canada." B.C. voters appear to have voted for a "strong, resource based B.C. economy, so long as it does

not involve pipeline or tanker traffic in any B.C. port.”

The City of Vancouver, B.C. First Nations, and the province’s vast and entrenched environmental community are of one mind on the project – no oil pipeline requiring the addition of dozens of oil tankers passing under the Lion’s Gate Bridge will be permitted. Period. And in case it has faded from memory, it is useful to recall that the most hardcore wing of Greenpeace, the Sea Shepherd organization, was a product of B.C. environmental rage, in response to the disaster for the oil and gas sector called Exxon Valdez. Does anyone really think that tankers in and out of Vancouver or Kitimat will not be targeted for disruption by the children of these green activist pioneers?

So the chances of Kinder Morgan overcoming this level of political resistance on Canada’s Left Coast are modest. The Liberal government may be willing to spend the political capital of a new mandate on such a controversial project, but it is hard to see why it would.

But Kinder Morgan’s prospects are positively rosy, compared with the opposition around the Northern Gateway project, which would see huge tankers navigating some of the most pristine coastline in the world. Enbridge still has the option of moving from Kitimat to Prince Rupert, a marginally less emotional route. Sadly for both companies, they have little experience in managing a corporate reputation with the consumer public.

Unlike the chemical sector whose Love Canal and Bhopal experiences a generation ago have bred a tough and seasoned executive corps who understand crisis communication and reputation management, or the forest sector which has grown enormously from the nadir of Clayoquot Sound and the battles of the 1980s, the pipeline industry have flown largely under the political radar until recently. Pipeline guys are different. They are engineers who deal with other engineers and the specialists and technicians of the oil and gas sector, not housewives or angry students, let alone professional green agitators.

An exception is the natural gas sector. Curiously, the various LNG projects planned for B.C.’s North have far

Curiously, the various LNG projects planned for B.C.’s North have far more political and social licence, and significantly less First Nations resistance than the oil sands competitors.

more political and social licence, and significantly less First Nations resistance than the oil sands competitors. While energy experts may be puzzled why citizens are less fussed about LNG tankers travelling the same maritime routes as double hulled modern oil tankers, one wag observed that gas tankers may explode, but then they sink and disappear, crude doesn’t.

To give credit where it is due, the LNG sector has demonstrated an approach closer to the best of the chemical and forestry firms in understanding the importance and power of deep and open community consultation, of providing the political leaders – whose approval they depend on – with the protective cover they need to support them.

Perhaps it is due to the tough battles they have had to fight in Europe, Southeast Asia and Australia to get approval for large scale LNG projects, perhaps it is because many firms in the sector have upstream and customer-facing downstream businesses. The differences in their public reputations probably have a variety of sources, but the net impact in B.C. in 2013 is that the same voter who would be opposed to an oil tanker in Vancouver’s inner harbour is surprisingly sanguine about flotillas of LNG tankers off B.C.’s northern coast.

Government has a far greater incentive and urgency to make a decision where these projects are concerned for two reasons. There are half a dozen projects planned for the west coast of North America to serve the booming Asian economies with Canadian and American gas. Only two or three of them will get built. The first movers will establish great advantage in access to the best customers at the best prices. Government has a second incentive: money. There are hundreds of millions in royalties and tax revenues to be collected from successfully nurturing an LNG industry in B.C. that runs from production, through transportation to LNG compression, to export.

So a less febrile reaction to the outcome of the B.C. election as it might

have impacted the oil and gas business in the province is this: if Adrian Dix had been elected he would have okayed the early launch of an LNG pipeline and terminal, and delayed or nixed both Kinder Morgan and Northern Gateway.

The difference, given the rebirth of Christy Clark, is nothing, apart from rhetoric.

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That the new B.C. government will end up in the same place as the old, no different than where it would have been under a Dix administration, should not be so surprising given recent Canadian history: Liberal and Conservative federal governments have been committed to the Mackenzie Valley Pipeline for decades now, apart from a commitment to actually build it. The NDP in Alberta and Saskatchewan have long been in favour of oil sands development, conditioned by a slower development pace, tougher clean-up enforcement and an insistence on local refining – a position they “acquired” from Peter Lougheed. Only days after her election triumph the B.C. government announced that it would not support Gateway barring massive changes. In so doing, the comeback Premier bought herself some early anti-pipeline political insurance. The ball is now in Enbridge’s court to respond.

These merely rhetorical differences should not be surprising: all parties have offered their support of the MacKenzie Valley Pipeline for years, just not enough support

to actually get it built. There is an important lesson here for non-Conservative Canadian politicians, however, starting with Adrian Dix and Thomas Mulcair: “Be careful how you position your messaging about pipelines and oil sands to soothe your base.” Where the old Social Credit coalition was expert at stopping “the socialist hordes”, today’s Liberal coalition gains from positioning the NDP as environmental extremists.

There is a separate cast of private sector players in this ongoing “environment versus economy” political soap opera who are quietly moving up the charts of the Canadian political hit parade: our ancient and beloved railways. Tanker cars full of oil do derail and pollute, but apart from the damage of the TV images to railway reputations, the actual environmental damage is necessarily limited. A burst tanker car may spill a few dozen or even a few hundred barrels of oil in a farmer’s field or a nature preserve, but unlike a pipeline it doesn’t keep flowing.

Tanker car spills are a problem for the railways positioning as the green solution to moving oil across the country, but they are a more limited and more easily remedied problem than managing the leaks in the aging infrastructure of many North American pipelines. They have several commercial advantages as well. Tanker cars can pick up and deliver in an enormous variety of places among the tens of thousands of miles of rail. You can dispatch 10 at a time or 1000, or none at all if demand sags. Pipelines don’t move, and need to be kept filled.

A second large advantage where oil sands crude is concerned is that tanker cars can take it straight out of the ground, pipelines need to dilute it by at least 30 percent in order to make it flow smoothly. That imposes two costs on pipeline customers: they must buy and transport the ‘diluent’ into their pipeline terminal, and they have to pay to move a product that is then removed when it reaches a refinery.

New crude tanker cars are being built by the thousands in Hamilton and the American Midwest as a result. A very large fleet of oil tanker cars will soon be making up trains in Canada and the US similar in scale to the

enormous convoys of grain shipment tankers familiar to every Prairie driver. They face challenges from environmentalists at the point of export similar to the pipeline companies, but railways can choose from – or build anew – a dozen possible export sites in the American Northwest or British Columbia.

So if we were to look out to the next B.C. election, four years from now, what would we see in the pace and style of resource development in the province? We would probably observe an LNG pipeline and terminal more than halfway to completion on B.C.’s north coast. We would probably have become used to the passage of hundreds of railcars to a new export terminal south of Vancouver. And we would smile at the sight of First Nations executives in some of these enterprises, defending the environmental commitment of their firms, and extolling the economic benefits that their negotiated partnerships with B.C. First Nation communities had begun to deliver.

The prospect of a massive double pipeline pumping Alberta bitumen 24/7 into a fleet of waiting tankers along the shores of North Vancouver, unlikely. The potential for a similar pipe to be filling the world’s largest double-hulled oil tankers off the shores of Kitimat, even more unlikely.

The arc of modern pipeline history begins with the triumphant battle by C.D. Howe to force feed his project through a recalcitrant Canadian Parliament. The 1956 pipeline debate used the then-rare procedural sledgehammer of closure.

The arc of modern pipeline history begins with the triumphant battle by C.D. Howe to force feed his project through a recalcitrant Canadian Parliament. The 1956 pipeline debate used the then-rare procedural sledgehammer of closure. TransCanada Pipeline was born, the TransCanada Pipeline was laid, but so were the seeds of the Liberals

enormous defeat the very next year, in 1957. That brutal approach to public consultation delivered a painful lesson even in the much more deferential era of the 1950s.

Flash forward to the approval process for the Keystone XL project, by an ironic twist of history, also a mega-project championed by TransCanada, and the process could not be more different. Years of consultation, more years of legal battles, even more years of political delay and still TransCanada is fighting a rearguard action against ranchers, environmentalists, scientists and many local, state level and national politicians. It will probably be approved, after many concessions by TransCanada, but at a heavy heavy cost to the political capital of all the governments involved.

In the middle of that pipeline history came the ill-starred launch of the first MacKenzie Valley Pipeline, stopped in its tracks by a sensational commission of inquiry led by Tom Berger. The battle over First Nations’ rights, early environmental activist concerns, and engineering claims gripped the country for months. The Commission Report became a bestseller. And Justice Berger’s work buried the idea of a pipeline to the north for decades. Its revival with full aboriginal equity participation has still not been enough to get the project to lift off. Industry experts today are more dubious than ever about its prospects given rapidly falling natural gas prices, and flat American oil demand.

The Trans-Canada Pipeline, now nearing its 60th anniversary, is the last interprovincial pipeline project traversing sensitive environmental terrain and contested First Nations lands to have been built in Canada. The Northern Gateway’s efforts to be the next project of similar scale traversing similarly sensitive political territory needs to be seen in light of that long gap.

The successful pipeline chief executive needs to have a keen sense of timing, a keen eye for partners and their contributions, exquisite taste in judging the necessary social ingredients, a populist politician’s intuitive grasp of how to move a skeptical public, a strong back and a lot of luck. **P**

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The Irving refinery in Saint John is the largest in Canada, with a capacity of 300,000 barrels of oil per day. Nearby Saint John Harbour is the deepest on the east coast of North America. Irving Oil photo

West-East Pipeline: A Question of National Interest

David Alward

With the proposed West-East pipeline, New Brunswick has a huge opportunity to play a key role in strengthening our provincial and national economies. Among its benefits, the project would not only create jobs in New Brunswick. It would open up new markets for one of Canada's most important exports, help Canada get better prices for its oil and reduce our dependence on imported crude. Premier David Alward sees New Brunswick as Canada's next energy powerhouse, and Saint John as the anchor of that powerhouse.

At the founding of our country, Canadians built a railway from east to west. This visionary pan-Canadian project was essential to the building and strengthening of our nation. Without it, Canada as we know it today would most certainly not exist.

Today our country faces significant economic challenges from forces originating largely beyond our borders. New Brunswick is not immune to the effects of these forces. Thus rebuilding and strengthening our economy, creating jobs here and enhancing quality of life for our families are our top priorities.

New Brunswick has a huge opportunity to play a key role in strengthening our provincial and national economies. Just as our country's founders tackled the task, we are on the cusp of another critical nation-building project – a west to east pipeline bringing western Canadian crude oil to Saint John, New Brunswick. This pipeline will be as important to our nation's economic future as the railway was to our past.

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This is about building our nation, strengthening our national economy, increasing our exports and our energy security, and creating good jobs for our citizens.

Although I'm very excited about what this means for New Brunswick, I'm equally excited about what it means for Canada. I first spoke nationally about the West-East pipeline more than a year ago at the Economic Club in Toronto, to a very enthusiastic audience. I reiterated the message and again saw the enthusiasm for this project from across the country this spring. We share this enthusiasm with premiers across the country, several of whom I have met recently to discuss this project, and with business leaders and financial institutions across the country.

I have also met with Prime Minister Stephen Harper and Natural Resources Minister Joe Oliver and I appreciate their support for this project.

Among its benefits, this project would:

- Open up new markets for one of Canada's most important exports;
- Help Canada get better prices for its natural resources;
- Reduce our dependence on imported crude;
- Increase security of oil supply to Eastern Canada and the American northeast;
- Add value to Canadian crude by refining it at refineries in New Brunswick, Ontario and Quebec and
- Create new jobs and new opportunities across the country.

There will be huge benefits, both direct and spin-off, generated by this important project, including new jobs, good high-paying jobs, and investment in every region of our province.

We understand the importance of this pipeline to creating jobs here. Because New Brunswickers in every single community in this province likely

have a family member or good friend who is working in the oil and gas industry somewhere in Canada or the around the world.

I want to see the day when the mother or father, the son or daughter leave their New Brunswick home in the morning to go to work in the development of natural resources, they will return for dinner that night, not weeks or even months later.

But we must not forget that this is a critically important project that will benefit all of Canada and all Canadians by adding value to our resource and our exports.

A west-east pipeline will strengthen Canada's economy and stimulate new growth and jobs in every region and community of our province.

- We will no longer sell our oil at discounted prices, costing us between \$30 and \$70 million a day according to the Canada West Foundation
- We will no longer be as reliant on higher priced imported crude oil
- We will add value to it right here at the Saint John refinery
- We will increase our exports by shipping it to an energy hungry world.
- We will create quality jobs here in Saint John, throughout the province and across Canada.

Saint John and New Brunswick have key assets to make this project a success. As Canada's energy gateway to New England and the Atlantic Basin, New Brunswick's geographic location continues to play a strategic role in serving our nation's energy needs and export potential. New Brunswick has robust electricity connections with Quebec, Prince Edward Island and Nova Scotia, as well as the State of Maine.

We have a liquefied natural gas terminal, Canaport LNG, that can deliver up to one billion cubic feet per day of natural gas into the international northeast market during seasonal periods of peak demand.

The Irving Oil Refinery in Saint John is Canada's largest and most modern. It has a capacity of 300,000 barrels per day, which would allow it to refine crude oil for both domestic and export markets, creating significant value for Canadian oil producers, pipeline operators, refiners and Canadian workers across the country.

To help get those exports to international markets, the Port of Saint John is the deepest on the east coast of North America.

New Brunswick has year-round, ice-free access to some of these emerging markets via shorter shipping routes than many other North American ports, including those on the west coast and US gulf coast. In addition, the Port of Saint John has over 50 years of history and experience in handling some of the world's largest crude oil carriers in a safe and environmentally responsible manner. Access to tide water for Western Canadian crude oil will transform North America's energy markets.

With a long tradition of large industrial operations, Saint John has a highly skilled workforce.

This project will require a significant and long-term operational commitment from Western Canadian oil producers, and will ultimately be judged on its economic and environmental merits. However, government support and approvals will also be required at both the federal and provincial levels.

New Brunswick welcomes the opportunity to work with Canadian oil and natural gas producers and other provinces in an effort to develop this west-to-east crude oil pipeline. Collectively, we can develop new markets for our country's energy resources and refined petroleum products in the Atlantic Basin and rapidly expanding economies of the Asia Pacific region.

We recognize that this project will require a significant and long-term operational commitment from Western Canadian oil producers, and will ultimately be judged on its economic

and environmental merits. However, government support and approvals will also be required at both the federal and provincial levels. Here in New Brunswick, both political parties in our Legislature have unanimously passed a resolution supporting the project.

TransCanada's recent announcement of an open binding season seeking firm commitments of interest in the proposed pipeline was a necessary and encouraging step in this process. In fact, we in New Brunswick view it as a milestone of national significance.

We will work with the federal Canada in coordinating the project permitting process, while ensuring a thorough and rigorous environmental impact assessment. We will also continue to work closely with other provinces, such as Quebec and Alberta, in ensuring that the project provides tangible benefits for all jurisdictions and their citizens.

We are very proud of our province's growing oil and natural gas sector, which is comprised of a wide range of industrial and commercial activities, including oil refining, natural gas pro-

In an era of fiscal challenges and pressures to reduce government debt, the new revenues that will flow from this pipeline will help continue to fund the services our citizens expect and need from their governments.

duction, transmission and distribution, electricity generation from natural gas, petroleum retail, and related administration and transportation activities. The sector is an important contributor to New Brunswick's economy, providing direct employment for an estimated 7,500 New Brunswickers in a wide range of retail, administrative, professional, technical and engineering occupations.

We recently released the *New Brunswick Oil and Natural Gas Blueprint*, reinforcing our province's strong commitment to developing our oil and gas sectors. The proposed Energy East project provides a truly unique opportunity to provide increased energy security and create new value-added economic activity and greater prosperity for the benefit of all Canadians.

I want to emphasize that point. Seeing this proposal become a reality will

indeed benefit Canadians across the country. In an era of fiscal challenges and pressures to reduce government debt, the new revenues that will flow from this pipeline will help continue to fund the services our citizens expect and need from their governments.

We envision New Brunswick as Canada's next energy powerhouse and Saint John as the anchor of that powerhouse. If we proceed, this project will strengthen our national and provincial economies and create jobs and economic growth today and for generations to come.

But first we need this project to proceed. We stand ready to move forward enthusiastically on the upcoming steps in this new historic initiative to strengthen our province and our nation. **P**

David Alward is Premier of New Brunswick.



