

ENERGY LITERACY IN CANADA: A SUMMARY

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SUMMARY

Surveys among the general population, business and policy leaders, and aboriginal Canadians reveal that, among all three groups, there is ample general knowledge about the way Canadians use energy and the costs related to it.

But when they think about economic and social policy issues of importance, Canadians tend to consider energy a low priority. While this may be the consequence of living in an energy-secure country, given that the economy's strength, growth and resilience are so intimately linked to secure and sustainable sources of energy, that lack of engagement can only be problematic for policymakers dealing with energy-related issues. It can lead to important choices being made without widespread public awareness, input and agreement.

But, even more worrisome is that these surveys found that all three Canadian cohorts surveyed severely lack trust in the key voices that speak on energy issues. They hold negative views of energy company executives, mistrust information from industry associations, and lack trust in their provincial and federal governments. Aboriginal Canadians were the least likely to trust all these sources.

The importance of trust cannot be overstated. The absence of trust can lead to negative consequences for investment in the energy system, and can undermine public confidence in leadership, making the challenge of improving energy literacy that much more difficult.

An early step towards remedying that credibility gap could include creating independent, credible, centralized institutions that serve as clearing houses for non-politicized energy information, such as the Energy Information Administration in the United States. In addition, it is clear that Canada can only benefit from measures that nurture robust yet sober debate about energy issues, that will help stimulate public engagement. To that end, the creation of a national advisory coalition, comprised of aboriginal Canadians, academics, opinion leaders and former senior public servants, could provide a forum that would help shape consensus on issues that currently suffer from excessive polarization.

In the Canadian context, energy literacy must mean more than just having a reasonable appreciation of where our energy comes from and how it is distributed. It also means having a firm grasp of the economic and environmental impacts, coupled with the trade-offs that are an inevitable part of energy production. Thus, for the public to give energy-related issues the emphasis and importance they warrant requires a level of energy literacy that includes understanding its critical role in Canada's current and future standard of living.

OVERVIEW

Energy is an issue that has major implications for Canada. It is a key economic driver of the national economy, supporting jobs, exports and overall economic growth. It raises important environmental questions, often frames relations with First Nations and aboriginal people and helps shape Canada's international profile as a major energy-exporting nation. It has also emerged as an issue that increasingly drives the political and policy debate in Canada. This paper summarizes a series of three earlier research papers on energy literacy done by the University of Calgary's School of Public Policy and proposes policy recommendations based on the findings. Specifically, the earlier papers looked at the views among the general population of Canadians, business and policy leaders, and finally, aboriginal Canadians.¹

For the purposes of the study, energy "literacy" is defined as fundamental understanding of energy — from the basic units of measurement (watts, British thermal units, etc.) to energy production and distribution, to the economic and environmental factors that affect decisions about energy use.

Canadians are well aware of their nation's capacity as an energy producer. They are sensitive to the cost of energy and recognize there are often environmental consequences to energy development. But Canadians also reflect the reality of Canada as an energy-secure nation and therefore do not rank energy-specific issues among their highest priorities for government. The research also demonstrates that environment and the economy, which have linkages to energy, are considered high priorities by Canadians. In that sense, energy is an underlying factor that is part of more important issues identified by Canadians. Based on the three waves of research, Canadians have a broad, general knowledge of energy issues, such as the primary energy sources, the economic and environmental benefits of efficiency and conservation, the possible implications of energy projects for First Nations and the dependence on the U.S. market for Canada's energy exports.

Those factors frame an increasingly fractious energy dialogue in Canada. Yet the depth of public literacy on the full scope of issues — energy sources, production options and economic, social and environmental impacts and consequences — does not match what is a challenging and divisive policy issue for governments. Successful public-policy making is, in no small measure, the art of persuasion. It requires a public understanding of the range of interconnected and often-conflicting interests that form the depth and importance of the policy challenge. Effective public policy relies on an informed and educated public that grasps the language of policy and the challenges that come with a particular policy change. The importance of an informed public extends to the sphere of energy literacy, because without an energy-literate public, effective public engagement in the development of energy policy will not be possible.

¹ Andre Turcotte, Michal C. Moore and Jennifer Winter, "Energy Literacy in Canada," University of Calgary School of Public Policy Research Paper 5, 32 (University of Calgary, October 2012); Michal C. Moore et al., "Energy and Energy Literacy in Canada: A Survey of Business and Policy Leadership," University of Calgary School of Public Policy Research Paper 6, 10 (University of Calgary, February 2013); Michal C. Moore, Andrew Turcotte and Jennifer Winter, "Aboriginal-Canadians and Energy Literacy: A Survey of Opinions and Thoughts on Energy," University of Calgary School of Public Policy Research Paper 7, 3 (University of Calgary, February 2014).

A changing global energy market — where the U.S. need for Canadian energy is declining and global demand is shifting to offshore markets that are currently beyond Canada's reach — presents major federal and provincial policy challenges. They are evident in a heightened focus on energy-related questions such as development of pipeline infrastructure to reach tidewater and the global energy market; the duty to consult and accommodate First Nations; the threat of climate change and Canada's commitment to meet its greenhouse-gas-reduction targets; and, the conflicting regional interests between major energy-exporting provinces in the West and provinces in Central Canada that engage on energy issues, particularly relating to oil and gas, largely from the perspective of energy importers.

