

## **Canadian energy at a crossroads?**

### **Stresses, strains and opportunities**

#### **Notes for Energy Council of Canada: Canadian Energy Industry - Updates and Insights**

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**Ottawa, February 2, 2016**

Several of the speakers today have touched on the continuing need for a productive energy dialogue to get at the many issues facing Canada. In my comments I want to get to some of the tough questions that we need to be willing to ask if we want to make real progress in such a dialogue.

I want to get there by first talking about some of the factors that I think will shape our energy future over the medium to long term. The report on last year's Update and Insights event highlighted a number of trends (more on which ones in a minute) whose combined effect could well be highly disruptive to both our energy industry and our energy systems more generally over the medium to long term and I want to explore some of those possibilities.

Before I do that, it is not possible to talk about energy in Canada today without acknowledging the extraordinarily difficult patch we are going through in the face of the oil price collapse. But the oil price collapse may be one of the least disruptive of the many forces in front of us and we need to guard against being short sighted.

Prices will most likely return – although maybe not quickly - to levels that will keep Canadian production in the game for some time to come. And price shocks – both upside and down – will continue to be part of the game.

If anything is really shocking it is the complacency of Canadians and their governments during the fat years that we experienced through much of the last decade. We all live in the short run but for much decision making, especially by government, it really is the long trends that matter.

Are those trends pointing to fundamental change? As it turns out, real transformative change in energy is kind of rare.

The last people who actually lived through such transformations are mostly dead. I am talking about the widespread application of electricity and the emergence of the petroleum fueled internal combustion engine.

Nuclear energy was supposed to be transformative: some may remember the phrase “too cheap to meter”. But nuclear turned out to be just another power generation technology.

So it is a bold forecaster who suggests that we really are on the cusp of a deep change in the energy landscape. But without exactly forecasting such a change I am going to make just that suggestion.

What if the energy world is changing fundamentally from the one in which Canada made its (rather silly) claim to be an energy superpower? What if we are not even close to being a superpower? What if we are missing the point?

I want to talk about several factors or forces that, combined, could indeed be transformative in their effects. As mentioned, all of these were explored to one degree or another at last year’s session: end use markets (aka demand); climate and carbon; public confidence; and technology.

Start with demand.

Energy discussions in Canada and elsewhere almost always focus on supply issues. One way or another, the narrative goes, demand will continue growing and we will need all sources of supply. And yes, energy efficiency will improve but there will still be demand growth.

Meanwhile in the actual world, energy intensity in OECD countries has declined by over one-third over the past three decades and that trend shows no signs of stopping. The IEA 2015 outlook in its base case scenario suggests that some (OECD) economies may have reached a saturation point in their demand for energy services and that OECD demand will in fact decline slightly between now and 2040.

But as one of last year’s speakers put it, we live in a two speed world; the emerging markets story is different, and reputable forecasters all envisage substantial world demand growth to 2040.

Maybe.

But what if economic growth in emerging markets turns out to be slower than we had been expecting?

What if local environmental factors, notably urban air quality, force radical changes in both the power generation and transportation sectors in places like China and India?

What if emerging markets find their way out of the consumer energy subsidy nightmare in which many are trapped?

What if emerging markets follow a very different demand growth trajectory than did OECD countries, more rapidly deploying efficient end use technologies as well as renewable energy sources?

All in all, Canadian suppliers of oil, gas and electricity face slow growing markets in Canada and North America.

As noted by other speakers, the power generation sector has growth potential from claiming domestic market share in what has been termed a process of deep electrification. For oil and gas there may be better prospects if we can get access to markets outside North America. But there are many reasons to be cautious about any potential bonanzas. Those reasons include possibilities such as those listed above that could slow demand growth as well as the potential for alternative supplies, both fossil and non-fossil, to beat us to market or otherwise outcompete Canadian supplies.

Up to this point I haven't even talked about the second factor, climate and carbon.

Almost thirty years after the emergence of the climate debate, the public discussions on energy and climate continue as if they were being conducted on different planets. At the international level we have, on the one hand, a base case outlook from the IEA that sees emissions growth of 16 percent from 2013 to 2040. On the other, the same governments who are members of the IEA have cheerfully adopted a goal of holding warming to 1.5 degrees Celsius by 2050 which would mean a drastic reduction in emissions worldwide with correspondingly reduced demand for coal and oil and even natural gas.