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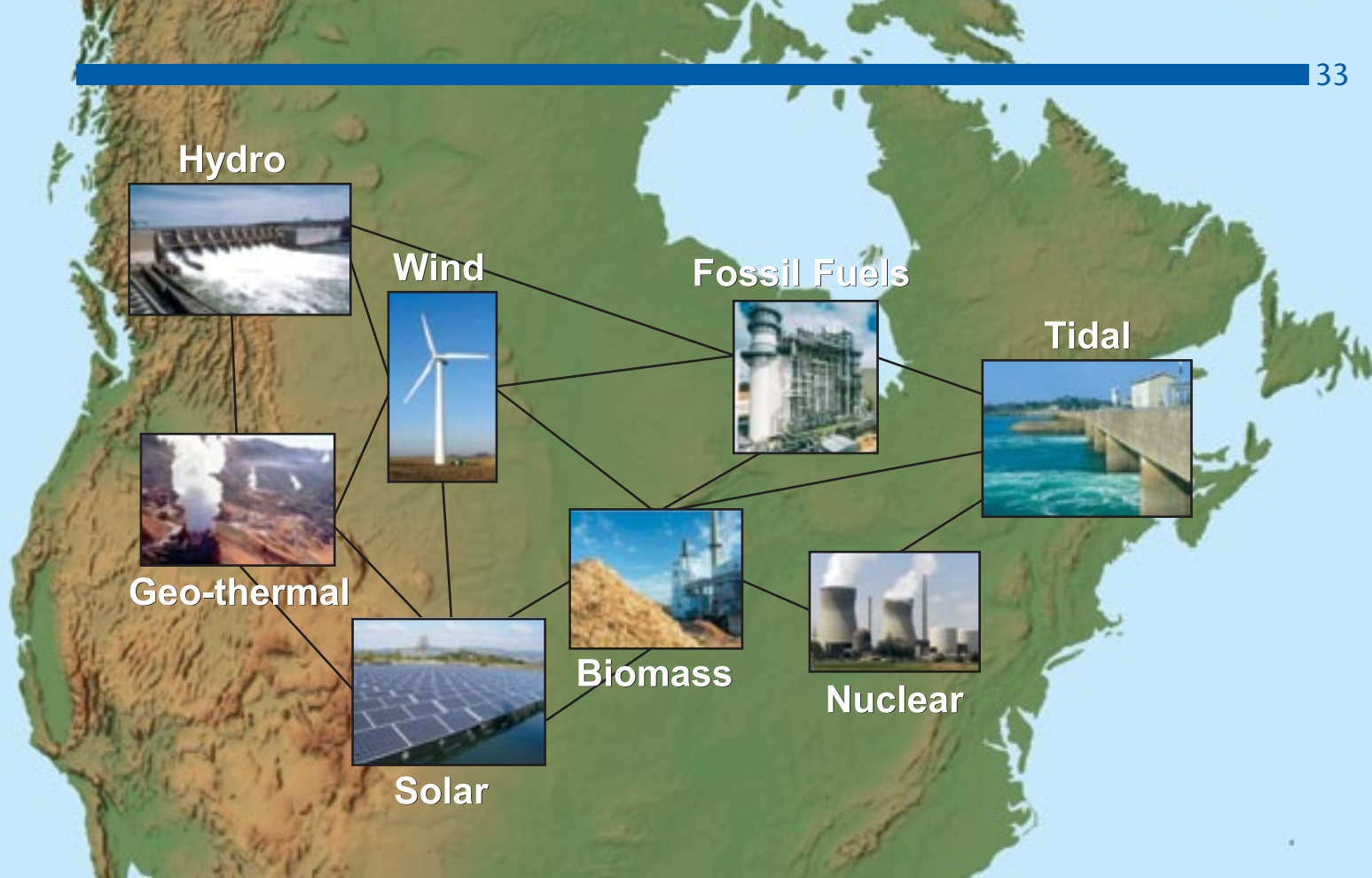


Image courtesy National Energy Board.

The Geopolitics of North American Energy Independence

Jim Prentice

In less than a decade, the North American energy landscape has changed drastically, with particular implications for US competitiveness, economic health and foreign policy. These are volatile and highly consequential times for everyone with a stake in the energy industry: producers, consumers, policy makers – as well as those concerned with the environment generally, and climate change specifically. While Canada must adjust to the continent's new energy reality, what's clear above all else is that we need to respond by pursuing our own geopolitical interests as one of the world's largest energy suppliers.

Five years ago, during the first presidential debate of the 2008 campaign, Barack Obama spoke plainly to the American people: the arithmetic, he said, was incontestable – the United States could not and should not expect to drill its way to continental energy independence. He compared the quest for a reduced reliance on overseas oil imports to John F. Kennedy's goal of sending a man to the moon – nobody was sure how to do it, but America needed to try. He spoke of alternative energy sources and a new push into nuclear. On that night and throughout the campaign, the future president didn't foresee the supply surge that lay ahead. Frankly, few people did.

Five years later, the game has changed when it comes to hydrocarbons in North America. New technologies and new ways of taking energy from the ground have brought extraordinary changes to the continental supply of oil and natural gas. At the same time, various forces – including new efficiencies and fuel substitutions – are easing North American demand for energy, at the very moment that

Short years ago, the prospect of North American energy independence was perceived as a pipe dream. Today, the prospect is real. Amid the volatility, this new energy reality is beginning to bite with real market consequences – and with geopolitical implications that will reverberate across the globe.

supply is increasing. Short years ago, the prospect of North American energy independence was perceived as a pipe dream. Today, the prospect is real. Amid the volatility, this new energy reality is beginning to bite with real market consequences – and with geopolitical implications that will reverberate across the globe.

Let's look first at the scope of this energy supply revolution. Since Obama spoke to Americans in that presidential debate, the United States has seen a 40 per cent increase in domestic oil production. In 2012, US crude oil production rose by almost 800,000 barrels per day, the largest annual increase since the beginning of commercial production in 1859. The International Energy Agency, describing these increases as nothing short of a "supply

shock," now forecasts US production of more than 11 million barrels of oil per day by 2020, up from 5 million barrels in 2008. This remarkable growth is being welcomed by most – though not, perhaps, the publishers of all those books about Peak Oil.

Canada, meanwhile, has – year after year – been increasing production of oil by about 200,000 barrels per day. Depending on the assumptions that one is prepared to make about the pace of oil sands expansion, we could be looking at daily domestic production levels of six million barrels by 2030.

At the same time, increases in natural gas production – and the expansion of recoverable reserves – have expanded at rates that are virtually exponential. Less than a decade ago, Lique-

fied Natural Gas facilities were being constructed on the shores of North America to import natural gas. A few years later, the United States has by some estimates a century's worth of gas in the ground. Canada's reserves, on a per capita basis, are even larger. The LNG terminals being proposed for construction along the B.C. coast would ship natural gas off our continent and onward to Asia. The IEA predicts the US will by 2015 overtake Russia as the world's leading producer of natural gas.

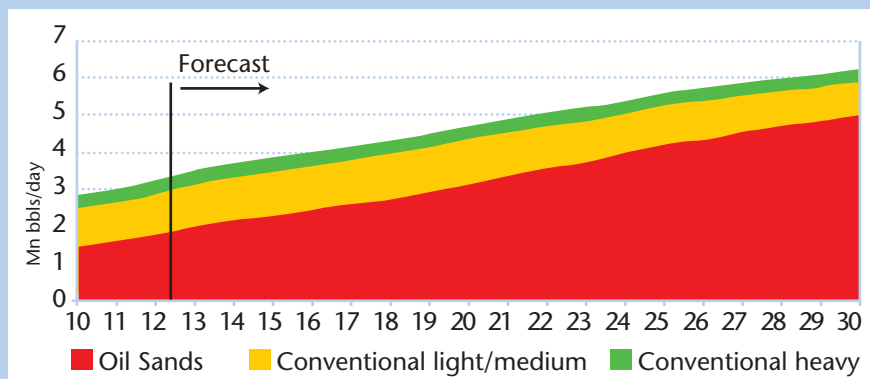
Canada, meanwhile, has – year after year – been increasing production of oil by about 200,000 barrels per day. Depending on the assumptions that one is prepared to make about the pace of oil sands expansion, we could be looking at daily domestic production levels of six million barrels by 2030.

The supply-demand balance for North American energy has been fundamentally altered. There is no longer any need to import natural gas. And petroleum imports are in stark decline.

In 2005, the United States imported 60 per cent of its crude oil. That figure had declined below 50 per cent by 2010. Today, it is in the vicinity of 40 per cent, and falling. In fact, there are forecasts now that, by 2030, the US could, if it chose, become a net exporter of oil. Certainly, it is beyond dispute that, taken together, imports from Canada and Mexico will be more than sufficient to meet remaining US demand. In a time of rising production and easing demand, the North American continent, consisting of the US, Canada, and Mexico will soon no longer require anyone else's oil.

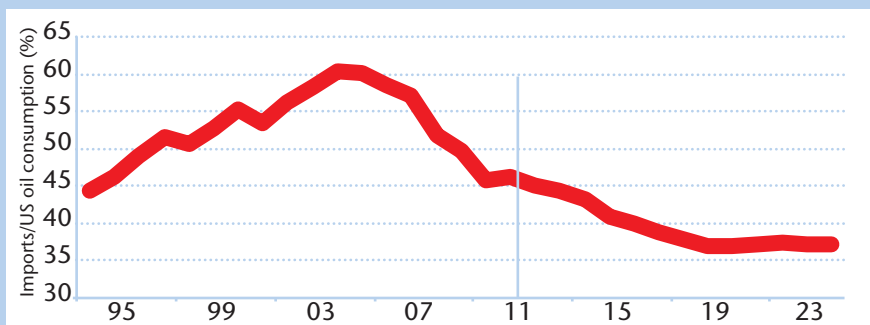
In sum, then, technology has stood conventional wisdom on its head. The sweeping effects of these extraordinary developments are now becoming apparent. Continental prices of natural gas have effectively been decoupled from the global market price and now rank among the lowest in the world. Canadian industry is pressing with renewed vigor to secure access to tidewater so it can sell its oil

Chart 1: OIL SANDS WILL DOUBLE CANADA'S OIL PRODUCTION



Source: Canadian Association of Petroleum Producers

Chart 2: US DEPENDENCE ON IMPORTED OIL



Source: US Department of Energy

overseas. At the same time, proposed investments in major hydro projects hold the potential to further abet North American's energy independence and help position Canada as a clean energy superpower.

Technology has stood conventional wisdom on its head. The sweeping effects of these extraordinary developments are now becoming apparent. Continental prices of natural gas have effectively decoupled from the global market price and now rank among the lowest in the world.

These are volatile and highly consequential times for everyone with a stake in the energy industry: producers, consumers, policy makers – and those concerned with the environment generally, and climate change specifically.

For the United States – or, as some analysts have taken to calling it, “Saudi America” – there are advantages that go beyond energy security:

Industrial competitiveness. Low natural gas prices will benefit the US in industries that are heavy users of energy and petroleum feed stocks, such as: petrochemicals, steel manufacturing, fertilizers, cement and certain heavy manufacturing. At a time when Asia's labour cost advantage over North America is deteriorating, the United States will also continue to open up a significant energy cost advantage.

Economic and financial benefits. Today, the United States' oil import bill alone is expressed as 1.7 percent of GDP. Energy self sufficiency, coupled with low natural gas prices and the positive consequences of re-industrialization, will have a significant and positive effect on the US current account deficit – and ultimately on the strength of the US dollar and the American economy. Importantly, this will take place not at some distant point in the future but over the course of the next five years.

Foreign policy. For decades, America's essential geopolitical vulnerabil-

ity has been its energy dependency. The OPEC oil embargo of the 1970s, in ways subtle and obvious, has influenced the direction and expression of US foreign policy. It stands as logical, then, that bilateral ties between the US and key oil exporting countries in the Middle East will, by definition, become less important. This is not to advocate for American isolationism. But a United States with a secure supply of energy will certainly be free to pursue foreign policy objectives that are not narrowly defined or dictated by the need to access hydrocarbons.

Environmental benefits. At Copenhagen, the US and Canada harmonized their greenhouse gas standards, pledging by 2020 to reduce their emissions to levels 17 percent below 2005 levels. As a result of our new energy reality, the United States is well on its way to achieving its targets. One major reason is aggressive fuel substitution – in particular the replacement of coal with natural gas in the generation of electricity, which reduces both emissions and pollutants. Another reason: aggressive new motor vehicle efficiency standards adopted by Canada and the United States in 2010 – all this at a time when energy consumption has been in decline on a per capita basis since 2007. The situation in Canada is somewhat different and more challenging. Still, taken as whole, North America stands poised to achieve something that would have been all but unimaginable just three years ago in Copenhagen: the dual advantage of abundant, reasonably priced energy and a natural environment that is improving, rather than deteriorating, in quality.

This trend will only be enhanced by the development of more Canadian hydro, especially the Lower Churchill in Newfoundland and Labrador, which on its own holds the ultimate potential to produce in excess of 3000 megawatts of clean power for domestic use – and for export to the United States. (It is worth noting that New England still generates half its power by burning fossil fuels.)

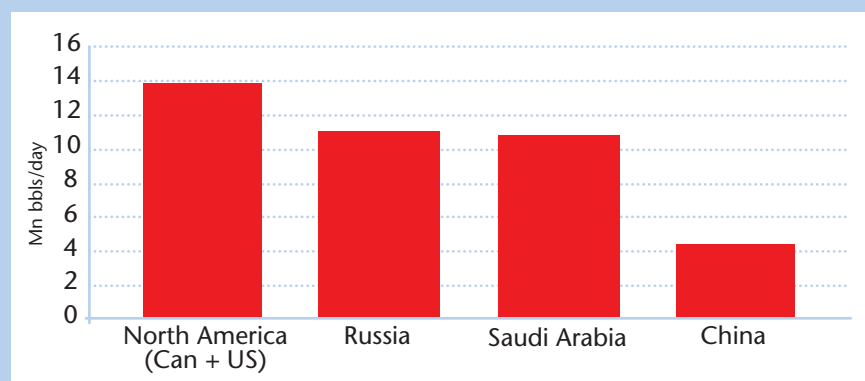
Taken together, these benefits suggest the ability of the North American marketplace to achieve energy independence will have a lasting and positive influence. It will advantage our industrial competitiveness relative to virtually everyone else in the world.

It represents a greener future. It will drive investment flows, reorient balance of payments and strengthen the US dollar.

For those who believed in the theory of Peak Oil, or doubted the technological capabilities of North American industry and its capacity for innovation and risk taking, there is certainly an element of embarrassment associated with this turn of events. But for those with a passionate belief in the power of the free markets – specifically, the free market forces that lie at the heart of the North American energy marketplace – there is a sense of vindication.

Our North American standard of living has been driven in no small part by the largest free-market energy system in the world. This continental marketplace is richly endowed with resources. It is mercilessly efficient as an arbitrator of labour and capital. It

Chart 3: NORTH AMERICA RECLAIMS TOP OIL PRODUCTION SPOT



Source: IEA. Figures are for Dec '12 and include all petroleum liquids.



An oil rig worker in Alberta. The discount on Canadian oil in the US, as much as \$40 per barrel, seriously impacts the royalties of producing provinces, and the tax revenues of Ottawa. iStock photo

Canada's Cut-Rate Oil: Temporary or Permanent?

Douglas Porter and Earl Sweet

The oil discount of Western Canadian Select to West Texas Intermediate has been as high as \$40 per barrel. And with WTI crude discounted to the world price, the actual discount to WCS can be even higher. Relatively low prices in Canada pose a serious challenge to oil producers and their servicers, and the differential has been a major trigger of softer economic activity in Western Canada. Federally, while Canada does not directly collect resource royalties, the wider discount has a negative impact on revenues through lower corporate and personal tax receipts and nominal GDP growth. But developments now under way, including pending pipeline projects, will expand the demand for heavy oil and facilitate its flow south to major refining hubs in the Midwest and the Gulf Coast. Meanwhile, the discount has narrowed sharply since the beginning of the year and should narrow further over the next year, boosting revenues of Canadian producers.

The discount on Canadian oil in US markets is a major issue for governments both in oil producing provinces and in Ottawa, which have seen declining royalty and tax receipts as result of lower oil prices and industry profit margins.

The oil price discount of Western Canadian Select to West Texas Intermediate has recently been as high as \$40 per barrel. With WTI crude itself tracking below world prices, the actual discount to WCS product was even higher.

It is no mystery what this means to federal policy makers – lower revenues, a lot lower. The March 2013 federal budget forecast a shortfall of \$4 billion in federal tax revenues due to the oil discount, a number which exceeds the contingency reserve of \$3 billion.

For Finance Minister Jim Flaherty, this makes his task of managing the fiscal framework, and his target of balancing the budget by fiscal 2015, all the more daunting.

Discounted oil prices in Canada have caught national attention. The WCS discount from the WTI benchmark price has historically been very volatile, reaching a monthly average peak of 38 percent in December 2012 (*Chart 1*). At times during December, the discount rose to the vicinity of 50 percent. The impact on Canadian producers has been exacerbated by the fact that WTI itself has been trading at a significant discount from international prices (*Chart 2*) due to the growing mid-continent glut of oil stemming from insufficient pipeline capacity to transport oil south to the major Gulf Coast refining hub.