These complex policy and political challenges require an appreciation of energy as being among the more important issues facing Canada, a view that is not reflected in the opinion research. One can argue a public more informed on energy issues would give energy a higher priority. More precisely, that means greater literacy on energy options, energy's direct and indirect economic benefits, environmental implications, conflicting interests, and trade-offs necessary to build policy that affects the public's everyday life.

The breadth and difficulty of energy-related issues require the public to have access to what it deems credible and independent information that fairly represents all sides of the debate. The three waves of research on energy literacy show a significant lack of public trust in energy industry spokespersons and, to a lesser extent, governments, when it comes to energy issues. The lack of trust was most pronounced among First Nations and aboriginal Canadians.² Federal and provincial governments would be wise to focus on an achievable and common policy effort, such as a national strategy on energy efficiency and conservation. Such an initiative would reflect public opinion, and help meet Canadians' individual and collective economic and environmental goals, while raising public awareness and understanding of energy issues and choices in Canada.

It should be noted that the recent and rapid decline in the world price of oil — driven by new sources of production that increased global supplies at the same time as demand slowed in the key Asian markets — occurred after the release of the three research papers into energy literacy upon which this summary report is based. Given the economic impact, both positive and negative, that the rapid decline in oil prices has had on Canada, the fiscal and economic consequences of volatility in the energy sector has clearly raised the visibility of energy as a public-policy and, therefore, political issue.

BACKGROUND

The factors that make energy important to Canada's economy and society are many, diverse and complex.

Canada is a northern nation, with a sprawling geography, an often-harsh climate and a dispersed population. The needs of a transportation system to connect people and goods, and the breadth and complexities of a power grid that spans Canada's geography to supply

² Moore, Turcotte and Winter, "Aboriginal-Canadians," 17, notes that almost 35 per cent of aboriginals expressed no trust in oil and gas companies.

reliable electricity to large metropolitan centres, small rural communities and remote northern regions, have put energy at the very centre of Canadian life. Given those realities, a secure, sustainable and affordable supply of energy has been, and remains, absolutely critical to Canada's standard of living and quality of life.

But Canada is more than a nation that, like all others, needs an efficient and dependable energy system to prosper. It is also an energy-rich nation that is a major energy exporter into the North American market. Canada is, by far, the single largest supplier of oil to the U.S. market, with average daily exports in January 2015 to the U.S. of 3.2-million barrels of crude.³ In an energy-hungry world, where new regions of economic growth and power are emerging⁴ and where the balancing of energy development with environmental sustainability is crucial, Canada has the potential to be a major strategic player with the capacity, in the words of former Prime Minister Stephen Harper and others, to become an "energy superpower."⁵

Those realities make energy policy in Canada a pivotal issue, one fundamentally about meeting the economic, social and environmental needs of Canadians. The right public policy means balancing the benefits of energy development as an economic driver with the protection of the environment. It requires recognizing and respecting the rights of First Nations and aboriginal Canadians as part of the process to securing both the regulatory and social licence necessary to build public acceptance of proposed energy-development projects. Sustainable energy policy means finding the right balance between often-differing domestic interests and the need for Canada, as an energy exporter, to adapt to a fundamentally shifting global energy market. In short, energy policy is shaped by complex and often-diverging interests. Moreover, it requires an informed public environment that is aware and sensitive to the interests, factors and inevitable trade-offs required to reach the policy framework that meets the nation's needs.

Based on the crucial role energy plays in Canada, the University of Calgary's School of Public Policy undertook an extensive study into energy literacy. The objective was to explore the level of knowledge and understanding Canadians have of the importance of energy-related issues. The ranking Canadians give energy among the important issues facing the nation is crucial in guiding the development of policy so that it recognizes and responds to the depth of understanding and engagement required to facilitate an informed public discourse in pursuit of effective and sustainable public policy.

The study was done in three components. Using public opinion research in separate, annual studies, the initiative first explored the views of 3,600 Canadians through an online panel, followed by a survey of 589 business and policy leaders, concluding with research into the opinions of 300 First Nations and aboriginal Canadians. The findings were detailed in separate reports, the first in October 2012, a second in February 2013 and the third in

³ U.S. Energy Information Administration, January 2015 Import Highlights, <http://www.eia.gov/petroleum/imports/companylevel/>.

⁴ In its November 2014 World Energy Outlook, the International Energy Agency forecasts that the global distribution of energy demand will change dramatically, with energy use essentially flat in much of Europe, Japan, Korea and North America, and rising consumption concentrated in the rest of Asia (60 per cent of the global total), Africa, the Middle East and Latin America.

⁵ Prime Minister of Canada, Speech to the Canada-U.K. Chamber of Commerce, July 14, 2006

February 2014.⁶ This paper condenses the three previous studies. It also draws conclusions and policy recommendations based on those findings and the issues that shape the energy debate in Canada.

CONTEXT

The starting point in understanding how levels of public awareness can inform policy development is by putting energy in its economic and social context. It is virtually impossible to overstate the importance of energy to an economy and a society; they are inextricably linked. For an economy to function at optimum levels and for a nation to support a high standard of living and quality of life requires access to reliable, affordable and sustainable energy. Without it, the economic and social consequences are often grim.