Very rarely can one find a conversation in which those two realities are connected. In Canada that disconnect is as bad or worse.

Somewhat refreshingly, Canadian environment ministers last week seemed to connect some of the dots, noting that the underlying trend in Canadian emissions implies growth (albeit modest), not decline. What the environment ministers did not say was that to meet any of the 2030 national targets being bruited about implies a change in trajectory which is probably impossible under any circumstances. At the very least Canada would have to very quickly adopt policy action of much greater weight than we have seen even from Ontario with its coal phase out or BC and Alberta with their carbon taxes.

So what does this mean for Canadian energy producers? It depends.

If governments find the political will to act in ways commensurate with their aspirations and commitments then we are looking at radical increases in carbon costs either directly through carbon prices or indirectly through regulation. Are we willing to tell consumers that their

energy prices will need to go up by 50 or 100 percent or more – pretty much starting tomorrow - in order to meet our 2030 GHG commitments? And are we willing to absorb or mitigate the effects on high energy intensity industries that are already subject to pressure from cost and global competition?

More likely we will continue to dither and that in turn will add greatly to risk and compound the already malign effects of low public confidence in both the energy industry and in policy makers.

Which brings me to the next factor. Public confidence or, as was, “social licence”, has become the issue du jour in Canadian energy circles.

In one of my favourite lines from Yes Prime Minister Sir Humphrey opines that if once people start talking about something, the next thing you know they will start thinking about it. On the public confidence issue we may well be on the cusp of actually thinking about it but we have a ways to go.

The old way of doing things necessarily had to change. Canadian communities had clearly reached the point where they would not be passive hosts for energy projects whether pipes, power lines, power plants (of any sort) or oil and gas operations. But a necessary corrective risks turning into a rout in which “communities”, however defined, become the granters of “licence”, however defined, and traditional permission granting authorities – governments and regulatory bodies – are reduced to being observers or simply one of the steps along the way to a wildly risky future.

Meanwhile the centrifugal tendencies in Canada seem to be growing.

Provincial and municipal government leaders – in many parts of Canada - make pronouncements about energy infrastructure that appear to belie any familiarity with Canada’s 1867 constitution. What if the bargain of Canadian confederation included a provision along the lines of the following?

“All Articles of the Growth, Produce, or Manufacture of any one of the Provinces shall, from and after the Union, be admitted free into each of the other Provinces” (implicitly, such a clause would guarantee transport across and through other provinces equally free of unreasonable hindrance)

Well it turns out that we have such a provision, just no agreement that it matters any more.

If every province and every “community”, including several hundred increasingly “sovereign” First Nations governments all find themselves with an effective veto on energy projects then we

are hardly a country any more. And so far at least, much of the debate and many political pronouncements have reinforced these tendencies.

Our challenge with respect to public confidence is to restore confidence in the institutions that actually make this country work, starting with the constitution but certainly not ending there.

The federal government's announcement last week on temporary measures respecting energy approvals was probably a necessary antidote to the growing chorus of vocal opposition to the NEB. The five principles helpfully outlined by Parliamentary Secretary Kim Rudd, if used the right way could help guide Canada to some common sense outcomes although they could also lead us down some blind alleys.

In any event, the deeper problem is the need to rebuild confidence in the whole institutional structure both within provinces and at the national level and do so while keeping processes functional and efficient. All energy regulators in Canada know this and most are hard at work looking for solutions.

But we should keep things in perspective; although much needs to be done to improve the system, it is also true that Canadian regulators are looked to by other regulators around the world as models to be emulated. The proposition that the regulatory system is fundamentally "broken" is simply a canard even though some of the public discourse suggests otherwise.

Regardless, for some time into the future most energy decision processes will be slower, more costly and more uncertain.

But the world is not slowing down, including the world of technological change, which is the fourth factor on which I want to focus.

As noted earlier, truly transformative technological change in energy is actually kind of rare.

Since about 1900 we have seen enormous numbers of incremental technological changes that have made energy cheaper, more accessible, more reliable and cleaner. But we heat ourselves, move ourselves and light the way pretty much as we did 100 years ago.

The interesting question is whether the multitude of incremental technological changes that we are witnessing today will generate more fundamental change in our energy systems overall and if they do, what that will mean for Canada's energy industries.