There's no doubt that relatively low prices in Canada, were they to persist,

The good news is that the discount has narrowed substantially so far in 2013, partly due to seasonal demand for bitumen (i.e., asphalt, etc) but also thanks to completed refinery maintenance in the Midwest and more pipeline capacity linking the Cushing crude oil hub and the Gulf Coast refineries.

pose a serious challenge to oil producers and their servicers, particularly smaller operations that don't have the financial strength to comfortably weather the rough ride. This is amply evident in equity prices. For instance, the S&P/TSX index for oil & gas energy exploration and petroleum production companies fell 3.3 percent year to year by the end of the first week of May, while the overall index rose 5 percent.

The wider differential received by Canadian producers of heavy oil relative to WTI prices has been a major trigger of softer economic activity in Western Canada (particularly in Alberta). The good news is that the discount has narrowed substantially so far in 2013, partly due to seasonal demand for bitumen (i.e., asphalt, etc) but also thanks to completed refinery maintenance in the Midwest and more pipeline capacity linking the Cushing crude oil hub and the Gulf Coast refineries. Despite the challenge, oil production in Alberta was still up a solid 16 percent year over year in the fourth quarter of 2012, and Canadian exports to the United States rose 8.4 percent. However, capital spending intentions in the sector, surveyed in late 2012 and early 2013, are flat for this year.

The rise in the WTI benchmark and narrowing of the WCS discount from WTI since the time of the survey may mean that investment this year out-

performs initial expectations, just like investment last year underperformed by a huge margin.

If reality matches intentions, that would mark the second consecutive year of virtually no growth in investment, following huge increases in 2010 and 2011. Weak capital expenditures in the oil and gas and related industries are a primary factor in our assessment that Alberta's real GDP growth will cool from 3.9 percent in 2012 to an estimated 2.5 percent this year.

More broadly across Canada, a wider discount has a negative impact on the terms of trade and investment activity. The Bank of Canada estimated in its quarterly Monetary Policy Report in January that deterioration in the oil-related terms of trade (i.e., WCS discount from imported Brent) cut national real gross domestic income (GDI) growth by an annualized 0.2 points in the second half of 2012.

Moreover, low Canadian oil prices are complicating the task of government budgeters, particularly in those provinces that depend heavily on royalties from the industry, not to mention from taxes on related income. Resource revenues are expected to make up 19 percent of Alberta's operating revenue in fiscal 2013-14, with almost half, 46 percent, of that coming directly from bitumen royalties. The province estimates that a \$1 drop in WTI prices or a 1 percent increase

Chart 1: WIDE DISCOUNT NARROWING
(% deviation below WTI) Western Canada Select (WCS)

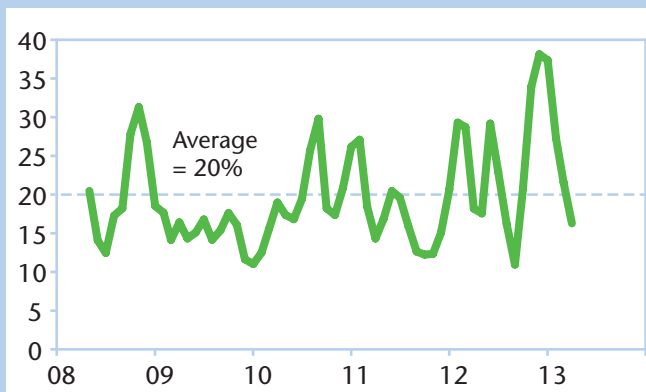


Chart 2: THE DOUBLE DISCOUNT
(US\$/barrel) Crude Oil Benchmarks

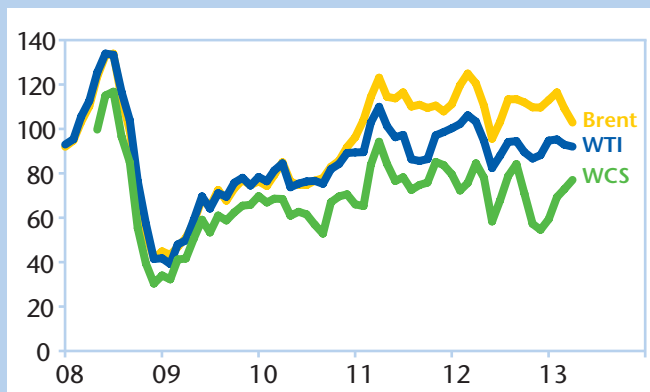


Chart 3: ENERGY DRIVES INVESTMENT
(average % change during period) Business Investment

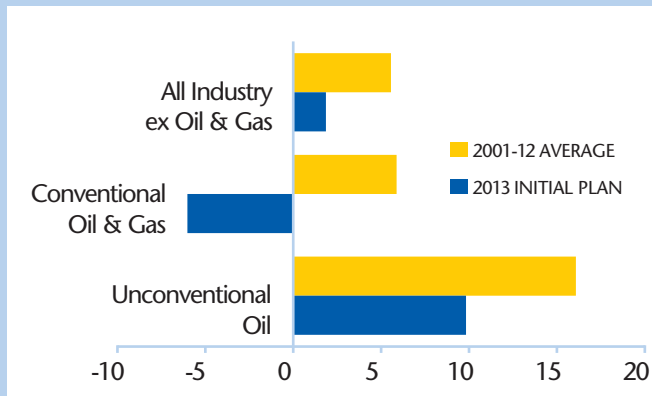
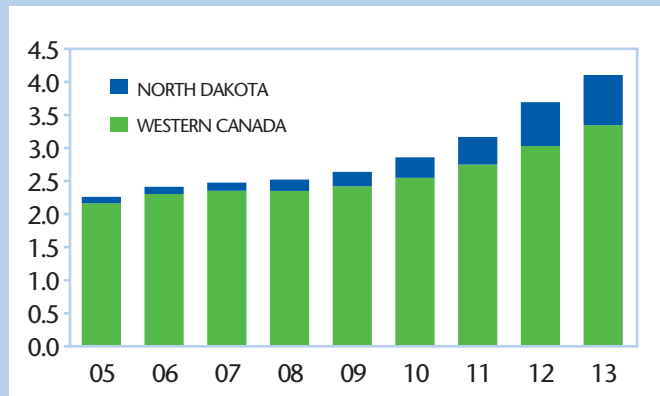


Chart 4: FAST GROWTH NORTH OF CUSHING
(millions of barrels per day) Crude Oil Production



in the WCS discount would cut revenues by an estimated \$140 million. So, all else being equal, a 10 percent widening of the WCS discount would cut overall provincial operating revenues by nearly 4 percent. Additionally, lower prices received by oil sands producers could temper demand for land lease sales, applying additional downward pressure to revenue not captured by the above sensitivity (land lease sales are expected to make up 16 percent of resource revenue in fiscal 2013-14).

Federally, while Canada does not directly collect resource royalties, the wider discount has a negative impact on revenues through lower nominal GDP growth and growth in corporate and personal tax receipts. This year's budget estimated that lower Canadian crude prices, relative to global benchmarks, cut GDP by about \$28 billion per year, which again translates into more than \$4 billion in foregone federal revenues—that would be 1.5 percent of total federal revenues for the current fiscal year.

Furthermore, investment has been one of the leading drivers of the Canadian economic recovery, along with residential construction. Now, with the housing market taking a strategic pause and consumers and governments gearing down, investment may be the only domestic driver. This will be a tall order, given the relatively small size of capital expenditures in the economy and the fact that, during the past three years, oil and gas sector capital expenditures (Chart 3) accounted for close to 20 percent of total private sector investment.

Since December, the oil discount has fallen sharply to 22 percent, not far

above its long-run average of 19 percent. While there will be inevitable fluctuations along the way, we expect the discount to trend further downward. Its notable rise late in 2012 and early in 2013 reflected the sharp ramp up of both North Dakota and Alberta crude oil production last year – a combined increase of about 600,000 barrels per day – competing for limited space on pipelines south to Cushing Oklahoma, the pricing point for WTI on the NYMEX (Chart 4). Longer-than-expected Midwest refinery outages contributed to the discount by temporarily reducing the demand for Canadian crude. However, rising heavy oil conversion capacity in Midwest refineries will increase the demand for Canadian crude by the second half of 2013, by close to 300,000 barrels per day.

Additionally, a number of pipeline projects currently under way or proposals being developed will help reduce the bottlenecks from Cushing to major Gulf Coast refineries, where there remains substantial unused capacity (more than one million barrels per day) for upgrading heavy oil, and from Canada to the Midwest. These include: the recent expansion of the Enbridge/Enterprise Seaway pipeline from Cushing to the Gulf to a capacity of 400,000 barrels per day and the planned twin line following the same right-of-way that would further expand capacity to 850,000 by mid-2014; the southern leg of TransCanada's Keystone XL Project that commenced construction last August and should be ready during the second half of 2013, initially adding 700,000 barrels of daily capacity; Enbridge's Flanagan South Pipeline, that would expand the capacity

of transporting northern oil south by close to 0.60 mmb/d/600,000 barrels per day by mid-2014; and, the proposed reversal of Enbridge's Line 9 Pipeline, that would facilitate the flow of Alberta oil to Montreal and possibly further east, reducing reliance on imports. Of course, approval of the full Keystone XL Project would slice into the western Canadian discount by providing a direct artery from Alberta's oil sands to the Gulf Coast refining hub, with initial capacity of more than 800,000 barrels per day.

Even these major pipeline expansions will be hard-pressed to keep up with rising production in Alberta, Saskatchewan, and North Dakota. This highlights the importance of accessing new markets for Canadian crude through expanded pipeline capacity to the West Coast, the East Coast or both through a re-purposed TransCanada mainline, or both.

While Western Canada producers have been struggling with low domestic oil prices, developments under way will expand the demand for heavy oil and facilitate its flow south to major refining hubs in the Midwest and the Gulf Coast. Both the discount of WTI from Brent and the discount of WCS from WTI have narrowed sharply since the beginning of the year and should narrow further over the next year, boosting revenues of Canadian producers. Although earlier weak pricing may see industry investment remain flat in 2013, it will be at a relatively elevated level and medium-term growth prospects are good. **P**

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Do the Media 'Get' Energy?

Catherine Cano

In the last four years, the volume of energy coverage, measured by the number of stories, has increased by 15 percent in Canada. The number of stories related to pipelines, such as Northern Gateway and Keystone XL, has grown 450 percent in four years. A third of them are negative in tone; fewer than a fifth are positive. So, what has been the media's role and how do they fare in this debate? The mere fact that news organizations dedicate more ink and air time to energy issues is indicative of the impact news executives think it has on Canadians. With issues so complex and polarizing, the role of the media itself becomes a piece of Canada's energy puzzle.

If you want to know how to get media attention, just ask Al Gore. He called Canada's oil sands a "reckless spewing of pollution in the Earth's atmosphere as if it's an open sewer." You may have read this in the *Globe and Mail*. I heard it in person at Ryerson University in Toronto. The former US vice president wanted to be provocative – and he succeeded, praised by some and condemned by others. His timing could not have been better for opponents of the oil sands, nor worse for the industry and governments.

Why? Gore's words conferred instant credibility on one side of the debate on a hot issue. Although uneven, media interest in energy issues has grown significantly in the last few years, mostly driven by news stories around spills, demonstrations or high-profile events.

One of these media moments was the worst oil spill in the history of the industry, in 2010 in the Gulf of Mexico. Everyone knows about what became known as the "BP oil disaster," triggered when an oil rig exploded and

sank, killing 11 people and spewing for 87 days before it was capped. It prompted weeks of news stories and a closer look at the state of our Canadian industry, both inland and coastal. It also attracted influential personalities, such as movie director James Cameron, to come to Alberta and to denounce the development of the oil sands.

The number of stories related to pipelines, such as Northern Gateway and Keystone XL, has grown 450 percent in four years. A third of them are negative in tone; fewer than a fifth are positive.

In the last three or four years, the volume of energy coverage, measured by the number of stories, has increased by 15 percent in Canada, suggesting

heightened media interest in energy issues. According to our research department at NATIONAL Public Relations, the proportion of negative print stories grew by 11 percent overall, primarily at the expense of neutral coverage. This indicates a more polarized discussion, increasingly unfavourable to energy development. The number of stories related to pipelines, such as Northern Gateway and Keystone XL, has grown 450 percent in four years. A third of them are negative in tone; fewer than a fifth are positive.



The *Globe and Mail* sent a writer along the entire US route of the proposed Keystone XL pipeline. As Catherine Cano notes, the number of media stories related to pipelines has increased by 450 percent in the last four years. Policy photo

Outside voices are also fueling the negative perception. The debate has been raging in the United States over the Keystone project; in Europe, the battle is well under way. Everyone is now paying attention. In May, the *New York Times* published yet another story on the oil sands – the most emailed of the day – headlined: "Is Canada's oil too dirty for Europe?" The European Commission is proposing to classify oil from the oil sands as "highly polluting" – a punitive designation that the Canadian government and

CEOs know that attitudes and communications have to change in a new era of transparency and real commitment to the environment and communities.

the industry are fighting on all fronts, including the domestic arena. In May, the *Globe and Mail* asked Canadians if they agreed with Gore's statement that there is no such a thing as ethical oil; 52 percent said they did.

So, what has been the media's role and how do they fare in this debate? The mere fact that news organizations dedicate more ink and air time to energy issues is indicative of the impact news executives think it has on Canadians. But do the media "get it"? Undoubtedly, many get the importance of covering it. There are a dozen daily articles and weekly radio and television stories. The print media, mostly in Calgary, have dedicated resources and energy beat reporters. In broadcasting, the story is usually covered by environment or business reporters. Dedicated resources do make a difference in understanding the issues and objective reporting. Unfortunately, few news organizations feel they can afford to have in-house specialists.

Is the coverage fair and balanced? Not everyone agrees. The industry thinks the environmentalists are winning the day, while the ENGOs believe the opposite. But our research indicates that overall coverage has been increasingly negative in tone and unfavourable to the industry.

The ENGOs have had great communications strategies and have provided substantial information to the press. For years now, this has put the industry on the defensive, forcing developers and producers to change their approach and way of doing business, while becoming more open and accessible to the media. CEOs know that attitudes and communications have to change in a new era of transparency and real commitment to the environment and communities.

When Canadian film director James Cameron came to Alberta, CEOs welcomed him and showed him the land and the environmental impact. That

openness changed Cameron's mind: he said in a *One on One* interview with CBC's Peter Mansbridge that it was easy to "vilify the oil companies" and that there was "the potential to do it right for the environment". Openness is necessary for the media to "get it", and the media have a crucial role to play in our understanding of the issues. While it would be tempting to conclude that most media do not, at least some media outlets are changing their approach. For example, the *Globe and Mail* has intensified its coverage, including in a series from Nathan Vanderklippe, who followed the Keystone pipeline route, reporting people's reactions along the way. One of his pieces discussed the company's handling of the local communities, offering some learning for the industry. The paper has dedicated more space to covering the issue from many angles, including in stories by its national energy reporter and others. It has made a great effort to answer some of the questions and to present the facts. It would be useful for other news organizations to emulate the *Globe* and explain the issues objectively.

A recent US study from Northwestern University's Medill School of Journalism found that when news stories approach critical energy issues from a scientific perspective – as opposed to a policy or human-interest perspective – they are more effective in engaging and educating news consumers.

Beyond the need for fact-based media coverage, the relationship between the media and the business community is of deeper concern. Whereas reporters like to be close to sports and entertainment personalities, and even politicians, historically they have mostly kept their distance from corporations. Therefore, they often know little about companies' efforts and community contributions.

Recently, some news executives told me they felt disconnected from the business community. They believe they could find ways to take a closer look at companies without sacrificing their journalistic independence. The

energy sector is no exception. Both industry and media would benefit from opening up to each other. For CEOs and members of the oil and gas industry, creating a connection and overcoming their fear of the media would help them better understand the role of journalists. This would require more transparency and trust, but they all know that this is the new normal.

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Radio-Canada television is pushing the thinking even further, planning a new show this fall to tackle issues and seek solutions. Instead of simply stating a problem, the network intends to move the dial. The goal will be to bring together guests with different points of view and to challenge their thinking by focusing on common ground, pushing for answers and making all participants part of the solution. This is an innovative idea that will help educate people about nuanced, complicated problems.

Canadians know there is a lot at stake. The oil sands have been the engine of our economy, but raise real concerns over the impact on the environment. The issues are complex: what we need is to be more informed, in a sustained and constructive way. **P**

Catherine Cano, managing partner in the Toronto office of NATIONAL Public Relations, is a former head of news at Radio-Canada, and former head of the RDI news network. As director of program development at the CBC, she directed the 2011 federal election coverage on all platforms.
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Canadians Conflicted on Canada as an Energy Superpower

Greg Lyle

As this edition of *Policy* demonstrates, energy has become a central issue in Canada's national political debate. The Harper government sees energy exports as critical to Canada's economic well-being, and is determined to improve access to the global market. The leader of the Official Opposition, Thomas Mulcair, has focused more on Canadian energy security, minimizing our environmental footprint and increasing domestic value-added. Somewhere in the middle there is Justin Trudeau's Liberal Party. While it is still the early days in Trudeau's leadership, he has come out opposing Enbridge's proposed Northern Gateway pipeline, he expressed interest in possibilities of shipping bitumen to refineries in Eastern Canada and, more recently, he has indicated support of the Keystone XL pipeline.