The World Economic Forum, in a joint analysis with IHS-CERA, captures the essence of the economy and energy relationship well. It states: “Energy is the lifeblood of the global economy — a crucial input to nearly all of the goods and services of the modern world. Stable, reasonably priced energy supplies are central to maintaining and improving the living standards of billions of people.”⁷

It is a fact vividly reflected by the reality of the world economy. Just as access to energy is an essential ingredient to economic growth and stability, the inverse is true when energy is scarce. The World Bank draws the parallel conclusion in its study of energy poverty, which it identifies as a grim fact for more than 1.2-billion people, or 20 per cent of the global population, who do not have access to electricity.⁸ It states: “Most economic activity would be impossible without energy. Adequate, reliable and competitively priced modern energy is essential for business development, job creation, income generation and international competitiveness.”⁹

Yet, for an energy-endowed nation such as Canada, which enjoys among the highest standards of living in the world, a secure supply of energy is often taken for granted. Very few Canadians are victims of energy poverty. Those who are live mostly in remote and rural regions and are disproportionately First Nations or aboriginal people. For people in mainstream Canadian society, the notion of energy poverty is simply not a factor that enters their day-to-day lives. They don’t dwell on energy access or security of supply because there is no particular reason they should. Canada, thus, enjoys the economic and social benefits of its status as an energy-rich nation. This is evident in the reality that Canadians rank as among the highest per capita energy users in the world, a reflection of a northern nation with a widely dispersed population and an energy-rich natural resource endowment.

⁶ The three reports are Turcotte, Moore and Winter, “Energy Literacy”; Moore et al., “Energy and Energy”; and Moore, Turcotte and Winter, “Aboriginal-Canadians.”

⁷ World Economic Forum, “Energy for Economic Growth, Energy Vision Update 2012” (2012), 6.

⁸ Although there is no universally applied definition of energy poverty, the International Energy Agency says energy poverty is the lack of access to electricity or clean cooking facilities. More than 95 per cent who suffer from energy poverty live in sub-Saharan Africa and 84 per cent are in rural areas.

⁹ World Bank, “Toward a Sustainable Energy Future for All” (2013), 1.

Canada has an abundant and diverse supply of energy, whether it's oil and gas, hydro, nuclear, coal or a growing renewable portfolio of wind and solar. It is both energy self-sufficient and an exporter of energy, with virtually all of our energy exports, including hydro, going to the United States. The breadth and scale of the energy industry make it an important economic engine for Canada.

To put the Canadian energy sector in a global context, Canada is the fifth-largest oil producer in the world and has the world's second-largest proven oil reserves, with more than 170-billion barrels in the oilsands alone.¹⁰ With advancements in technology, those reserves are anticipated to grow to 315-billion barrels, which would make the oilsands the largest recoverable oil deposit in the world. Canada is the sixth-largest oil exporter in the world, with virtually all of its daily exports of more than three-million barrels of oil going to the United States. Ranking fifth in the world in natural gas production, Canada is the fourth-largest exporter of gas. As well, Canada is the world's third-largest producer of non-emitting hydro energy, supplying approximately 98 per cent of U.S. electricity imports.¹¹ Canada is both the world's second-largest producer of uranium for power generation and the second-largest exporter of uranium into the global market.¹²

Given Canada's status as an energy-rich nation, and the importance of energy to a geographically diverse northern nation, it is not surprising that Canadians are among the highest per capita energy users in the developed world (Table 1). Of the countries listed below, only Iceland and Luxembourg have a higher per capita use of energy than Canada. Relative to the United States, Canada's use of energy per capita was greater by 457 kilogram of oil equivalent.¹³

¹⁰ Canada. Natural Resources Canada, *Energy Fact Book 2014-15* (2015), 3.

¹¹ *ibid.*, 5.

¹² *ibid.*, 3.

¹³ Kilogram(s) of oil equivalent (kgoe) is a normalized unit, with a net calorific value of 41,868 kilojoules/kg, and is the approximate amount of energy that can be extracted from one kilogram of crude oil. It would produce enough energy to fuel a car for approximately 2,483 kilometres.

TABLE 1 ENERGY USE PER CAPITA

Country	Energy Use Per Capita (kg of oil equivalent)		
	2007	2008	2009
Australia	5,929	6,019	5,971
Austria	4,008	4,017	3,784
Belgium	5,367	5,470	5,300
Canada	8,260	8,000	7,534
Denmark	3,618	3,498	3,369
Finland	6,953	6,641	6,213
France	4,130	4,151	3,959
Germany	4,033	4,076	3,889
Greece	2,700	2,707	2,609
Hungary	2,658	2,636	2,480
Iceland	15,709	16,542	16,405
Ireland	3,452	3,367	3,216
Italy	3,016	2,943	2,735
Japan	4,032	3,880	3,700
Luxembourg	8,723	8,564	7,934
Mexico	1,611	1,637	1,559
Netherlands	4,844	4,837	4,729
New Zealand	3,999	4,043	4,032
Norway	5,849	6,249	5,849
Sweden	5,472	5,380	4,883
Switzerland	3,412	3,501	3,480
United Kingdom	3,448	3,390	3,183
United States	7,758	7,488	7,051

Source: World Bank energy-use tables (<http://data.worldbank.org/indicator/EG.USE.PCAP.KG.OE>).

The fact that Canada has such a rich energy endowment, coupled with the global demand for energy, makes the energy sector an important economic engine for the nation. In direct benefits, the oil and gas and electricity sector represents 9.9 per cent of Canada's GDP.¹⁴ When indirect benefits are calculated, the energy sector accounts for 13.4 per cent of the Canadian economy. Total direct and indirect employment as a result of the energy sector is five per cent, or 902,000 jobs, which includes oil and gas construction as well as electricity construction.¹⁵

According to Natural Resources Canada, oil and gas industries accounted for \$83 billion or 21 per cent of Canada's total capital expenditures in 2013.¹⁶ The fiscal impact for governments is equally significant. Between 2008 and 2013, average annual revenue to governments in income tax, indirect tax, royalties and land sales was \$25.1 billion.¹⁷

¹⁴ Natural Resources Canada, *Energy*, 4.