Some possibilities:

- Much higher end use efficiency and even slower demand growth

- Cleaner combustion including carbon management – which among other things could make Canadian hydrocarbon production no more and maybe even less carbon intensive than much of the competition – but also more costly.
- More cost competitive and reliable renewable sources
- More distributed energy - in the sense of being managed at the demand end as well as involving local sources. This last set of developments may prove to be the most transformative of all.

Who knows what pathway energy technology will actually take.

It is a fair bet that energy commodities, the ones we have in abundance in Canada, the ones that contain carbon and that consumers burn to produce greenhouse gas emissions will be with us for a long time to come.

But the long trend is pretty clear. The combined effects of normal technological change as in all other industries, cost management, pollution management, GHG management and public resistance to traditional energy developments will tend to work in one direction. As we see in the decline of energy intensity and in the emergence of renewable sources, local or otherwise, the energy service package will derive ever more from capital, technology and know-how and less from primary commodities.

All in all these combined forces create many opportunities and many more challenges for the energy industry and for policy makers in Canada.

As we think about what to do about this we need to be just a little bit humble.

Reconciling our energy and climate aspirations will involve the biggest change in our energy systems in over 100 years. But the electricity and internal combustion engine revolutions just kind of happened, driven largely by market forces. Public policy helped out but no-one in the public really paid much attention or, if they did, citizens and consumers saw myriad benefits, not new costs.

For certain, no-one went to an international meeting to declare that those changes would come about in (very) few decades and to commit to making it happen through policy action that hit consumers in the pocketbook.

Canada has been trying for over a decade to engage an energy strategy discussion but we have been mainly avoiding the tough questions. Here are a few of the questions that I think we need to ask.

How do we generate an honest public debate on climate and energy in place of the denial – of energy realities every bit as much as climate realities - that has characterized the past 30 years and may yet characterize the next decade?

How do we address ourselves to intolerant consumers for whom even weak prices (as today) for petroleum and natural gas are never weak enough and who do not deem it their responsibility to square the circle on GHG emissions? How do we overcome consumer resistance to the price increases that are inevitable from truly aggressive GHG emission reductions?

What do we do to cool the ardour of expectant stakeholders? Even in a recovered price world for oil and gas, Canada's inherent high cost structure and many future cost challenges probably mean that the goose that lays the golden eggs has flown. But many Canadian stakeholders and taxpayers seem to have missed the departure announcement and expectations remain high with respect to royalties, benefits and revenue sharing.

(A tip of the hat to the Alberta government for its royalty announcement last week and best of luck explaining that to disappointed stakeholders and taxpayers.)

How do we manage the necessary corrective respecting the role of citizens and local communities in determining our energy future? Communities and citizens have to be more fully and effectively engaged. But at the same time we need to respect the bargain of Confederation. And we need to maintain public approval and regulatory processes that acknowledge that there will be some unavoidable disruption of the landscape and some risk and that respect the need to move energy over long distances, attract investment and get the job done in a timely fashion.

How do we create more effective processes of policy and planning – at both urban and regional scales - that are essential to resolving many issues? These processes are inherently difficult in a market based economy and within Canadian cultural norms. The world of low risk tolerance, twitter speed communications and nine second attention spans does not make them easier.

In the course of the panel discussions today other questions arose that I had not considered.

We talk a great deal about innovation and several speakers touched on that. But it is far from clear what we need to do to mobilize innovation in the Canadian energy space, fund that activity and ensure that Canada is a technology maker, not just a technology taker in the emerging energy world.

Several speakers also touched on the question of deep electrification, a process that is probably essential to any deep reduction in greenhouse gases over the medium to long term. But that conversation implies winners and losers and Canadians don't like those sorts of conversations.

Wrapping up - the political-economic environment for energy development is as tough as it has ever been.

Sources of risk have multiplied with local communities and governments increasingly being the biggest culprits. And it won't get easier quickly.

But rebuilding public confidence in public institutions, sustaining investor confidence in Canadian energy resources, reducing greenhouse gas emissions and moving closer to the leading edge of technological change are actually mutually compatible objectives as long as we approach them with common sense and realism about what is achievable through deliberate policy and in various time frames.

Finding the path forward will require a certain amount of political courage and that in turn requires a public debate which generates more light and less heat.

Thank you

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