Where do Canadians stand and how is that changing over time? In May, Innovative Research Group tracked a series of energy questions we first asked Canadians in 2007 on behalf of the Canadian Defense and Foreign Affairs Institute. Both studies were completed on our Canada 20/20 online panel. Survey details can be found

here <http://www.innovativeresearch.ca/public-polls.htm>.

A majority of Canadians in 2007 (56 percent) and today (52 percent) say becoming an energy superpower is a good idea. However, opposition is growing as the number saying it's a bad idea has grown from 9 percent to 20 percent over the past six years.

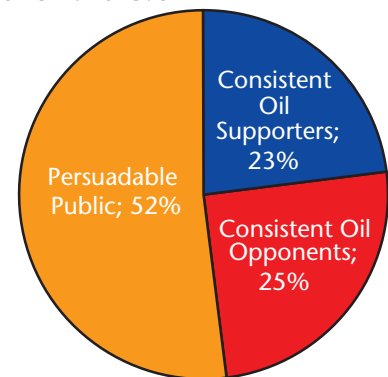
Canadians agree (58 percent) that it is our turn to reap the economic benefits of our natural resources. They also agree (66 percent) with the idea of using our own oil and gas resources to keep the domestic cost low.

Canadians are evenly divided (37 percent agree, 37 percent disagree) on whether we have a responsibility as a good neighbor to provide the US with reasonable access to our natural resources once our own needs are met. A majority (58 percent) say they are not interested in being an energy superpower if it just means becoming a really big supplier to the US. An even larger majority (64 percent) agree that we need to protect Canadian natural resources from the insatiable appetite of American consumers.

Canadians have concerns about our levels of energy exports in general. A majority (53 percent) say we are already too dependent on money from energy exports. A majority (58 percent) also believe we should save our oil and gas for future generations. However, when asked if they are willing to make sacrifices today to save reserves for the future, agreement drops down to 44 percent.

Finally, Canadians are also divided on which is more important, the state of your provincial economy (47 percent) or the state of the global environment (47 percent). Similarly, while 41 percent disagree that we should not develop oil and gas resources because of the environmental harm they cause, 38 percent agree, up 5 points over the past 6 years.

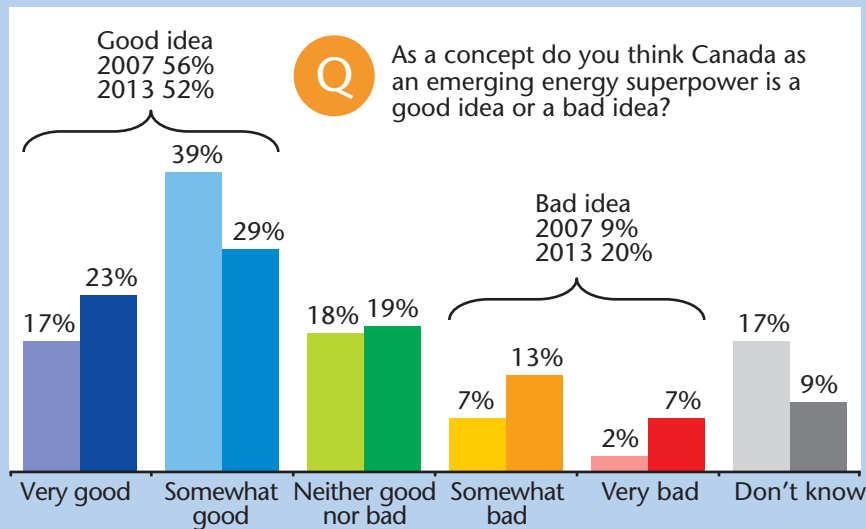
ENERGY AS A BATTLEGROUND Grouping Canadians by Shared Views of Oil and Gas



Looking across all of the conflicting responses, the bottom line is that proponents of oil and gas projects can only count on about one-in-four (23 percent) Canadians as consistent supporters while another one-in-four (25 percent) Canadians are consistent opponents of oil. Half (52 percent) of our respondents fall into the "Persuadable Public" category. They are open to arguments but their support cannot be taken for granted. Proponents must earn it. **P**

Greg Lyle is Managing Director of Innovative Research Group, a national public opinion research firm.

MAJORITY SUPPORT IDEA OF CANADA AS AN ENERGY SUPERPOWER



Canada's Climate Challenge: How Getting to 2020 will be Tough, Very Tough

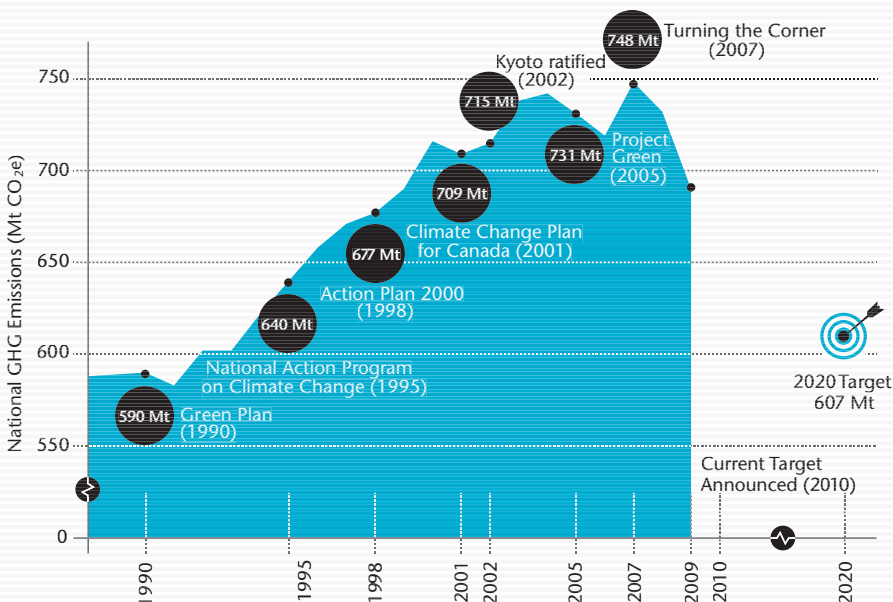
David McLaughlin

The world came to Copenhagen three years ago to agree on a new global climate pact and the world left without one. But a residue of global action on climate change remained – at the country level – and Canada signed up to reduce our emissions by 17 below 2005 levels by 2020. Projections now show Canada with a striking increase in carbon emissions in the years ahead, principally due to growth in the oil and gas sector led by oil sands. That means stabilizing emissions will be difficult on its own while reducing those emissions from what they would have been will be even tougher. Which is why debate over a Canadian energy strategy and the future of pipelines has become so central to making progress on an effective climate policy not just in Canada but in the United States as well. Right now, provincial governments are doing the heavy lifting in meeting the climate challenge but it's still not enough. If we are serious about achieving our climate policy goals, a new approach across Canada is needed. Now.

For 25 years, Canada has wrestled with getting climate policy right, setting eight different climate targets and adopting three major policy approaches to get there. None has succeeded. The first targets were set in 1988; the last in 2010. Except for the high-water mark contained in the Kyoto Protocol, our collective ambition has been a declining one. From a projected greenhouse gas emission target of 470 megatonnes of CO₂e by 2005 (fixed in 1988), our current target is now hoping for 607 MT of CO₂e by 2020, 15 years later. The political and economic realities of meeting national targets continue to overwhelm our global commitment to do more.

Today, Canada's emissions stand at 692 MT, an increase of about 17 percent from 1990 levels, but down about 6 percent from 2005 levels. The last couple of years have seen a stabilizing rather than reduction of emissions, mostly due to slower economic growth and industrial output causing those

TIMELINE OF FEDERAL APPROACHES TO CLIMATE CHANGE AND EMISSIONS TRENDS



Source: Reality Check: The State of Climate Progress in Canada, NRTEE, 2012

emissions. This is better than the alternative, but nowhere near sufficient to meet our 2020 target. As economic growth occurs, so do emissions. All projections show Canada with a striking increase in carbon emissions in the years ahead, principally due to growth in the oil and gas sector led by oil sands. That means stabilizing emissions will be difficult on its own while reducing those emissions from what they would have been will be even tougher.

Energy is the biggest driver of emissions. This covers oil and gas, electricity, and buildings. Transportation – cars, trucks, and buses – is next. So, how we produce and use energy is at the core of any carbon emissions strategy to reduce dangerous climate change. That's why debate over a Canadian energy strategy and the future of pipelines has become so central to making progress on an effective climate policy not just in Canada but in the United States as well.

This makes climate change a political economy story, not just an environmental one. Where emissions come from matters and in a federation like Canada, it matters a lot. The biggest source and growth of emissions resides in Alberta's oil and gas sector. In 2009, Alberta accounted for over a third of Canada's total emissions,

eclipsing Ontario and Quebec. And with significant financial wealth being generated from higher production and exports of Alberta oil sands, the challenge becomes clearer. Alberta alone will not get Canada to its 2020 target, but without Alberta it's impossible.

Looking ahead to 2020, the principal source of emissions growth is clear: oil and gas outstrips all others. This is due to expected increases in oil sands production. Transportation emissions will also rise as we drive more with more vehicles on the road. But not all emissions will rise. Electricity emissions, in fact, have been falling and are forecast to fall further. That sector will see a significant decrease of about 25% between now and 2020 as we move off coal-fired electricity production, add renewables to the grid, and use electricity more efficiently. With the more direct connection between electricity generation and consumer pricing, the incentive to reduce electricity use – plus generate it more cleanly – is having an impact.

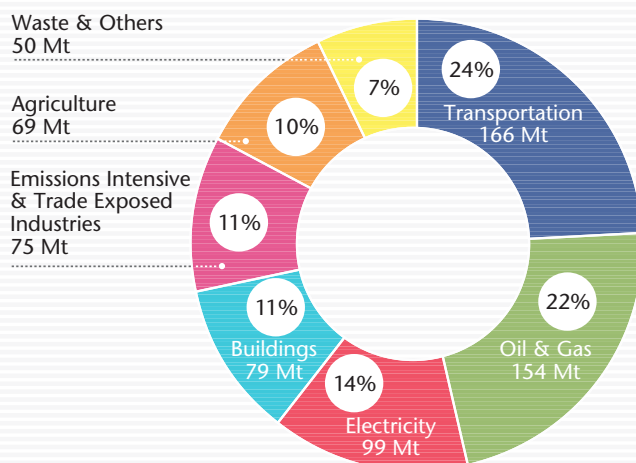
Like the heat-trapping greenhouse gases themselves, climate policy in Canada has had its own life cycle. At times the federal government has led the charge – Kyoto in 1993 under the Liberals and the *Turning the Corner* plan in 2007 under the Conservatives. Both, however, were overtaken by events. Now, the Conservative gov-

ernment has pulled Canada from the Kyoto Protocol and ditched its own climate plan in favour of its current policy of alignment with the United States. While the Liberal government had signed Kyoto, it put very little action policy actions in place to reduce emissions and meet the ambitious target to which it committed Canada. The Conservative government has at least put some actions in place that will result in some emission reductions by 2020.

But as federal government actions have ebbed, provincial actions have flowed. Political and policy vacuums at the federal level in the early to mid-2000s were significantly filled by provincial governments. To understand whether Canada can achieve its 2020 climate target, an understanding of provincial policies and their contribution must be undertaken.

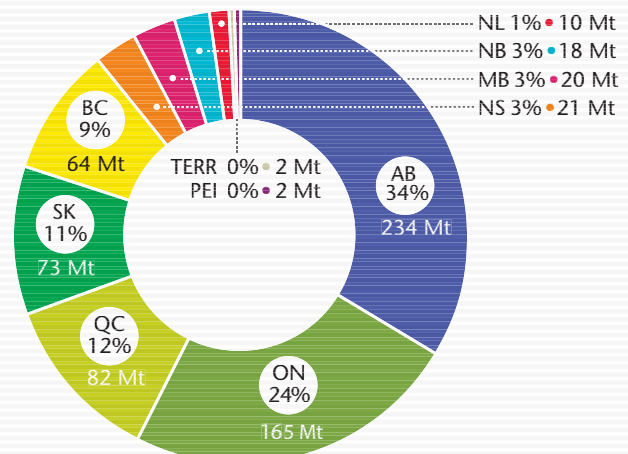
Shortly before its doors were closed by the federal government's March budget, the NRTEE undertook original research into where Canada really stood en route to the 2020 target and exactly how much both federal and provincial actions were contributing. Ironically, that work was commissioned by the federal minister of Environment. It was released in June, 2012. The following is based on that research and shows that while progress has been made, it is not nearly enough to meet Canada's climate policy goals.

EMISSIONS BY ECONOMIC SECTOR



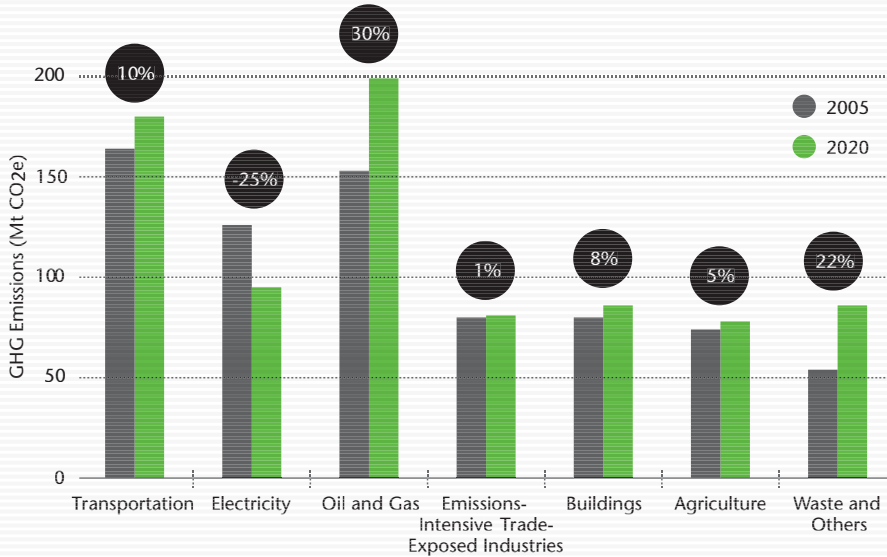
Source: Environment Canada, 2010 data.

PROVINCIAL AND TERRITORIAL CONTRIBUTIONS TO CANADA'S TOTAL EMISSIONS (2009)



Source: Reality Check: The State of Climate Progress in Canada, NRTEE, 2012

FORECASTED CHANGE IN EMISSIONS BY ECONOMIC SECTOR (2005-2020)



Note that the sectoral breakdown in this chart is taken from Environment Canada's Emissions Trends Report, not the National Inventory Report as in the rest of this chapter.

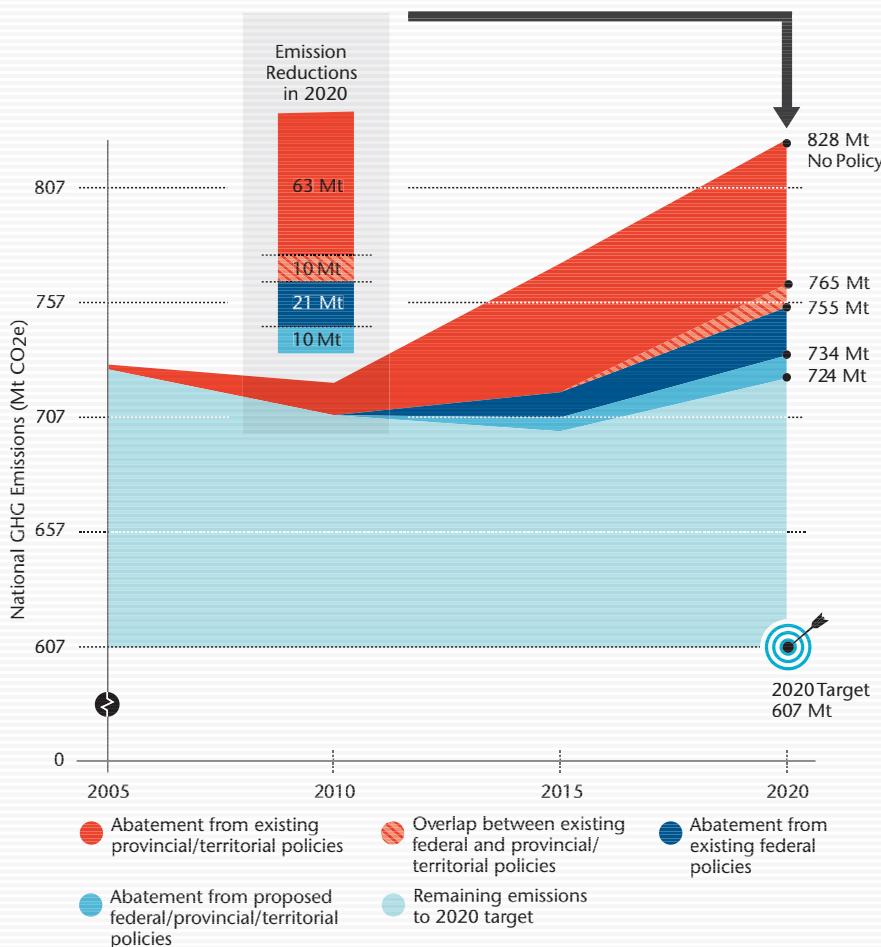
Source: Reality Check: The State of Climate Progress in Canada, NRTEE, 2012

The figure below illustrates the main findings from the report. It forecasts what emission reductions will occur due to existing and proposed government policy measures – federal and provincial – and it shows the ‘gap’ to the 2020 target.