¹⁵ *ibid.*

¹⁶ *ibid.*, 6.

¹⁷ *ibid.*, 7.

Overlaying these facts are the shifting terms of debate over energy policy in Canada. The challenges of climate change, the need to balance environmental protection with energy development and the rights of First Nations and aboriginal people are crucial dimensions of the energy-policy agenda. All those factors intersect with Canada's role in a global energy market that is undergoing fundamental and far-reaching adjustments.

In recent years, the world has witnessed the rise of Asia as the major global economic engine of growth, led by China, but also including India and other Southeast Asian nations. The G20, in a 2014 energy analysis, pointed to seismic changes in the global market. It noted: "International trade in energy is undergoing significant transformation. The centre of global energy demand is moving from the OECD countries to the emerging economies, particularly China and India. Major energy importers are becoming net exporters. Regional markets are now more interdependent and complex."¹⁸

The same conclusion is echoed by the International Energy Agency, which, in its 2013 World Energy Outlook, stated: "Many of the long-held tenets of the energy sector are being rewritten. Major importers are becoming exporters, while countries long-defined as major energy exporters are also becoming leading centres of global demand growth."

Shifts in the global energy economy, in terms of Asia as the dominant source of demand growth and the rapid increase of domestic shale oil and gas production in the U.S., have profound implications for Canada's energy sector. In recent months, it has been most evident in a glut of world oil supply that reflects dramatic growth in U.S. production that triggered a stunning and deep drop in world oil prices, which in turn has significant negative fiscal implications for oil-producing provinces, especially Alberta, as well as Saskatchewan and Newfoundland and Labrador.¹⁹ The fiscal challenge for Alberta was identified by former Alberta premier Jim Prentice who, in late 2014, said the oil "price trough" could leave a \$7-billion hole in Alberta government revenues. In its March 2015 budget, the Alberta government estimated an operating deficit of \$7 billion in 2015–16.²⁰ In turn, the federal government will also see a decline in its corporate income tax revenue, reflecting the impact of lower oil prices on the corporate bottom line. Beyond the fiscal effects, the economic shock is most visible in Alberta's rising unemployment, weakening real estate market and declining levels of investment, which have negative ripple effects through the rest of the Canadian economy.

A reality of the Canadian energy industry is its almost complete reliance on U.S. demand as a destination for its oil, gas and electricity exports.²¹ That fact is evident in a deeply integrated North American market linked by an elaborate network of oil and gas pipelines and an interconnected power grid. But with growing domestic U.S. oil and gas production

¹⁸ G20, "Strengthening Energy Markets," Policy Note (2014).

¹⁹ According to the U.S. Energy Information Administration, oil production in the U.S. has increased from 5.48-million barrels per day in 2010 to 8.72-million barrels per day in 2014.

²⁰ Canada. Alberta, "Putting Things Right: A Responsible, Strategic Plan to Secure Alberta's Future: Budget 2015-16" (March 26, 2015), 3.

²¹ In 2014, 97 per cent of Canada's energy exports went to the U.S.: Key Facts and Figures on the Natural Resources Sector <http://www.nrcan.gc.ca/publications/key-facts/16013>.

and declining U.S. demand, at the same time that demand growth is forecast to be driven by Asian markets, Canada needs to reorient its energy-export strategy, particularly as it relates to oil and gas.

In its 2014 World Energy Outlook, the International Energy Agency forecast that global energy demand will grow 37 per cent by 2040. It notes global distribution of energy demand shifting significantly “with energy use essentially flat in much of Europe, Japan, Korea and North America, and rising consumption concentrated in the rest of Asia (60 per cent of global total), Africa, the Middle East and Latin America.”²²

But at the same time that Canada’s energy linkages to the global market face fundamental change, the nation must address domestic issues related to development of energy resources that include First Nations and aboriginal rights, reducing greenhouse gas emissions as part of a climate change strategy and protection of the environment. Adding to these factors is an energy sector with interests often drawn on provincial or regional lines between energy-producing and -exporting provinces and energy-importing jurisdictions. The regional nature of the debate is often cast in zero-sum terms. Some characterize it as the so-called “Dutch disease,” where a strong oil and gas sector in the West drives a higher Canadian dollar, which harms Central Canada’s manufacturing-sector exports to the U.S.²³

The convergence of these complex issues creates a matrix of often-conflicting interests and significant public policy challenges for governments. They’re made all the more difficult by the fact that control of natural resources falls under provincial jurisdiction, yet First Nations and aboriginal treaty issues reside with the federal government, and the environment is a shared responsibility. The difficulty in building a public policy consensus that straddles the nation has been on display in several forms. The most evident was the Alberta government’s failed effort in 2012–13 to build support for a national energy strategy through the Council of the Federation. It was also apparent in non-government efforts, such as the Energy Policy Institute of Canada (EPIC). With a sole purpose of building a cross-sectoral energy framework and strategy, EPIC ended its work in 2014 with the hope that it had advanced energy literacy among Canadians and that the provincial premiers would carry on the momentum. “From day one we have said it was essential for Canada to develop an energy strategy. While good progress has been made on regulatory reform, literacy and conservation and innovation, there still remains much to do,” said Dan Gagnier, then president of EPIC.²⁴

These policy challenges are being vividly played out in the ongoing public and political debate around oil-pipeline proposals from Alberta to the West Coast and to Central and Atlantic Canada. The regional tensions were on display again in July 2015 at the annual Council of the Federation meeting of premiers. The premiers endorsed a national energy strategy that “provides the foundation for provinces and territories to work together on energy priorities of ensuring Canada is a recognized international leader in sustainable and

²² International Energy Agency, “World Energy Outlook 2014” (2014), 1.

