How Shifts in Global Markets Should Shape Canada's Energy Strategy

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A robust Canadian energy strategy will look to the future and capitalize on our diverse energy assets, clean technologies and services in a dynamic North American and global marketplace. As provincial and territorial premiers prepare to announce a pan-Canadian energy strategy later this year, it is worth examining a few global trends affecting our options. McColl and Belot focus on crude oil, examining how global trade flows suggest we need more than pipelines and infrastructure to maximize returns from our raw resources.

In Canada, the public debate on energy has been largely reduced to pipeline infrastructure and "getting fossil fuels to tidewater." The fate of the Keystone, Northern Gateway, Energy East, Kinder Morgan and a growing list of other pipelines are regularly front page news. As provincial and territorial premiers define a Canadian energy strategy this year, they need to consider how to create a balanced approach for the country, taking into account a far broader range of issues as well as diverse geographies, energy resources and aspirations. They must also be alert to changes in the global energy landscape and mindful about where Canada fits.

While there have always been suspicions that the Canadian energy strategy was simply a way for Alberta to advance a fossil fuel export agenda, the premiers have been working for the last three years to create a framework that includes not only access to markets but also energy innovation, renewables, clean technology, energy efficiency, labour needs and a broader set of export opportunities.

Ontario and Quebec have joined Manitoba in pushing to include climate change rules and initiatives to lower Canada's carbon footprint. While Western premiers may quibble on the details of carbon policy, they also understand that Canada's energy brand has been damaged by international perceptions that we are a climate change laggard. Increasingly, all parties understand that Canada's ability to sell energy into a global market requires serious environmental policies.

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There are many energy and climate change milestones in 2015—not to mention a federal election—and policy makers need to lift their eyes and look at global trends while developing our responses. This article looks narrowly at factors affecting fossil fuels, particularly as the country feels the pinch of low oil prices and benefit from the rise of Asian demand for energy in all its forms. At risk is whether we will achieve our potential as an energy superpower or, as it relates to petroleum, become an energy colony whose energy assets are largely isolated in a changing global market.

The National Energy Board (NEB) projects that, by 2035, hydrocarbons will continue to be a dominant form of energy powering Canadian life. Over the next 20 years, we will see dramatic growth in renewables and more distributed electricity systems. We will be developing highly energy efficient homes and offices, and our transportation systems will see more and more electric and alternative fuel vehicles. But these shifts will not eliminate fossil fuels.

Whether we want to admit it or not, today Canadians consume 1.5 million barrels of oil per day (MBD) and 7.5 billion cubic feet (BCF) per day of natural gas. Alberta and Saskatchewan are Canada's petroleum powerhouses, with BC seeking to take advantage of shale discoveries and become a global player in liquefied natural gas (LNG). Atlantic Canada and possibly the Arctic also have a stake, through offshore resources. Our most populous provinces, Ontario and Quebec, are consumers of Canadian and imported crude and also import refined products.

Canada needs to find a way to get its own petroleum resources out of the country. Existing pipelines and rail fit the bill for now but more infrastructure is needed over the next 20 to 30 years. Some in the environmental community are calling for Canada's fossil fuels to remain in the ground, and it's true that

some of it may not be produced for economic reasons. However, we must also be realistic that reducing our production unilaterally would not affect global trade flows for crude. Other countries can supply what we would not. It is imperative that leaders in business, government and First Nations communities broker ways to build infrastructure acceptable to Canadians.

Petroleum is traded around the globe and it flows in four primary streams—crude oil and the three major products of refining: gasoline, diesel and heavy products including fuel oil, asphalt and petroleum coke. These liquid products move in an efficient network of pipelines, rail, barges, vehicles and tankers that travel—mostly in only one direction—from source to distribution points all over the world. It happens so seamlessly that most of us don't even know or think about how our fuel arrives. However, where these products move counter flow to crude, opportunities develop for refining interests to gain competitive advantage and in-crease margins. This is significant for Canada because the majority of the crude oil we produce now is exported as raw material while at the same time, we import re-fined products for domestic use at premium prices.

The United States, Russia and Saudi Arabia are all vying for the title of largest crude oil producer in the world, with each producing nine to 10 MBD. China is fourth at four MBD. Canada is fifth. The other part of the equation is who is refining the product. The US is the largest refiner in the world at 18 MBD of crude oil, followed by China at 13 MBD, then Russia at six MBD and Saudi Arabia, at roughly three MBD, is seventh.

Each of these countries has implemented national policies to position themselves for future oil production, infrastructure and markets. Interestingly, each is heavily investing in refining infrastructure with the full knowledge that the world is currently long on refining capacity but they are prepared to take the risk and compete as long term, low cost suppliers. Part of the calculation is that, even in a highly competitive market, there will be increased margins, tax revenue and job creation that will benefit their domestic economies.

That's the global backdrop. Here in North America, the variations in trade flows for crude oil have also been significant over the last 10 years. First, there is the US shale oil revolution, which accounts for the majority of the increase in US production from nine MBD of crude oil in late 2014, up from just over five MBD in 2004. Though the US has nearly doubled production and decreased imports by 30 per cent, the US still imported seven MBD of crude oil in 2014, more than 40 per cent from Canada. The biggest change is that the US now imports very little European or West African crude, significant suppliers just 10 years ago. Canada is exporting roughly the same volumes today but the US will become increasingly energy self-sufficient and likely decrease imports further.

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In 2011, the US became a net exporter of refined petroleum products for the first time since 1949, with a surplus that grew to two MBD by late 2014, more than all of Canada's demand for refined fuels. This export surplus will continue to grow as new fuel efficiency regulations take hold and more US refining capacity is developed for both shale oil and converting heavy oil to higher value diesel and gasoline. Much of this surplus refined product is being pushed into European markets, though Canada is importing more US product too.

Canada now has limited refining capacity at a time when the US and other energy superpowers are expanding and exporting. There are now only four refineries in Quebec and on the East Coast, taking offshore crude and exporting into shrinking US import markets. Our most economic refineries are in Alberta though they are landlocked with limited ability to export, and little access to new infrastructure for refined products in sight. We are also disadvantaged since oil sands upgrading facilities are pushing light crude into a US market saturated with shale oil. Contrast this to the US, which has positioned itself with strategic access to low-cost crude, especially our oil sands, and invested in refineries to export product globally, primarily through the US Gulf Coast. The economics and trade flows are changing.

So how have these external factors affected Canada? We now have a vulnerable Eastern Canada refining sector with limited access to Canadian crude by pipeline. And there remains a need for large volumes of refined product to be imported into Ontario and Quebec.

The point is not to call for a Canadian policy on petroleum refining. However, this example serves as a cautionary tale and a reminder to leaders across the country that in all aspects, Canada's energy strategy must look outward to rapidly changing market conditions, particularly in the US. We must be prepared to debate our options in a changing global landscape. We risk missing out in other areas as well. The US, China and others are shaping a worldwide market for renewables and clean technology exports.

If Canada wants to be taken seriously, our energy strategy must be more than a five-year plan to get pipelines approved. A meaningful strategy would place Canada as a leader in markets for crude oil, electricity, LNG, renewables, clean technologies and refined products. And our plan must address climate change, implementing low carbon policies and carbon pricing.

We urge premiers to push beyond the status quo and be nimble enough to write a balanced energy strategy that sees the changing trends of today and prepares us to be global winners decades down the road. **P**

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