Overall, it shows that Canada can expect to be about halfway to the target by 2020. Put another way, unless new climate policy actions are put in place soon, Canada will miss its 2020 target by just over 50 percent. Instead of being at 607 MT in 2020, emissions will likely be at 724 MT, a gap of 117 MT. Since the report canvassed all possible measures in the climate pantry of governments, so to speak, this conclusion is inescapable.

Every province has a climate change action plan. And every province has its own emissions reduction target. The means to do so are as varied as the sources of emissions among them. Some use forms of carbon pricing, like BC, Alberta and Quebec; all have energy efficiency measures; many are focusing on renewable energy development; elimination of coal-fired electricity in Ontario is a major contributor. While not coordinated, collectively, these provincial actions add up to a significant contribution to national emissions reductions.

EMISSION REDUCTIONS UNDER EXISTING AND PROPOSED FEDERAL, PROVINCIAL, TERRITORIAL POLICIES

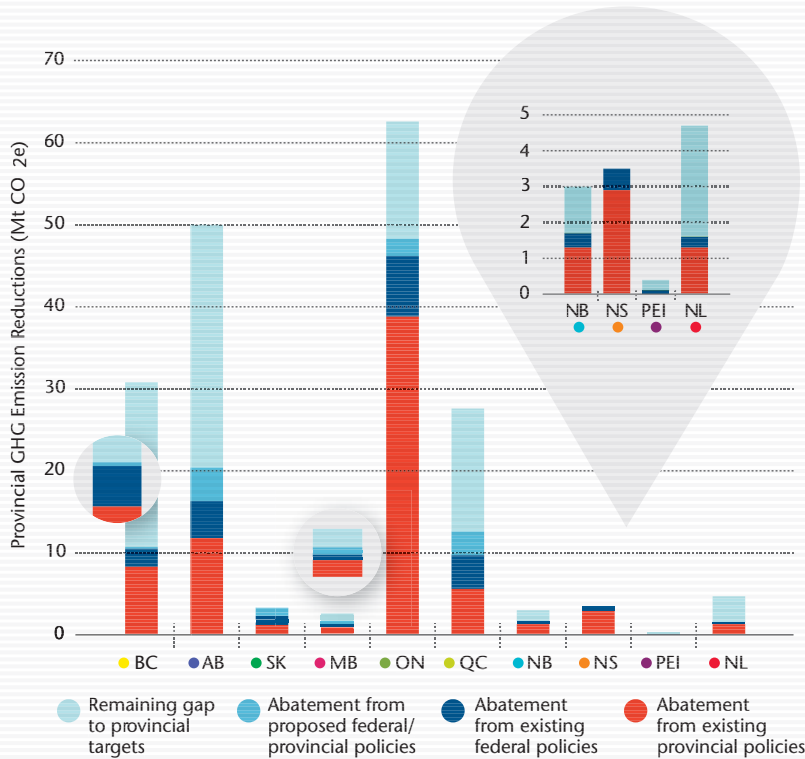


Source: Reality Check: The State of Climate Progress in Canada, NRTEE, 2012

The federal government, meanwhile, has adopted a sector-by-sector regulatory approach, setting performance standards for some industries and products. It has eschewed any form of economy-wide carbon pricing, including the cap-and-trade system for large final emitters it announced as part of its *Turning the Corner* plan.

The NRTEE report examined, for the first time, the contribution by each level of government to GHG emission reductions by 2020. The results were revealing. Looking at both *existing* and *proposed* policy measures by governments (which encompassed everything being considered across the country), the report showed that provincial reductions will account for approximately 75 percent of Canada's emission reductions in 2020; the federal government the remainder. Provincial governments are doing the heavy lifting so far in meeting the climate challenge.

DETAILS ON 2020 EMISSIONS REDUCTIONS AND GAP TO TARGET



Source: Reality Check: The State of Climate Progress in Canada, NRTEE, 2012

Before applauding provincial governments, it is also worth assessing what progress they are making in achieving their own climate policy goals. Here, the picture is less rosy. As the figure shows, only one province – Nova Scotia – appears to be on track to meeting its 2020 target.

Federal policy measures have an effect across the country so they are counted in each province's total, too, just as provincial measures collectively add up to reduce national emissions. This is important since, in theory, if every province just met its own targets, Canada would be well on its way to achieving the overall 2020 target. But coordination of climate policies has never taken root in the country nor has any attempt at climate burden-sharing been attempted. The result is policy fragmentation and inadequate progress.

Time is not on our side here. The longer the country waits to put effective climate policies in place, the closer we get to the target date but the further we get from the target itself. And the cost of getting those emission reductions grows as a consequence.

Canada's governments are no differ-

ent than any other engaged in climate policy. They want the most emissions reductions at the least economic cost. That means less impact on the economy in terms of reduced growth, investment and jobs. It also means at the lowest carbon price possible. Cost-effective climate policy should also be the goal of our governments.

The NRTEE considered the challenge from this perspective in closing the gap to 2020. What would be the most cost-effective means of reducing that additional 117 MT by that time? To do so, all existing and proposed actions to date were grouped into three carbon price per ton bands of low (\$0-\$50), medium (\$51-\$100), and high (over \$100). Then, potential emission reductions to fill the gap were added on, again grouped by carbon price band.

The results show clearly that most of the effort so far has been in the low carbon price band of under \$50 per ton. To meet the target, much more effort in the higher price bands will be required, with over 40 percent of the additional emission abatement having to come from measures costing more than \$100 per ton.

The reason for the higher costs is two-

fold: first, higher carbon prices are needed sooner to incent the technology development and behavioural change required to move off of high-emitting activities to lower ones; second, most of the additional abatement needs to come from the oil and gas sector and that means a real focus on carbon capture and storage, which is expensive. Following on, it is not hard to see that this means most, if not all, of the additional actions need to occur in Alberta.

Climate change is a long-term problem requiring actions now to get results later. It is a classic 'tragedy of the commons' problem where ownership resides with everyone and no one in particular. All have a responsibility to act but no one action is sufficient. This has been the calculus behind Canada's climate policy challenge for two decades now. Targets are set, policy is proclaimed, and actions languish. The results can be seen here.

For Canada to make substantial progress to meeting the 2020 goal, a major new climate policy push would be required. A "C-3" approach among governments that is more collaborative, coherent, and considered is best:

- Better *collaboration* between the federal and provincial governments on policy approaches so national and regional actions work better together.
- More *coherent* policy actions by both levels of government, including looking at how a base carbon-pricing regime, topped up by provincial policies, could more cost-effectively achieve targets.
- More *considered* policy actions based on improved and shared data, forecasting, progress reviews, and outcomes reporting.

In climate terms, 2020 is just around the corner. Getting there will be tough, very tough, based on progress to date. If we are serious about achieving our climate policy goals, a new approach is needed across Canada. Now. **P**

David McLaughlin is the former president and CEO of the National Round Table on the Environment and the Economy. Previously, he was chief of staff to the minister of Finance of Canada.

Cutting Carbon: The Heart of a Canadian Energy Strategy

Dan Woynillowicz and Merran Smith

Shifting social and economic conditions in key export markets are introducing significant new risks to Canada's oil and gas sector, leaving our nation's resource economy exposed. A Canadian energy and climate strategy, led by the Council of the Federation, offers a promising venue and process for mitigating these risks and leveraging new opportunities for the nation in the growing global market for low carbon goods and services. To succeed, the premiers must grab hold of two issues that, taken together, have become the third rail of Canadian energy politics.

When it comes to energy and the environment, Canadians might be forgiven for feeling they're grappling with an acute identity crisis. Are we purveyors of "ethical oil" or "dirty oil?" Are we on track to fulfill our commitments to reduce carbon pollution and tackle climate disruption, or destined to fall short? Are we an emerging energy superpower or a laggard in the accelerating transition to a global low carbon economy?

The debate about how we produce and consume energy, and the implications of these choices on our economy, environment, and the global climate has grown increasingly polarized. Environmentalists have battled oil companies, landowners have scrapped with wind power producers, and government leaders have rattled sabres with their peers, both within and between levels of government.

All this conflict has only served to obscure important signals that should be guiding decisions about how best to address Canada's energy and climate challenges: First, the uncertain eco-

nomics prospects for our carbon-based energy resources, notably, high-carbon oil sands; and second, the significant opportunity to contribute clean energy products, technologies and services to a rapidly growing global marketplace. These signals should inform the ongoing development of an integrated, national climate and energy strategy.

As Canadian political and business leaders have hemmed, hawed, and

juggled a variety of carbon targets and policies, the world around us has been changing. This change stalled during the recession, but is now picking up speed.

In its 2012 *World Energy Outlook*, the International Energy Agency leveled a stark reality check: if the world is to have a 50 percent chance of fulfilling the Copenhagen Accord goal of limiting global warming to 2 degrees Celsius, more than two-thirds of current fossil fuel reserves will need to stay in the ground between now and 2050.

In this scenario, Carbon Tracker and the London School of Economics' Grantham Research Institute on Climate Change have concluded that much of the future value of currently booked reserves could never actually be realized, meaning the companies that own the rights to them are overvalued today, and investors are staring at a "carbon bubble" that, if burst, could have significant market implications.

What might this mean for Canada?

The impacts of the "carbon bubble" bursting wouldn't just hit the TSX (Table 1), it would also impact public

Table 1

Toronto Stock Exchange (TSX)

Key stats

CO2 in listed fossil fuel reserves
33Gt (current) 69 Gt (potential)

Market capitalisation of fossil fuel companies
\$295.8 billion

Capital expenditure of fossil fuel companies
\$52,120.5 million

Debt held by fossil fuel companies
\$86,686.6 million

Top fossil fuel companies

CNQ	Canadian Natural Resources
SU	Suncor Energy Inc.
TCK.B	Teck Resources Ltd.
CVE	Cenovus Energy Inc.
TLM	Talisman Energy Inc.
ECA	EnCana Corporation
NXY	Nexen Inc.
HSE	Husky Energy Inc.
PWT	Penn West Petroleum
S	Sherritt International Corp

Source: Carbon Tracker

revenues from lower-than-expected provincial royalties, and provincial and federal taxes. The oil sands are particularly vulnerable. Despite being the second-largest proven oil reserve in the world, the resource is also among the most costly and most carbon intensive to produce. In a January 2013 brief, HSBC Global Research contemplated the impacts that an “unburnable carbon” scenario would have on oil and gas development. The company concluded that declining demand could depress oil prices, and that capital intensive, high risk projects such as heavy oil and oil sands would be at greatest risk.

But what are the prospects that global action to reduce carbon pollution will actually materialize?

In a March 2013 brief, HSBC Global Research identified five key trends that the company believes will accelerate global efforts to address climate disruption:

- The impacts of climate disruption are both real and costly, and can act as a “threat multiplier” for underlying resource stress (e.g. drought leading to crop failures, leading to social disruption);
- Opinion is changing, with concern about climate change increasing in both developing countries, like China and India, and critical developed countries, notably the United States;
- Economics are aligning in the developing world, as rising fossil fuel imports during a period of high oil prices trigger reductions in consumption subsidies, sending a strong market signal for energy conservation;
- The costs of key clean energy technologies (both on the supply and demand sides) are falling, enabling more climate benefit at less cost;
- A bundle of policy drivers – including changing economic structures, energy substitution via efficiency and lower carbon supply, local air pollution, water stress, and carbon regulation and pricing – will increase the focus on low-carbon growth.

Looking at two of the most influential of Canada’s trading partners, the United States and China, suggests that HSBC may well be onto some-

thing. President Obama used both his 2013 inaugural address and State of the Union speech to highlight climate action as a priority for his second term, challenging Congress to deliver a market-based climate change plan – namely, policy that puts a price on carbon pollution, backstopping his challenge with a promise of regulations should it fail to deliver. Meanwhile, China has made clean energy and climate change a central component of its 12th five-year plan, and this year launched a pilot cap-and-trade system covering seven regions of the country, a system it plans to expand nationally by 2020.

Perhaps even more significantly, China and the United States aren’t just taking these actions unilaterally, they are collaborating. In April, the two nations signed an agreement stating that they “consider that the overwhelming scientific consensus regarding climate change constitutes a compelling call to action crucial to having a global impact on climate change,” and committed to accelerate action to reduce carbon pollution by advancing cooperation on technology research and development, energy conservation, and alternative and renewable energy.

Assemble all these puzzle pieces, and a picture begins to emerge – one of change and transformation. To put it simply, it would be fiscally imprudent to plan our economic future around an assumption that, when it comes to climate policy, leading economies and customers will continue to sit on their hands.

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In its final report, the National Roundtable on Environment and the Econo-

my (NRTEE) stated: “The future is low carbon. Economies the world over are making the transition. Canada’s actions today on climate, energy, trade, innovation, and skills will shape its economic prosperity for decades to come.” The world has already begun thinking about energy in new ways, focusing on energy technologies and services rather than just energy commodities. The International Energy Agency suggests that the low carbon goods and services market is rapidly growing: valued at \$339 billion in 2010, in an emissions-constrained scenario the market could reach \$8.3 trillion by 2050 – an annual growth rate of eight percent. Clearly, carbon reduction can’t simply be considered a burden – there is also immense opportunity.

As the NRTEE report found, Canada is well-positioned to compete in the global low carbon goods and services marketplace in a carbon-constrained scenario, increasing employment from 42,000 in 2012 to 159,000 in 2050, and increasing expenditures from \$7.9 billion in 2010 to \$60 billion by 2050 (a growth rate of 5.6 percent). Further, and of note given the tension around the geographically concentrated nature of Canada’s fossil fuel reserves, our clean energy opportunities are well-distributed across the country (Figure 1).

But Canada is lagging behind other nations in re-orienting our economy to capture a greater share of this opportunity. In its 2012 edition of *Who’s Winning the Clean Energy Race?*, produced by Pew Charitable Trusts and Bloomberg New Energy Finance, Canada’s year-over-year ranking slipped from 11th to 12th in the G20 (down from 8th in 2009). A 2013 study by the Pembina Institute interviewed more than 20 leading clean energy entrepreneurs, executives and academics to hear firsthand the challenges they face, and solutions to overcome them. Their challenges fell into two broad themes: a lack of stable, long-term government policy, and difficulty accessing capital. The study concluded that there was a clear role for government policy to unleash Canada’s clean energy sector, and made numerous recommendations, including the need for a national energy strategy and putting a price on carbon pollution.

Efforts to develop meaningful solutions to both our energy and climate challenges are falling short precisely when we need to be making eyes-wide-open choices. One of the key snags is the fact that we are trying to address questions about our energy system and climate disruption as separate portfolios when they are inextricably linked.

At present, there exists no formal effort to craft a Canadian climate change strategy. Numerous federal attempts to address carbon pollution and climate disruption – first un-

There exists no formal effort to craft a Canadian climate change strategy. Numerous federal attempts to address carbon pollution and climate disruption – first under the Kyoto Protocol and now under the Copenhagen Accord – have spanned decades but delivered little.

der the Kyoto Protocol and now under the Copenhagen Accord – have spanned decades but delivered little. Stymied by both intergovernmental and ideological disputes, we are presently left with a slowly emerging federal “sector-by-sector” regulatory

approach, overlaid on a patchwork of provincial policies of varying form and ambition.

This inefficient approach has not yet put our country on a track to achieve our 2020 carbon pollution reduction

Figure 1: Low-Carbon Strengths and Opportunities Identified by Stakeholders



Source: National Roundtable on the Environment and the Economy, Framing the Future: Embracing the low-carbon economy (2012).

target, and appears unlikely to do so. Contrast this with the United States, which shares the same target but is actually poised to meet it. Again, at the federal level and in many provinces, energy ambitions and climate obligations appear to each be considered in isolation.