²³ Emanuelle Enenajer, “Canada’s Dutch Disease,” Bank of America Merrill Lynch (September 7, 2014).

²⁴ Energy Policy Institute of Canada, “Canada’s Premiers Advancement of Energy Strategy Timely,” news release, September 3, 2014.

secure energy production, supply and transportation.”²⁵ But at the same time, Saskatchewan Premier Brad Wall expressed frustration with his Ontario and Quebec counterparts, who remain less than enthusiastic about pipeline proposals that would transport Western Canadian oil to Central and Atlantic Canada. The federal government has put a heavy policy emphasis on the development of energy infrastructure that would allow Canadian energy to break out of its North American market constraints by reaching tidewater and access rapidly growing Asian demand. It is reflected in proposals for multiple oil pipelines: the long-delayed Keystone XL pipeline to access refineries on the U.S. Gulf Coast which was ultimately rejected by U.S. President Obama; the Northern Gateway pipeline from Alberta to Kitimat, B.C. on the West Coast; an expansion of the Trans Mountain pipeline to Burnaby, B.C.; the reversal of Line 9 in Ontario to allow western oil to reach Ontario and Quebec; and the now-on-hold Energy East proposal that would convert the TransCanada pipeline from Alberta to Eastern Canada from gas to oil. It is also evident in the development of several proposed liquefied natural gas projects on the B.C. coast that will supply the Asian market.²⁶

Not surprisingly then, energy has become a defining issue shaping the political debate. For his part, former Prime Minister Harper called the approval of Keystone XL by the U.S. “a no-brainer” and blamed the ongoing delay on “politics of a fairly narrow nature.”²⁷ In the run-up to the October 2015 federal election which ended with the Liberals winning a majority, Liberal leader Justin Trudeau expressed support for the Keystone project, but opposed Northern Gateway, while the Harper government argued that oil pipeline access to the West Coast is crucial and in the national interest.²⁸ Federal NDP leader Thomas Mulcair opposes both Keystone and Northern Gateway, but supports the Energy East proposal. He calls allowing oil super-tankers in the Douglas Channel to reach Kitimat, B.C. “madness.”²⁹

Moreover, the previous federal government’s emphasis on energy development is reflected in its comprehensive and, at times, controversial regulatory reform around major resource projects it called “Responsible Resource Development” (RRD). Designed to streamline the regulatory-review process, the RRD initiative, which included an overhaul of the Canadian Environmental Assessment Act, has imposed strict timelines on environmental and regulatory review of major projects. Under the mantra of “one project, one review,” RRD allows for provincial reviews to negate the need for a federal review when the processes are deemed equivalent.³⁰ At the provincial level, newly elected Alberta Premier Rachel Notley signalled she would not lobby for the Keystone XL project in the U.S. Notley has also expressed her opposition to the proposed Northern Gateway pipeline, saying “it is not going to go ahead, I think people know that.”³¹ Together, all of these factors have intensified the

²⁵ Council of the Federation, “Implementing an Energy Strategy for Canada,” news release, July 17, 2015.

²⁶ A government of British Columbia fact sheet lists 21 LNG export and domestic projects in various stages of planning or development (February 11, 2015).

²⁷ Edward Greenspon et al., “How Obama Shocked Harper as Keystone Frustrator-in-Chief,” Bloomberg, April 26, 2014.

²⁸ CBC News, October 25, 2013.

²⁹ Susana Mas, “Tom Mulcair’s NDP firmly against Northern Gateway pipeline,” CBC News, December 18, 2013 (<http://www.cbc.ca/m/touch/news/story/1.2468882>).

³⁰ Canada. “Budget Plan: Economic Action Plan, 2012,” 88.

³¹ James Wood and Trevor Howell, “Notley works to build Calgary support but pipeline and royalty issues loom,” *Calgary Herald*, April 25, 2015 (<http://calgaryherald.com/news/politics/notley-works-to-build-calgary-support-but-pipeline-and-royalty-issues-loom>).

public debate around energy issues in Canada, often drawn across lines of development and jobs versus protecting the environment and First Nations and aboriginal rights.

In spite of these economic, social, regional, environmental and political considerations, Canadians — whether the general population, business and policy leaders, or aboriginal people — still do not rank energy among what they see as the most important issues facing the nation.³² It is this complex public environment that formed the context for the study of energy literacy among Canadians.