However, the Council of the Federation – an institution comprised of the country’s premiers – is leading an effort to develop a Canadian energy strategy that, among other things, aims to deliver “a more integrated approach to climate change, reducing greenhouse gas emissions and managing the transition to a lower carbon economy.” In essence, the premiers have articulated a clear mandate to deliver a climate and energy strategy. Might the premiers succeed where numerous political leaders – both federal and provincial – have failed?

The Council of the Federation – an institution comprised of the country’s premiers – is leading an effort to develop a Canadian energy strategy that, among other things, aims to deliver “a more integrated approach to climate change, reducing greenhouse gas emissions and managing the transition to a lower carbon economy.” In essence, the premiers have articulated a clear mandate to deliver a climate and energy strategy.

To succeed, the premiers must grab hold of two issues that, taken together, have become the third rail of Canadian energy politics:

- 1) Using carbon pollution pricing as the most transparent, economically efficient policy option, and
- 2) Determining how the costs and benefits of implementing such a policy will be distributed.

In developing a Canadian energy strategy, the Council of the Federation has a unique opportunity to both mitigate carbon risk and unlock low carbon opportunities. Ultimately, any such strategy should enable provinces and Canada as a whole to strengthen and diversify our energy system, not to legitimize business-as-usual.

While the use of carbon pollution pricing – whether through a carbon tax or a cap-and-trade system – has become a political football in the House of Commons, the premiers would be unwise to dismiss it out of hand. Not only are such market-based policies preferred by economists, they have also been supported by a broad spectrum of individuals and organizations, from Preston Manning to David Suzuki, from the Canadian Council of Chief Executives to Greenpeace. Further, the vast majority of provinces have, individually, expressed an interest in carbon pricing, and a number of them have already implemented various policies that do just that.

The distribution of costs and benefits is perhaps a more challenging question as it often triggers suspicions about ulterior motives to redistribute wealth from one province to another (harkening back to the much-reviled National Energy Program). As the Canada West Foundation noted in 2007 in *Getting it Right: A Canadian Energy Strategy for a Carbon-Constrained Future*, the load must be shared by “...being balanced across sectors, not focusing on a single industry or source of emissions, and taking into account both production and consumption as sources of GHGs.” If Canada is going to make an effective, economically efficient and truly national effort to reduce carbon pollution, then we must overcome regional distributive conflicts. The Council of the Federation offers our premiers a venue to do precisely that.

Fortunately, there are several examples from elsewhere that they can draw from to develop their approach:

- The United Kingdom has developed a Low Carbon Transition Plan premised upon a national climate and energy strategy, and established a federal ministry of energy and climate change;

- The Council of the Australian Federation, comprised of all states and territories, not only supported coordinated national action on climate change, but in the absence of federal leadership designed its own emissions trading system and committed to implementing it if the federal government would not; and
- In designing and implementing its emission trading system, the European Union developed an underlying Effort Sharing Agreement to address the issue of distributing costs and benefits among member countries.

In developing a Canadian energy strategy, the Council of the Federation has a unique opportunity to both mitigate carbon risk and unlock low carbon opportunities. Ultimately, any such strategy should enable provinces and Canada as a whole to strengthen and diversify our energy system, not to legitimize business-as-usual.

In the final accounting, the success of a Canadian energy strategy will hinge on the extent to which it both reduces carbon pollution and positions Canada to compete in the low carbon, clean energy future, an economic reality and global opportunity that looms larger every day. **P**

Dan Woynilowicz is the director of policy and partnerships and Merran Smith is the director of Clean Energy Canada at Tides Canada, a solutions-focused NGO working to accelerate Canada’s transition to an energy-efficient, ecologically responsible, and prosperous low-carbon economy.

Why Energy Literacy Must be a National Priority

Bob Oliver

Canada's future rests significantly on effective strategies to develop its energy opportunities. Improving energy literacy must be viewed as a priority in every part of Canada. The lack of alignment between what we know, how we think and feel, and how we behave when confronted with energy issues and choices constitutes a deficiency in energy literacy. Establishing fluency in energy systems will improve the efficiency of energy decision-making, enhance the quality of energy dialogue and citizen engagement, foster energy innovation and expand energy sector investment opportunities.

Energy is the underlying currency that is necessary for everything humans do with each other – whether in the workplace or in their personal lives – and with the natural environment that supports them.

KEEP, Wisconsin's K-12 Energy Education Program

The energy systems that Canada chooses to build in the coming decades will determine, to a significant extent, the future of the country, its people, its prosperity, its international relevance and its culture. Canada is blessed with a vast and diverse endowment of energy resources that are needed here and in demand globally. The mindful stewardship, purposeful development and productive use of this endowment will enable us to build financial, social and intellectual capital that can be leveraged to advance Canada's interests, addressing both domestic and global objectives. How we choose to marshal our energy resources and apply our energy ingenuity can define Canada's impact on the world and the opportunities bequeathed to future generations.

However, people's understanding – in Canada and elsewhere – of the pro-

duction, distribution and use of energy is remarkably poor. For example, a national survey conducted by researchers at Columbia, Ohio State and Carnegie Mellon universities and published in the *Proceedings of the National Academy of Sciences* found that:

... when asked for the most effective strategy they could implement to conserve energy, most participants mentioned curtailment (e.g., turning off lights, driving less) rather than efficiency improvements (e.g., installing more efficient light bulbs and appliances), in contrast to experts' recommendations.

Furthermore, in a pilot survey of energy-related knowledge, attitudes and behaviours developed for middle and high school students in New York State according to psychometric principles and methodologies, fewer than

1 percent of the students scored higher than 80 percent on their knowledge of energy (i.e., basic concepts and issues). Interestingly, attitude and behaviour scores in the survey were slightly better. According to the survey's designers, this suggests that "while students may recognize the existence of an energy problem, they generally lack the knowledge and capabilities to effectively contribute toward a solution."

In 2012, a University of Calgary survey on energy literacy in Canada found that Canadians "lack detailed knowledge about sources of energy fuels, as well as sources and linkages with environmental impacts" and "were less enthusiastic to the idea of installing home solar panels or switching to electric cars, even when offered a subsidy to do so." The survey also showed that most Canadians believe that we are too reliant on the US as a customer for our energy products, but we are unwilling to support the infrastructure necessary to access new markets. This lack of knowledge prevents the adoption of personal, as well as larger scale, energy investment.

The lack of alignment between what we know, how we think and feel, and how we behave when confronted with energy issues and choices constitutes a deficiency in energy literacy. More than just the possession of knowledge, literacy refers to the extent to which knowledge is accessed and used. It is, according J.E. De Waters and S.E. Powers "not only a way of knowing, but a way of being – curious, objective, and capable of assessing and applying information and skills to make sound decisions and actions."

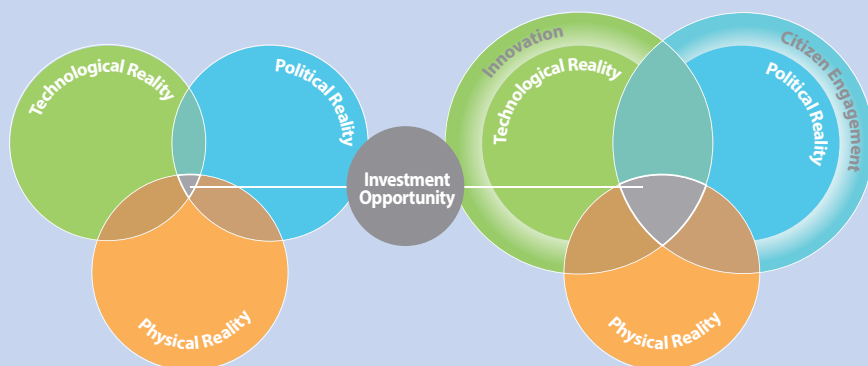
Just as a person's lack of financial literacy or computer literacy can lead to poor decisions and inhibits his or her opportunities in a modern, global economy, a lack of energy literacy in Canada constitutes a threat to our potential prosperity as nation. The current public dialogue on energy is polarizing and opportunities are going unrealized. Because energy systems are not well understood, companies and municipalities often use energy less productively than they could, limiting the value created by their activities; and individuals often make choices that are misaligned with their interests and objectives.

In the figure below, the opportunity to invest in the energy sector is represented as the overlap of three “realities” – physical, technological and political. That is, investment in developing a physical energy resource only occurs when the technology exists to make it economically practicable and the initiative is politically acceptable.

Energy literacy can expand the op-

portunity for investment by fostering the technological innovations needed to unlock the value of the energy resource and by enhancing fact-based citizen engagement that builds public confidence and enables political support.

Thus, energy literacy can serve as a tool to change our technological and political realities, so that opportunities for investment grow.



It enables Canadians to build a future replete with options: to expand its capacity to attract the best and brightest; to elevate its quality of life through energy innovation; and to meaningfully address the world’s most pressing challenges, such as climate change, social injustice and economic stagnation. It is important to stress that energy literacy is not only needed among students and the general public – energy literacy is essential for policy-makers in government, elected officials, decision-makers in industry, community planners, educators, media professionals, technologists and civil society advocates.

But to effectively engage such a wide range of target audiences with learning experiences that can accelerate progress on energy literacy, a strategic approach is needed. Pollution Probe has developed the business case for a new entity, called *Energy Exchange*, to be implemented with capacity and accountability for developing and executing a national strategy on energy literacy. Energy Exchange represents a game change in our collective approach to energy literacy. It is a meaningful, actionable and pan-Canadian response to the energy literacy need of Canada.

We are citizens of an energy nation, and we will be judged according to what we choose to do with our energy endowment and how we choose to apply it. This confers upon us a responsibility to be fluent in the language of energy. And *that* is why energy literacy is a national priority. **P**

[Energy] is the agent of change for all processes on Earth and throughout the universe.

KEEP, Wisconsin’s K-12 Energy Education Program

Bob Oliver is CEO of Pollution Probe, a national, not-for-profit environmental organization. He is executive sponsor of Pollution Probe’s work on energy literacy, which began with the publication of the seminal Primer on Energy Systems in Canada.

In 2011, Pollution Probe conducted a series of workshops across Canada in which more than 200 experts on energy from industry, government and academia, as well as practitioners of energy education, were consulted on the foundational elements of a comprehensive strategy to advance energy *systems* literacy in Canada. The focus on systems-based energy literacy arose from the recognition that, to understand the full range of social, economic and environmental drivers and impacts at play in Canada’s energy system, one needs to be aware of the interconnections that link energy production, distribution and use. In other words, knowledge of just one aspect of the energy system does not facilitate comprehensive, systems-wide solutions to complex problems, nor is it sufficient to confront the trade-offs implicit in choice. The definition of energy systems literacy that emerged is:

Energy systems literacy can be thought of as the essential platform for fluency and comprehension that allows individuals to consider energy issues with critical analysis, inference and synthesis; to articulate energy impacts and implications

with accuracy and coherence; and to use and to manage information about energy as the basis for informed decisions and creative solutions development.

The impacts of increasing energy literacy levels in Canada are potentially wide-ranging and socially transformative. Energy literacy can transform people’s perception of energy, as well as their relationship with the energy systems to which they are connected. This, in turn, can transform the behaviour of energy end-users, enabling them to create more value and to generate more wealth through the efficient and innovative use of energy. Perhaps even more profound is the potential for energy literacy to transform the dialogue in Canada on energy policy and strategy. Literacy is the medium of ideas, and the process of building energy literacy can transform our society from a state in which we are divided over our energy options and pitted against our own interests, to a future in which the country is united around its potential to be a global leader through a shared vision on energy.

Pollution Probe views energy literacy as a key to unlocking this potential.



Pipelines are one part of the energy puzzle that need to be developed striking a balance between the economy and the environment. Kinder Morgan photo

Developing Canada's Energy Resources: A Question of Balance

Dan Gagnier

The Energy Policy Institute of Canada (EPIC) came together in August of 2009 to provide a broad, cross-sectoral, full value chain perspective on a Canadian energy framework and strategy. The EPIC 2012 Canadian Energy Strategy Framework that resulted from that process highlighted five key pillars through which Canada could benefit from and mitigate the effects of the coming transition to a new energy economy: Regulatory reform; innovation; conservation and literacy; market diversification and carbon management. None of these five areas is easy and neither the timing nor the execution is a foregone conclusion. EPIC President Dan Gagnier argues that to ignore the consequences of paralysis is to put at risk our ability to benefit from the billions of dollars and hundreds of thousands of jobs at stake in solving our energy puzzle.

The Energy Policy Institute of Canada's mission as a non-for-profit established by business leaders was:

- 1) To build an energy framework and strategy from the standpoint of Canada's overall economic future;
- 2) To engage organizations that care about energy;
- 3) To assemble contributions from associations for incorporation into an energy framework and strategy and
- 4) To be a project completed in two to three years by delivering a strategy representing many stakeholders.

We were to do this knowing full well that ownership of these natural resources includes an obligation for responsible production and use.

We successfully engaged governments as well as interested parties in all regions of Canada and spent as much time discussing innovation,

technology, and conservation or energy efficiency as we did a common sense framework for the production, transportation and consumption of energy. Collectively, we educated ourselves on the importance of energy in our everyday lives, to our economic prosperity and to our environmental well-being.

As we drew near the end and with the satisfaction of knowing we had done good work we realized that EPIC had filled a gap in the debate on energy and that governments as well as interested parties were expressing a desire and articulating a need for us to stick around a little longer. Why? Are there not enough associations, large companies, NGOs and interested parties to carry on? Could governments not move ahead and lead Canadians to a yes through judicious and timely leadership?

The answer is unclear; probably a maybe, and what's wrong with that? Picture a country rich in natural resources, well-educated business people and a bright generation of innovative thinkers. A country with a capable workforce and an economy that has the potential to continue to improve on the lot of its citizens. Why then are we mired in interminable processes, consultations, discussions, seminars and workshops? Is it because we don't understand the issues – the risks attached to various solutions – or do our regional differences and our inability to surmount them keep us from aiming for the common good?

Canada is a nation built on energy and that energy is a key part of our economic and political reality. Our history is that of a middle power capable of global leadership. In building this country we have combined economic vitality and innovation disproportionate to our size of population and shaped our contribution to an ever changing world. That world is still changing but we are lagging behind, unable to diversify and accommodate growing markets in need of both our resources and our technologies.

The International Energy Agency (IEA) and others have in the last five years put out papers and studies that point to Canada's inability to move beyond debating energy issues and options. Ours has been a patchwork approach to energy infrastructure and efficiency whether it be for electricity,

The International Energy Agency (IEA) and others have in the last five years put out papers and studies that point to Canada's inability to move beyond debating energy issues and options.

natural gas, oil or the reversal of existing pipelines in light of recent shifts in the market. A recent IEA paper points to stalled projects and supply shocks in the United States with a forecast that gives lie to the tight markets of the past and our ambition to export more energy of all kinds south. That possibility is still there but as Maria van der Hoeven, Executive Director of the IEA pointed out, in the *Globe and Mail* on May 15: "...the ramp up in production will be slow over the next two years due in part to a lack of export infrastructure that has resulted in a significant discount on Canadian crude."

In plain English, Canada is running a great risk in missing the window as the US and the world move on to meet their energy needs. We are mired in a contextual shift, as Bruce Anderson of Anderson Insight points out. We are caught between our aversion to fossil fuels and the wealth they generate, a passive but potent NIMBYism (Not In My Back Yard) and polarized energy politics aimed at ensuring energy is today and tomorrow's political football.

As the 2012 EPIC report notes: "From a supply and demand perspective, Canadian producers may in fact be forced to look outside North America as Canadian energy export capacity grows beyond what traditional US markets can take. Beyond that necessity, market diversification is part of the drive to ensure Canadians realize full value from their resource endowment and contribute to growing Canadian prosperity and a healthier domestic economy."

I remember the long discussions with specialists and business people from across the country on the importance of market access and the need for market diversification. Their arguments were structured and logical, their concerns expressed not just in the profitability of their individual companies but in their overall responsibilities to their employees and their families and in their contributions to the revenue base of this country, the provinces and their communities.

The EPIC policy working group made the following argument:

"Market diversification, in the sense of diversification of energy supply sources, could also help lower energy costs to Canadian industry and consumers. Within electricity markets, US export electricity markets have room to expand. Future incorporation of carbon costs into electricity production prices would make the hydro resources of Newfoundland, Quebec and Manitoba more attractive to the US market. This could also spur the development of new generation capacity in those provinces, and in neighbouring provinces such as Ontario, Nova Scotia, Alberta and Saskatchewan."

We were not just thinking of traditional oil and gas:

"By enlarging its export focus to reflect this geopolitical evolution, Canada is more likely to be in a position of strength, or at least to minimize the risk of having its influence diminished. Realizing optionality and flexibility Canada is necessarily exposed to market volatility, and our challenge is to mitigate that risk as best possible. Having excess infrastructure capacity is preferable to an insufficiency and one way to mitigate risk... In a broader sense, our energy security and economic prosperity depend on our ability to take Canadian technology to all parts of the globe."

The role of governments here is to ensure that standards apply to pipelines, transmission lines and tanker use as well as any other form of getting energy to the market and consumers. The role of regulators is to provide Canadians with a comfort level that transgressors will be severely dealt with. We all need to know that the risks are reasonable and that the costs of clean-up are not on the taxpayers backs.

Given the difficulties in reconciling the vested interests and satisfying all stakeholders, I find myself asking whether in today's world of smart phones and social networks we would have ever built the CPR, our airports

or any other critical infrastructure. The bigger the project, the more likely it is to engender political resistance from a vehement minority.

The role of governments here is to ensure that standards apply to pipelines, transmission lines and tanker use as well as any other form of getting energy to the market and consumers.

Somewhere in this picture a majority of Canadians generally supports projects that both build our economy and protect our environment. They are witnesses to many successful projects but their anxiety today is around whether they are done right. This cause for anxiety is occasioned by an increase in both the knowledge and the reality of risks, a lack of confidence in what we remember as the government's safety net and the polarization of views along political and partisan lines. Add to this longstanding neglect of aboriginal cries for involvement and participation.

On the positive side, as Bruce Anderson reminds us, there is in all regions a pride in Canadian ability, a recognition that pipelines are not only important but are still the safest means for energy transportation and a sense that our infrastructure can be both economical and greener thanks to new technologies and standards. We have the backdrop to the puzzle – what do we need to move forward?

The Council of the Federation has moved to give effect to the mandate given to three premiers at its July 2012 meeting to renew the development of the Canadian Energy Strategy. Alberta, Manitoba and Newfoundland & Labrador are co-chairing the initiative. They have been active over the past months in coordinating a process to advance development. Alberta has also established the Canadian Energy Strategy Secretariat to help in these efforts. At the federal level, both the minister of Natural Resources and the Prime Minister have been active with predictably mixed results in promoting, selling and answering critics of north-south pipelines.

Similarly, Alberta Premier Redford has taken the initiative and been pro-active south of the border.

All this activity points to the importance of energy to our economy. It underlines the fact that if we spend the next few years in debate about what we should do and whom we should do it with, we will be mired in inaction; no closer to a decision and likely to suffer the same slow painful consequences on energy and the environment as we have on the carbon management issue. Incremental progress to avoid criticism and a lack of consensus will leave us at the mercy of countries able to take bold steps both in their own national interests and that of others. **P**

Contributing Writer Dan Gagnier is President of the Energy Policy Institute of Canada. He is a former chief of Staff to Premier Jean Charest in Quebec, principal secretary to Premier David Peterson in Ontario, and deputy secretary of the Privy Council in Ottawa. In the private sector, he was senior vice president at Alcan, with global responsibility for corporate affairs, health, safety and environment.

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Time to Put the Pieces of the Puzzle in Place

Elizabeth May

You cannot solve a puzzle without seeing the big picture. And in Canada's current energy debate, sadly, the family cat got on the table, knocking most of the pieces to the floor, while toddlers argue over the three remaining pieces shouting "Mine!" Those pieces are the oil sands and while we maintain an obsessive focus on them, other elements crucial to our energy security, economic prosperity and our future as a planet are being neglected at Canada's cost and peril.

If all the key pieces of Canada's energy future – the climate crisis, a prosperous economy, labour issues, east-west connectivity, energy efficiency, technological innovation, federal-provincial relations – were jigsaw pieces on our collective family table, it would be worthwhile to find the picture on the box the pieces came in.

The cover of the box, a glorious sustainable energy roadmap, would depict where we want to be, with: a meaningful carbon reduction plan; phasing out coal across the land; bringing in energy conservation and efficiency standards; producing far more energy from renewable sources; applying cleantech solutions broadly; paying attention to energy security; and shifting from a strategy of rapid export of unprocessed product to managed production at a steady rate of upgraded and refined product, with value-added creating far more employment in oil production while energy efficiency targets create jobs everywhere in overhauling our built infrastructure.

You cannot solve a puzzle when you do not see how the pieces fit together.

In the case of the current energy debate, the dialogue is so devoid of content that one cannot dignify the noise by calling it debate. Back to that Canadian family table with all the jigsaw pieces we need to fit together, sadly, the family cat got on the table knocking most of the pieces to the floor,

while toddlers argue over the three remaining pieces shouting "Mine!"

A grown-up discussion starts with acknowledging that Canada needs an energy strategy. Federal and provincial jurisdictions respected, we need to think like a country. Rather than pit one region against another, we should start the conversation by setting out some over-arching goals.

Energy touches everything. A discussion about an energy strategy is not fundamentally about the oil sands. The oil sands are part of the conversation, but, back to our puzzle metaphor, those toddlers are fighting over the oil sands pieces of the puzzle. Nothing gets solved that way.

National goals should include:

- 1) Energy security
- 2) Energy pricing
- 3) An effective greenhouse gas (GHG) reduction plan for the needed transition to a post-carbon economy
- 4) Full employment goals
- 5) The promotion of innovation and competitiveness in Canada
- 6) Social justice; ending energy poverty
- 7) Energy strategies for a resourceful and resilient Canada

Taken separately, we could be fighting over these individual elements without resolution. Taken together in a grown-up conversation, they all fit together.

Starting with energy security. Right

now, if there were a disruption of supply from OPEC nations, most Canadians would have no home heating oil, no gas, and eastern refineries would be in crisis. While debating how best to export as quickly as possible, as much as possible, raw, virtually unprocessed bitumen, more than half of Canada is dependent on imports of foreign oil from Saudi Arabia, Nigeria, Kazakhstan, Venezuela, and Norway. As Gordon Laxer of the Parkland Institute identified, Canada has no energy security. Unlike the US, we have no Strategic Petroleum Reserves. If there was a blockade of foreign oil or economic embargo, those in Eastern Canada would have to wait for tankers to bring them bitumen for processing through the Panama Canal and up the eastern seaboard. As bizarre as that sounds, it was the solution offered by a Suncor executive when asked in Natural Resources Committee about the vulnerability of Eastern Canada to embargos.

While debating how best to export as quickly as possible, as much as possible, raw, virtually unprocessed bitumen, more than half of Canada is dependent on imports of foreign oil from Saudi Arabia, Nigeria, Kazakhstan, Venezuela, and Norway.

The irony is that the dividing line of foreign oil to the east and Alberta oil for the west was the result of deliberate government policy – aimed at helping the Alberta oil and gas sector. Back in 1961, the National Oil Policy decreed that eastern Canadians (east of the Ottawa River) would only receive imported oil while those in the West had to purchase Alberta product. By deliberate policy, Eastern Canadians became dependent on foreign oil, while Alberta oil was consumed by those in western provinces and exported to the US. Now it is time to think like a country.

The current proposal to link us east-west also makes no sense. Former New Brunswick Premier Frank McKenna has proposed shipping unprocessed bitumen to Saint John, NB, to put it in tankers and export it from there.

Energy security would start by establishing the principle that we only export once domestic needs are met.

That brings us to the importance of maximizing employment opportunities. It makes much more sense for Canada to upgrade the bitumen, before trying to make it sufficiently fluid to flow in pipelines. Bitumen is not crude oil. And it isn't even oil at all. It is thick and solid, described as being the consistency of peanut butter. (Before mining, bitumen is 10 percent of the volume of soils, then described as being the consistency of molasses. Oil-like analogies seem to run to food.)

To make it flow, a naphtha-like fossil fuel substance, called a diluent, is added. All the controversial pipelines now under debate (Keystone XL, Enbridge's Line 9 and Northern Gateway), are intended to carry a 70-30 mixture of bitumen and diluents – brilliantly described as “dilbit.” According to Enbridge's evidence in the NEB hearings, its twinned pipeline will carry imported diluents from Kitimat to Alberta to be mixed with the bitumen. And the diluents will be purchased from the Middle East, and put in tankers to Canada. So much for being a domestic source of oil.

Back to energy security, jobs and minimizing environmental risks, if the bitumen was upgraded to synthetic crude in Alberta we wouldn't be talking about moving the most hazardous of all spillable fossil fuels. Check out the US government reports on the findings about the Enbridge spill in the Kalamazoo River to understand how much more damaging dilbit is in the natural environment than any other pre-crude, as well as how much more challenging and expensive it is to clean up a spill. The summer 2010 Kalamazoo spill is still not completely cleaned up.

Prior to the 2008 recession, several upgraders were planned for northern Alberta. Once the recession ended, the multinationals with under-capacity refineries for unconventional oil looked south to the refineries already built and sitting on the coast of the Gulf of Mexico. The Alberta upgraders were cancelled and replaced with a pipeline proposal to move dilbit to US refineries. No wonder the Communications, Energy, and Paperwork-

The carbon reduction plan would have the benefit of diversifying our energy sector with the commercialization of renewable energy – from wind, sun, geo-thermal, tidal. We also need to improve our east-west electricity grid to allow renewable-rich provinces to export to provinces with less.

ers Union, representing most of the energy patch workforce, is against the Keystone XL pipeline. It's taking jobs previously slated for Alberta.

One reason the upgraders were cancelled is that what the late Peter Lougheed used to call “the traffic jam.” The hyper-inflationary bubble over northern Alberta is created by the push for constantly expanding production targets. Labour and capital are both scarce and pricey. (This is the explanation for Stephen Harper's remarkable transformation regarding China. From his holier than thou treatment of the People's Republic of China over the Beijing Olympics to the compliant, “Where do I sign?” greeting to President Hu in Vladivostok last September, when he penned the Canada-China Investment Treaty. There just isn't enough capital from profit-oriented private sector oil multinationals to keep building new, and potentially unprofitable, oil sands mines without China.)

We could with a bit of the planned approach, once advocated by Peter Lougheed, produce a steady amount of oil, upgraded and refined in Canada. Without the “traffic jam,” the industry could afford to build the ancillary infrastructure of upgrading and refining. We could do so within a plan for dramatically reduced GHG from Canada, by shutting down all coal-fired power plants, following the lead of another former premier, Dalton McGuinty. The carbon reduction plan would have the benefit of diversifying our energy sector with the commercialization of renewable energy – from wind, sun, geo-thermal, tidal. We also need to improve our east-west electricity grid to allow renewable-rich provinces to export to provinces with less.

It would create jobs in all parts of Canada through the retrofitting of buildings – commercial, institutional, residential – from energy wasters to energy misers, as well as through investments in modern, convenient mass transit.

The cleantech sector has the potential of becoming a \$60 billion contributor to the Canadian economy within only seven years, according to a study

by the Pembina Institute. Our myopic focus on the oil sands, as if it were the only part of Canadian economy that mattered, is blinding us to other and better opportunities. As the World Energy Outlook, reproduced by the International Energy Agency, pointed out, the world is coming to the realization that we must keep at least two-thirds of all known reserves of fossil fuels in the ground if we are to avoid such catastrophic levels of climate change that we put our very survival as organized societies and successful economies at risk.

A major new report from the UK, “Unburnable Carbon 2013: Wasted capital and stranded assets,” engaged the talents and expertise of Sir Nicholas Stern through a collaborative research project involving Carbon Tracker and the Grantham Research Institute for Climate Change and Environment at the London School of Economics and Political Science. The result is a new concept – the “carbon bubble.” The essence of their work is this – a great deal of the stated value of stock exchanges around the world is in unburnable fossil fuels. The level of capital expenditure in developing those reserves over the next decade would amount to \$6.74 trillion in wasted capital – developing reserves that simply cannot be burned.

This new realization of the “carbon bubble” means that fossil fuel investments could very rapidly become stranded investments leading to financial ruin.

No harm can ever come from diversifying an economy. And that diversification and embrace of clean tech will help address our growing productivity gap with the US through innovation and R&D.

Sustainable energy is attainable. Stopping the waste of energy, noting that more than one half of all the energy Canada uses is lost as waste, is essential. There is no excuse for not getting it done. **P**

Elizabeth May is the MP for Saanich-Gulf Islands and the leader of the Green Party of Canada. She is a former executive director of the Sierra Club of Canada. elizabeth.may@parl.gc.ca



Welders working on a pipeline project. Critics, including the late Peter Lougheed, have argued for refining oil sands bitumen at home, before transporting it to the US and abroad. TransCanada photo

A Question of Stewardship

Peter Julian

On the question of Keystone, the late Peter Lougheed said that we should be refining bitumen in Alberta, not south of the border. Contrast that sentiment with export policies of the federal Conservatives, which are rooted in short-term profit rather than long-term value. The Conservatives' persistent and categorical refusal to change tack is damaging our relationship with our closest trading partner – and pushing Canada further out of step with global consensus.

Our country's abundant natural resources are a source of pride for all Canadians. For many, in every region of the country, they are even part of our identity. Several key economic sectors – fisheries, agriculture, tourism, mining, forestry, oil and gas, renewable energy, the list goes on – are directly dependent on creating value for Canadians from those resources.

Even the success of our financial services sector is inextricably tied to our natural resource wealth. Just ask any fund manager about the importance of mining or oil and gas companies to their portfolios.

What's more, other key sectors – manufacturing, petrochemical, transportation, construction – are fundamentally dependent on developing those resources. In turn, these sectors create Canadian value by upgrading, refining, and transforming resources right here at home. Even the success of our

financial services sector is inextricably tied to our natural resource wealth. Just ask any fund manager about the importance of mining or oil and gas companies to their portfolios.

And our governments, at all levels, have a crucial role to play in ensuring Canadians, now and in the future, extract value from this bounty we possess.

The late Peter Lougheed, a great Alberta premier, understood the need to think and act like an owner when it came to managing his province's oil wealth. When asked about the proposed Keystone XL pipeline that would initially ship up to 830,000 barrels of unprocessed crude every day to the US Gulf Coast, Lougheed shared some wisdom that we would do well to heed: "We should be refining the bitumen in Alberta and we should make it public policy in the province."

Now contrast that sentiment with policies of the current federal Conservatives, which are rooted in short-term profit rather than long-term value, and which fail to ensure our resources are developed in a way that maximizes Canadian interests.

With strong leadership and a comprehensive vision for a Canadian energy strategy, the federal government could play a key role in enhancing our energy security and ensure we get lasting value from our resources. Promoting responsible upgrading and refining of our resources before shipping them abroad is part of that puzzle. Equally important is ensuring that balanced and sustainable development is at the core of policymaking.

Alberta has already committed to increasing the proportion of crude oil upgraded in the province to two thirds by 2020. With seven upgraders in Alberta that process raw bitumen, and 19 refineries across the country, Canada has a total refining capacity of nearly two million barrels per day. That's a good start.

There are significant benefits to the Canadian economy of adding value to our oil products before shipping them abroad. In contrast, if approved, the Keystone XL pipeline will result in the export of 40,000 Canadian jobs to the United States. Those jobs are high value jobs that would provide well-paid work and sustain Canadian families over the long-term.

One result of the Conservatives' unwillingness to look beyond the short term is that Canadian crude is being sold for significantly less than it is worth. As a result, this country is losing potential royalties and tax revenues.

One result of the Conservatives' unwillingness to look beyond the short term is that Canadian crude is being sold for significantly less than it is worth. As a result, this country is losing potential royalties and tax revenues. The Conservative response is to facilitate the quick export of raw bitumen instead of exploring the potential of upgrading and refining that bitumen here in Canada and of climbing the global value chain.

In addition to robbing Canadians of the full benefits of extracting our resources, Conservative enthusiasm for exporting these resources without internalizing the full environmental cost has contributed to an artificial rise in the Canadian dollar and hurt other export-oriented sectors like fishing, forestry, manufacturing and agriculture.

Furthermore, the Conservatives' failure to adopt rigorous environmental standards is damaging Canada's international reputation and, potentially, our trade interests. Sadly, Canadian Environment Commissioner Scott Vaughan's stern warning to government, that when purchasing a resource, trade partners also consider the environmental characteristics of how it's extracted, treated and transported, has fallen on deaf ears.

The Conservative government also fails to see the profound connection between Canadians' long term environmental and economic interests. Governments have the opportunity and the responsibility to support clean tech innovation through policies like cap-and-trade and strong environmental regulation. This protects our interests in a cleaner environment and, in turn, would demonstrate to our trading partners that, like them, we are committed to sustainability.

Strong opposition to the Keystone XL pipeline south of the border, and a potential European Union Fuel Directive that targets oil sands exports, are just two examples of what is to come if the current government continues to prefer superficial fixes to long-term so-

lutions. No public relations campaign can paper over this government's fundamental disregard for the environmental implications of development. Instead of wasting Canadian tax dollars on ineffective advertising abroad, the Canadian government should be demonstrating responsible stewardship to use as a calling card on the world stage.