KEY FINDINGS

When opinion research carried out by The School for Public Policy is condensed, a baseline of common views of the general population, business and policy leaders and aboriginal Canadians can be identified. The key threads are:

- Opinions are interlinked by a high-level, general awareness of energy use, cost and systems, as well as Canada’s status as an energy producer. But energy was not identified as a significant issue relative to other concerns. Research found that among the general Canadian population, the importance rating for energy increased with education levels.³³
- In terms of energy literacy, research probed respondents’ knowledge of the main sources of their province’s electricity generation. It found significant gaps among residents of Ontario, Saskatchewan, Alberta and Prince Edward Island.³⁴
- A majority expressed concern about environmental issues related to energy. But the depth of understanding across all three cohorts was minimal on subjects such as the primary source of energy in their province and the linkages between energy sources and environmental impact. Specifically:
 - The research found the general population of Canadians has a “good general knowledge of energy use and relative cost but lack detailed knowledge about sources of energy fuels, as well as sources and linkages with environmental impacts.”³⁵
 - A similar level of understanding was identified among business and policy leaders, whose opinions can have greater impact on the opinions of Canadians and how the national energy picture unfolds. The research noted “their knowledge about Canadian energy systems is not that much deeper or different than the Canadian public at large.”³⁶

³² Turcotte, Moore and Winter, “Energy Literacy.” Results of the three research projects found that the economy, health care and employment are the top-of-mind issues for Canadians. Oil-and-gas/energy prices and production ranked as the top issue for only two per cent of respondents.

³³ Turcotte, Moore and Winter, “Energy Literacy,” 6.

³⁴ *ibid.*, 13.

³⁵ *ibid.*, Summary.

³⁶ Moore et al., “Energy and Energy,” Summary.

- Survey of opinions among aboriginal Canadians found their knowledge “similar to that of Canadians ...and of business and policy leaders” and “highlights the need for ...extending efforts to improve energy literacy of this important demographic and cultural group.”³⁷
- There was a strong unity of opinion among all the cohorts in the three literacy studies that expressed a lack of trust in many of the key actors in the energy debate, with negative views tilted towards energy company executives, including information from oil and gas companies, their industry association and, to a lesser extent, federal and provincial governments. The highest trust levels were associated with academics and economists (Table 7). The weakest trust levels were expressed among First Nations and aboriginal Canadians.³⁸
- In terms of energy sources, there was considerable support for renewable energy, specifically wind and solar, as well as hydro and natural gas. Conversely, significantly more opposition than support was expressed for coal, and, to a lesser extent, the same was true for nuclear.
- Sensitivity to the rising cost of energy and interest in taking steps to improve energy efficiency were shared across all groups surveyed. A large majority of those surveyed identified steps they have taken to become more energy efficient and expressed support for subsidies to become more energy efficient. For aboriginal Canadians, the cost of energy was identified as the biggest energy-related challenge facing their community.³⁹
- The willingness to pay higher costs for energy, such as a surcharge on monthly utility bills to mitigate environmental impact, was also evident, although support dissipates rapidly as cost rises.
- There is recognition that Canada is too dependent on the U.S. as a market for our energy exports and more effort should be focused on reaching new markets. Aware of the role energy plays in the nation’s relationship with the U.S., Canadians believe it is important to establish “a level of independence in energy systems and markets.”⁴⁰

As the following three tables indicate, energy did not rank as a high priority relative to other issues identified by respondents. The economy was identified as the dominant issue by 22 per cent of respondents from the general population, with only two per cent citing oil-and-gas/energy prices and production, even though energy is a critical factor in economic prosperity. The environment/climate change was considered the most important issue facing Canada by five per cent of those surveyed (Table 2). The fact Canadians do not see energy as a particularly pressing issue relative to other considerations on the public agenda is no doubt a reflection of Canada’s comfortable status as a nation with significant energy-generating capacity and energy reserves.⁴¹

³⁷ Moore, Turcotte and Winter, “Aboriginal-Canadians,” Summary.

³⁸ *ibid.*, 17.

³⁹ *ibid.*, 27.

⁴⁰ Turcotte, Moore and Winter, “Energy Literacy,” 28.

⁴¹ Unlike in the U.S., where the dependence on large oil imports from unstable regions, such as the Middle East, to meet demand often drives public concern about energy security, Canada’s production in excess of domestic demand reduces public anxiety about energy supply.

**TABLE 2 MOST IMPORTANT ISSUE FACING CANADA TODAY
GENERAL POPULATION**

Economy	22%
Health Care	15%
Employment	11%
Government Spending/Debt/Deficit	8%
Environment/Climate Change	5%
Poverty/Homelessness	4%
Pensions/Retirement	3%
Taxes	3%
Oil and Gas/Energy Prices and Production	2%

Source: André Turcotte, Michal C. Moore and Jennifer Winter, "Energy Literacy in Canada," University of Calgary School of Public Policy Research Paper 5, 32 (University of Calgary, October 2012), Appendix A, Question A1.

The ranking among business and policy leaders of the most important issues facing Canadians was not significantly different from that of the general population. Oil, gas, energy prices and production were well down the list, with only three per cent ranking it as the most important issue (Table 3). The ranking of the top three issues of policy and business leaders was consistent with that of the general population, although the economy was more dominant and health care slightly less so than among the general population.