Conservatives may soon find themselves standing alone. Many Canadians support President Obama's statements recognizing the urgent need to take action on climate change, reduce the carbon footprint of fossil fuel extraction, and shift to renewable energy. The Conservatives' persistent and categorical refusal to act is damaging our relationship with our closest trading partner – and pushing Canada further out of step with global consensus.

While other jurisdictions are investigating ways to strengthen environmental regulation and protection, the Conservatives are gutting environmental reviews, running roughshod over consultation with First Nations and the broader public, and giving cabinet the power to overrule unfavourable decisions from independent regulators. While under the Conservatives, Canada has missed critical opportunities to add value to our resources, all is not lost. The conditions are ripe to pursue policies that rebalance our economy and keep economic and employment benefits here at home, adhering to principles of sustainability.

Unused refining capacity in Eastern Canada can be harnessed for the benefit of the entire country, but must start with a proper environmental assessment, including effective public consultation. There is still time to reverse direction, but if we fail to take on the challenge and heed Peter Lougheed's advice, it will be our children – as owners – who will pay the price. **P**

Peter Julian, MP for Burnaby-New Westminster, is the NDP Energy and Natural Resources Critic.

Point A to Point B: The Other Way to Move Oil

Michael Bourque

While the debate over pipelines has raged, rail has seen its shipments of oil soar. The market dynamics as well as the flexibility and scalability of the rail mode have positioned Canada's railways as a viable alternative for shipping crude to domestic and international markets. Canadian railways have a North American footprint that facilitates reach for producers to refineries located near tide water for access by ocean tankers. Railways also have a remarkable safety record when it comes to transporting regulated commodities.

Shipments of crude oil by rail have risen considerably over the last four years. In 2009, Class I railways moved a minuscule 500 carloads of crude. Fast forward to this year and current estimates are in the range of 130,000 – 140,000 carloads. With an estimated average of 600 barrels per carload, that amounts to about 230,000 barrels per day (bpd). So, from virtually nothing only four years ago, to nearly a quarter million barrels a day.

Growth of similar magnitude is expected over the next few years. This growth is impressive, but let's put it in perspective: this volume of crude represents 1.8 percent of CP's and CN's total rail carloads for 2012. Every day, railways in Canada move over 1,100 freight and passenger trains. Canadian railways are a significant economic enabler for the economy, moving over 7.7 million carloads of traffic in 2012 to domestic, North American and world markets. In fact, railways move over 70 per cent of the freight in Canada, while only emitting 3 per cent of the greenhouse gases for the transportation sector. Everything from your automobile to the food on your table and the goods in your local hardware store is moved in an environmentally friendly way by the rail supply chain. So, the oil by rail story is important

but it is a small part of what railways do, and a small percentage of the total oil being moved in Canada.

Canadian railways are a significant economic enabler for the economy, moving over 7.7 million carloads of traffic in 2012 to domestic, North American and world markets. In fact, railways move over 70 per cent of the freight in Canada, while only emitting 3 per cent of the greenhouse gases for the transportation sector.

There are a number of market factors driving the increase in energy by rail shipments. There has been rapid development of non-conventional energy in North America. This growth, along with planned expansions in other energy producing regions, has outpaced the development of new pipeline infrastructure.

Consequently, railways have become a complementary option for moving crude to refineries. This has allowed Canadian and US energy producers to

use rail to access world prices, versus lower inland oil benchmarks (Western Canadian Select and West Texas Intermediate). Refiners and marketers are also using railways to access lower priced energy.

The fact is that many refineries are located near tidewater for access by ocean tankers and are not currently served by pipeline (the Irving refinery in New Brunswick is an example). Canadian railways have a North American footprint that already reaches these coastal refineries that would normally pay world prices.

Furthermore, heavy oil products must be diluted for transport via pipeline. This adds up to a 30 percent cost factor in transportation. When heavy oil is transported by rail, a reduced amount or no diluent is required.

This 30 percent difference in load factor is a key element in making rail a competitive option for transporting crude. These factors which are also bolstered by the scalability and optionality of the energy by rail model have positioned Canada's railways as a viable alternative and a significant complement to pipelines for shipping crude to domestic and international markets. Typically, energy companies that use pipelines must enter into long-term take or pay contracts with the pipeline companies. Energy customers appreciate the fact that they don't have to enter into a long-term contract with railways to move their product. At the same time, if they want to add more volume, they can. The energy by rail model is flexible in that it can be tailored to meet the changing needs of the customer in a dynamic marketplace.

Railways also play a key role in transporting input products (e.g. sand, pipe and materials) to support the resurgence of the North American energy market. There have been many statements in the media questioning the safe transport of energy by rail.



Source: Railway Association of Canada, 2013.

Calling rail unsafe is simply not true. Transporting dangerous commodities like hydrocarbons is not new to rail and railroads have a tremendous safety record for moving dangerous materials, including crude oil. An astounding 99.9977 per cent of all rail hazmat shipments reach their destination without a release caused by train accident.

Over the past decade (2002-2012), the estimated spill rate for crude oil moving by rail was 0.38 compared with the estimated pipeline spill rate of 0.88 (measured as gallons spilled per million barrel miles moved). Railways have a higher (albeit very low) chance of an incident but a lower magnitude of release than pipelines. And let's not forget that trains are staffed by engineers, so when there is an incident, railway companies know immediately and are prepared to respond with trained emergency and remediation teams, thereby limiting any impact.

Railways are continuously improving safety when it comes to transporting crude oil and other dangerous goods. We also have extensive training and preparedness programs involving specialized safety training for rail personnel, as well as local first responders. In the event of an incident, our first concerns are community and employee safety, closely followed by environmental mitigation and remediation. We also work pro-actively with emergency responders and communities to pre-

There has been rapid development of non-conventional energy in North America. This growth, along with planned expansions in other energy producing regions, has outpaced the development of new pipeline infrastructure.

vent, prepare for, respond to and recover from incidents.

Railways, like all industries, have adopted new technologies and many of these are aimed at increasing safety. For example, automated inspection systems with predictive analytical capabilities have been introduced to enhance safety, reliability, and productivity. These systems include equipment health monitoring systems, technology driven train inspection systems and real time data streams. Significant research is done by the industry in collaboration with the National Research Council, the Railway Association of Canada and the American Association of Railroads in areas such as harsh weather conditions, grade crossing safety and risk analysis.

Railways are extremely energy efficient. In terms of GHG emissions, work done by the US State Department confirms that rail is more energy efficient than a crude oil pipeline by a factor of 2.7 on a barrel per mile basis.

Recent media claims that oil pipelines have fewer GHG emissions per barrel moved than crude by rail are wrong. Furthermore, Canadian railways have reduced their GHG intensity for freight operations by 21.85 per cent since 1995.

Canada has more oil in known reserves than Russia, Libya and Nigeria combined. Just as no one source of energy can meet demand, no one transport mode can meet all of the demand for Canadian crude oil movements. Oil has always been transported using a variety of modes because the supply chain is continuously evolving. Technology, markets, supply and demand and capacity all play a role in determining which mode is chosen. Currently, there are energy and even pipeline companies that own hundreds of rail tank cars for transporting crude oil by rail.

Some people have and no doubt will continue to come forward and make erroneous statements about the safety of railroads, or pipelines for that matter, but the facts do not support them. Canada was born on a railroad but it is maturing as a modern, technological society with significant investment and expertise in its transportation network. Ours is a society that owes its prosperity to its wealth of natural resources and its ability to transport them safely and responsibly to domestic and international markets. **P**

Michael Bourque is President and CEO of the Canadian Railway Association.



It is Time to Stop Talking and Time for Action

○ MARKET DIVERSIFICATION ○ INNOVATION AND TECHNOLOGY ○ LITERACY AND CONSERVATION ○ REGULATORY REFORM

An energy dialogue has engaged Canadians from coast to coast in a meaningful discussion about our energy for today and tomorrow. Many views exist but we believe most think it is time to stop the talking and to start the action.

The Energy Policy Institute of Canada (EPIC) released its recommendations in an in-depth report entitled "A Canadian Energy Strategy Framework". This document was the result of input from our members, various associations, professional organizations and topic experts. The many recommendations made will lead to a prosperous and sustainable energy future for our nation.

EPIC is a business organization with a single focus – energy. This is a pan Canadian and pan energy value and we represent a diversified group of businesses.

Our reputation as a balanced and strong voice is acknowledged by many, especially with government leaders who have encouraged our ongoing support for Canada's future energy.

Action for Energy is needed now and EPIC will share our knowledge and is proud to be an enthusiastic voice of motivation.



Energy Policy Institute of Canada
Institut canadien de politique énergétique

For more about EPIC visit www.canadasenergy.ca

From Biofuels to the Bio-Economy

Scott Thurlow

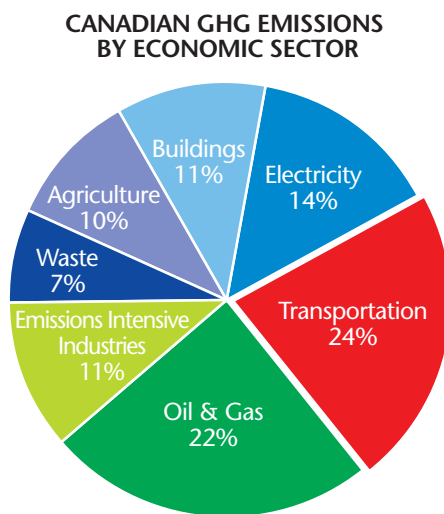
Canada is perfectly positioned to be a world leader in responsible, clean energy. In addition to the abundance of petroleum-based natural resources, we have a wealth of biomass and cropland from which energy crops can sprout. While our domestic biofuels industry is a working success, the simple fact is that to meet our growing energy needs and stresses, we need to do more. As a country, recognizing our clean-energy potential is no longer sufficient, we need the circumstances by which to realize it.

Until the turn of the 20th century, the world relied on what was above the earth's crust for all of its energy needs. In so doing, we regulated carbon naturally through our farming, our forests and our daily lives. Much has changed since then, and the need for energy has never been greater. Over time, our planet has become increasingly reliant on fuel sources that are buried and finite, slowly changing the natural environment in the process.

Canada, like other countries around the world, is faced with meeting real energy challenges while at the same time confronting global environmental problems. Last month, scientists reported that heat-trapping carbon dioxide had reached an average daily level of over 400 parts per million – a concentration not seen on the earth for millions of years. Essentially every car ride, bus commute, and airplane trip adds carbon dioxide to the environment. In Canada, our transportation sector accounts for about one quarter of Canada's greenhouse gas (GHG) emissions and is the largest source of GHG emissions. For this very reason, deploying alternative fuel technologies to reduce emissions from our transportation fuel presents a practical and essential solution.

Right now, our fuels and climate are linked together in a way that, left un-

changed, will carry high environmental costs that will be paid by generations to come. And while the climate challenges facing our country, governments, and consumers are essentially global; this is not to say that our solutions to these problems cannot be local, domestic and even home grown.



Source: Environment Canada distribution of greenhouse gas emissions by economic sector, Canada, 2010

Canada is perfectly positioned to be a world leader in responsible, clean energy. Our

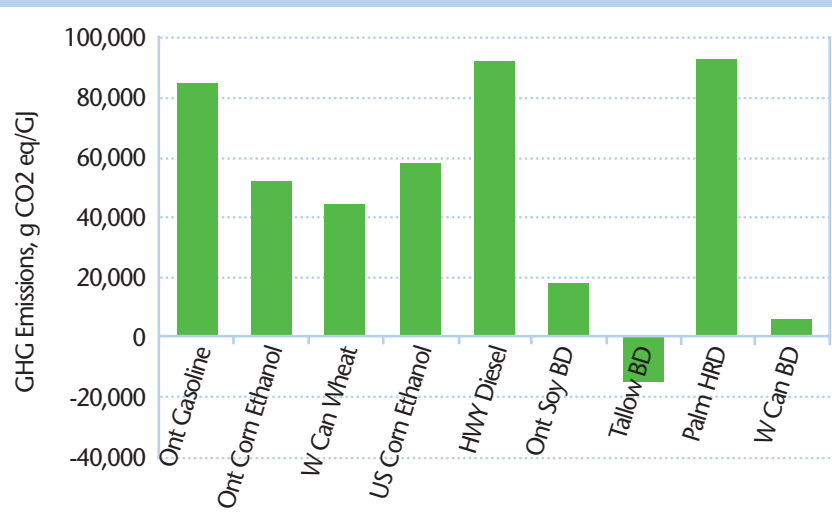
vast energy reserves are ours to share with the world, and the monetization of that energy will drive our economy for generations to come. In addition to the abundance of petroleum-based natural resources, we have a wealth of biomass and cropland from which energy crops can sprout. Ethanol and biodiesel come from a variety of these land based sources, and provide an important business risk management tool for farmers as they help to diversify their income streams. In the case of cellulosic ethanol, the fuel can be developed from wood waste or municipal solid waste, thereby solving other environmental problems. Similarly, biodiesel made from restaurant grease will turn the waste from one sector into fuels which can be given an additional chapter of economic life.

Canada's renewable fuels industry is domestically producing almost 1.8 billion litres of ethanol and, by the end of 2013, over 400 million litres of biodiesel in Canada. These renewable fuels are already being easily incorporated into the current transportation fuel infrastructure.

The federal government – and many provincial governments – has rightly put renewable content regulations into place. These regulations mandate that part of the fuel come from a renewable and sustainable source. Federally, our national mandates for renewable content in gasoline and the distillate pool are at 5 percent and 2 percent respectively. Some provinces have reached even further, increasing the percentage of fuel which must be renewable content.

On a life-cycle basis and depending on feedstock, biofuels can reduce emis-

ON A LIFE CYCLE BASIS, AND DEPENDING ON FEEDSTOCK, BIOFUELS CAN REDUCE EMISSIONS BY AS MUCH AS 99% WHEN COMPARED TO PETROLEUM BASED FUELS.



sions by as much as 99 percent when compared to petroleum based fuels. Similarly, unlike petroleum which can only be developed and monetized once, the farm fields from which biofuels are sown can be responsibly harvested year after year. So far, Canadian biofuels policies have reduced carbon emissions by 4.2 Megatons, which is equivalent to removing 1 million cars from our roads. This demonstrates the effectiveness of the biofuel products themselves, as well as value of making domestic renewable fuel a central component of any low carbon energy strategy.

Investments made in Canada to produce renewable fuels are rooted in the mandated requirement for their use – guaranteeing a market for a product which burns cleaner when compared to petroleum based alternatives. As a result of these mandates, Canada's renewable fuels industry is domestically producing almost 2.1 billion litres of ethanol and, by the end of 2013, over 400 million litres of biodiesel in Canada. These renewable fuels are already being easily incorporated into the current transportation fuel infrastructure. The net result is that consumers receive the benefits of cleaner fuels, and Canada reduces its emissions while at the same time stimulating economic growth that comes with domestic biofuel production.

In many ways, Canada's biofuels policy has ensured that our country has kept pace with alternative fuel initiatives around the world. We have mandates, government programs, and policy positions aimed at taking advantage of our significant biomass availability. And while our domestic biofuels industry is a working success, the simple fact is that to meet our growing energy needs and stresses, we need to do more. As a country, recognizing our clean-energy potential is no longer sufficient, we need the circumstances by which to realize it.

Maintaining policies that require renewable content in fuel is essential to build out our established renewable fuels platform. Much like Canada's oil and gas sector, which has evolved into one where hundreds of other products have been born, our renewable fuels technology stands to create a wide range of advanced bio-based and agricultural products.

The successful integration and commercialization of these emerging technologies is within reach. Sustainable Development Technology Canada's Next Generation Biofuels Fund is another vitally important policy mechanism for attracting foreign investment and technology into Canada. The fund, created in 2007, will be deployed to-

ward establishing facilities that will produce the next-generation of renewable fuels at a commercial stage. This fund is a beacon for companies that are transitioning from an advanced demonstration stage toward a pathway to commercialization. This fund has to be given the opportunity to succeed – and as construction on these plants begins, the economic impact will be re-invested into Canadian communities. But for the program, however, these plants would not have found their way to Canada.

Every litre of renewable content which is added to our fuel pool is one additional litre of non-renewable content which we can conserve for the next generation, or export into a growing international market for energy. Biofuels should be used in other transportation fuel sectors, for conventional energy generation, for generating heat – just like biomass was used by our forebears to help them subsist, so should we return to above-ground, renewable sources for our modern energy requirements.

As we strive to meet our energy and climate demands in the years ahead, the economic and environmental benefits of biofuels – for consumers, our country, and ultimately our planet – will become more important than ever. So too will be the consequences of failure. Biofuel producers see the continuing need to use policy levers such as required fuel content to drive the production of renewable fuels and responsible energy production in Canada. Policy certainty, more than any other factor, will contribute to ensuring demand for biofuels that carry both the economic advantages we seek and the environmental benefits we need. **P**

Scott Thurlow is President and CEO of the Canadian Renewable Fuels Association.



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