**TABLE 3 MOST IMPORTANT ISSUE FACING CANADA TODAY
BUSINESS AND POLICY LEADERS**

	Overall	NFLD	Atlantic	QC	ON	MB	SK	AB	B.C.	North
Economy/World Economy	29%	22%	37%	25%	45%	30%	21%	31%	24%	27%
Health Care	12%	23%	15%	10%	3%	7%	15%	10%	11%	13%
Employment/ Unemployment/Jobs/ Wages	10%	10%	12%	10%	17%	5%	5%	8%	13%	7%
Pensions/Retirement/ Aging Population	9%	7%	3%	10%	7%	10%	15%	13%	8%	10%
Government Spending/ Deficit/Debt	7%	3%	5%	8%	3%	12%	8%	8%	8%	7%
Conservatives/Current Gov't/Politicians	6%	7%	3%	13%	2%	5%	16%	1%	6%	5%
Environment/Climate Change	5%	5%	5%	3%	5%	2%	5%	8%	6%	8%
Cost of Living	4%	8%	5%	5%	3%	7%	5%	2%	1%	3%
Taxes	3%	2%	<1%	2%	3%	<1%	2%	5%	7%	3%
Oil/Gas/Energy Prices and Production	3%	3%	5%	3%	5%	3%	2%	2%	<1%	<1%
Poverty/Homelessness/ Affordable Housing	3%	2%	5%	3%	<1%	2%	<1%	2%	2%	7%
Crime/Security/Justice System/Laws	2%	2%	<1%	<1%	2%	12%	<1%	2%	<1%	2%
Don't Know/Refused	2%	2%	<1%	<1%	3%	3%	3%	2%	<1%	<1%
Sample Size (N)	589	60	60	60	60	60	61	84	84	60

Source: Michal C. Moore et al., "Energy and Energy Literacy in Canada: A Survey of Business and Policy Leadership," University of Calgary School of Public Policy Research Paper 6, 10 (University of Calgary, February 2013), Appendix A, Question A1.

In terms of First Nations and aboriginal Canadians, as Table 4 indicates, the research shows a significantly higher number who list environment/climate change as the most important issue facing Canadians compared to the general population results. The proportion of aboriginal respondents who cited environment/climate change as the most important issue was 15 per cent, or three times the number in the survey of the general population and business and policy leaders. Given that many First Nations have economies based on traditional activities such as hunting, trapping and fishing, the high sensitivity to environmental issues is not surprising.

**TABLE 4 MOST IMPORTANT ISSUES IN CANADA
ABORIGINAL-CANADIANS AND CANADIANS OVERALL**

"In your opinion, what is the most important issue facing Canada today?"	Aboriginal Survey* (N=300)	General Population Survey** (N=1,508)
Economy/World Economy	16%	22%
Environment/Climate Change	15%	5%
Health Care	8%	15%
Employment/Unemployment/Jobs/Wages	8%	11%
Government Corruption/Dishonesty	7%	2%
Poverty/Homelessness/Affordable Housing	6%	4%
Leadership/National Vision Needed	6%	<1%
Conservatives/Current Gov't/Politicians	5%	2%
Government Spending/Deficit/Debt	4%	8%
Oil/Gas/Energy Prices and Production	3%	2%
Aboriginal/Native Issues/Land/Treaties	3%	<1%
Cost of Living	2%	1%
Immigration/Foreign Workers	2%	2%
National/Provincial Unity	2%	<1%
Loss of Canadian Identity/Way of Life/Liberties	2%	<1%

* Source: Michal C. Moore, André Turcotte and Jennifer Winter, "Aboriginal-Canadians and Energy Literacy: A Survey of Opinions and Thoughts on Energy," University of Calgary School of Public Policy Research Paper 7, 6 (University of Calgary, February 2014), Appendix C, Question A1.

** Source: André Turcotte, Michal C. Moore and Jennifer Winter, "Energy Literacy in Canada," University of Calgary School of Public Policy Research Paper 5, 32 (October 2012), Appendix A, Question A1.

This greater sensitivity to environment and climate change issues is consistent with evidence that indicates climate change over the past several decades has had adverse impacts on aboriginal Canadians, particularly in the North. Another important issue is contamination of lakes and rivers due to growing industry in and around aboriginal communities. Estimates suggest that 70 per cent of aboriginals in the North harvest natural resources through hunting and fishing, almost entirely for subsistence purposes.⁴² The vulnerability of aboriginal Canadians arising from environmental changes is compounded by the tendency for this population to have limited access to health services, poorer-quality

⁴² Statistics Canada, "Aboriginal Peoples Survey: Well-Being of the Non-Reserve Aboriginal Population" (Ottawa: Statistics Canada, 2001).

housing, and more ongoing public-health concerns related to a higher risk of infection outbreaks and poor-quality drinking water.⁴³

One clearly unifying theme was the benefit of greater energy efficiency to offset rising energy costs. Fully 65 per cent of aboriginal people surveyed indicated that their energy costs have gone up significantly (31 per cent) or slightly (34 per cent) in the last two years. Aboriginal people in rural locations are more affected by energy-system price changes, in part because they tend to be more isolated, with fewer energy-source choices and with energy producers who must ship products longer distances.⁴⁴ Among the general population, most Canadians have taken steps to change their behaviour to reduce their energy consumption, as indicated in Table 5 below.

**TABLE 5 BEHAVIOURAL CHANGES
GENERAL POPULATION (99 PER CENT RESPONDENTS)**

Replaced all light bulbs with energy-efficient light bulbs	66%
Reduced household waste by at least 50%	59%
Reduced power consumption at home by at least 30%	49%
Keep thermostat at 18 C or less during winter	48%
Buy local produce in season and can/store it	43%
Spend less than five minutes in shower, with no baths	43%
Cut driving by at least 50%	32%
Reduced air travel by at least 50%	27%
Bought a more energy-efficient vehicle	24%
Taking public transit every day	19%
Paid \$250 for a home energy audit	9%
None/Don't know	5%

Source: André Turcotte, Michal C. Moore and Jennifer Winter, "Energy Literacy in Canada," University of Calgary School of Public Policy Research Paper 5, 32 (October 2012), Appendix A, Question C4.

In terms of the business sector, the control or management of energy is an important input cost that has far-reaching effects on productivity, competitiveness, profits and, ultimately, the viability of an enterprise. As Table 6 shows, business respondents identified multiple ways that rising energy costs impact their operations. The linkage between energy costs and competitiveness becomes even more acute in what is an increasingly competitive global economy.

For its part, the IEA maintains that the broader benefits of energy efficiency can be quantified. It identifies specific benefits and, in fact, says there has been an underestimation of the full benefits of energy efficiency and conservation. It argues "the traditional focus on energy savings as the main goal of energy-efficiency policy has, at times, led to an underestimation of the full value of energy efficiency in both national and global economies. Energy efficiency can bring multiple benefits, such as enhancing the sustainability of the energy system, supporting strategic objectives for economic and social

⁴³ C. Furgal and J. Seguin, "Climate Change, Health, and Vulnerability in Northern Aboriginal Communities," *Environmental Health Perspectives* 114 (2006): 1964-1970.

⁴⁴ Evidenced by the fact 25 per cent of aboriginal communities are off-grid and these communities account for 25 per cent of the rural aboriginal population.

development, promoting environmental goals and increasing prosperity. When the value of productivity and operational benefits to industrial companies were integrated into their traditional rate of return, the payback period for energy-efficiency measures dropped from 4.2 to 1.9 years.⁴⁵

TABLE 6 “HOW HAS THE CHANGE IN ENERGY COSTS AFFECTED DAY-TO-DAY OPERATIONS IN YOUR SECTOR?”

BUSINESS AND POLICY LEADERS, RESPONDENTS INDICATING “STRONGLY AGREE” OR “SOMEWHAT AGREE” TO CHANGES IN ENERGY COSTS AFFECTING OPERATIONS (71 PER CENT OF RESPONDENTS)

	Overall	NFLD	Atlantic	QC	ON	MB	SK	AB	B.C.	North
Increased Cost/Price/ Decreased Sales	22%	21%	8%	10%	23%	17%	37%	26%	31%	17%
Budget Changes/Reduce Other Expenses	11%	15%	14%	5%	4%	3%	14%	21%	10%	5%
More Efficient Devices/ LEED/Conserve	9%	13%	10%	23%	9%	7%	9%	3%	10%	<1%
Fuel/Gas/Travel/Transport Cost Increase	6%	4%	4%	8%	6%	7%	5%	2%	8%	14%
Affects Everything/Day to Day/All Costs	5%	2%	14%	5%	4%	7%	5%	<1%	5%	2%
More Conscious/Aware	4%	6%	2%	5%	<1%	3%	<1%	5%	5%	5%
Business Closings/Jobs Lost	3%	2%	8%	5%	6%	3%	<1%	3%	2%	<1%
Use Machines Less/Change Schedule	3%	<1%	2%	<1%	15%	3%	5%	2%	2%	<1%
Reduce Product/Business Value/Exports	3%	2%	<1%	3%	6%	3%	2%	2%	2%	7%
Cost-of-Living Increases	3%	2%	<1%	<1%	4%	3%	5%	3%	2%	5%
Decrease Profits/Negative Affects	2%	<1%	4%	<1%	4%	<1%	2%	3%	<1%	7%
Slow Growth/Projects/ Development/Purchases	2%	<1%	2%	3%	<1%	3%	<1%	<1%	5%	7%
Heating Costs Increase/ Cannot Afford	2%	2%	<1%	<1%	<1%	<1%	2%	<1%	3%	7%
None/Nothing/Not Much	2%	<1%	4%	3%	2%	3%	<1%	2%	2%	<1%
Reduced Productivity/ Efficiency	1%	<1%	6%	<1%	<1%	<1%	2%	2%	2%	<1%
Turn Out Lights/Power Down	1%	4%	<1%	5%	<1%	<1%	<1%	<1%	<1%	<1%
New Sources/Resources	<1%	<1%	2%	<1%	<1%	<1%	<1%	2%	<1%	<1%
Other	4%	4%	<1%	13%	4%	<1%	5%	7%	<1%	5%
Don't Know/Refused	17%	21%	22%	13%	11%	37%	7%	17%	13%	19%
Sample Size (N)	418	47	51	39	47	30	43	58	61	42

Source: Michal C. Moore et al., “Energy and Energy Literacy in Canada: A Survey of Business and Policy Leadership,” University of Calgary School of Public Policy Research Paper 6, 10 (University of Calgary, February 2013), Appendix A, Question C2.

⁴⁵ International Energy Agency, “Capturing the Multiple Benefits of Energy Efficiency” (2014).

The other important finding, particularly in terms of building public awareness and understanding of the energy issue, relates to trust. The key to effective engagement and communication between government and the public is a trust relationship. For individuals to accept the information they receive in a manner that heightens engagement and understanding of the issue requires that they receive it from those whom they deem credible and trustworthy sources. When dealing with complex, contentious and often-conflicting issues that are part of the energy debate, there can be no advancement of the public dialogue towards consensus without credible spokespeople. As noted in the study of opinions of business and policy leaders, “the issue of trust cannot be overstated.”⁴⁶ The absence of trust can have negative consequences on investment and undermines public confidence in leadership, which makes the challenge of improving energy literacy even more challenging.

On this issue, the findings show many of the key actors in the energy debate — particularly those in the energy sector itself and, to a lesser extent, governments themselves — suffer from a significant trust deficit. Respondents in the three surveys were asked to rank groups on a trust scale of zero to 10, with zero indicating “not trustworthy at all” and 10 indicating “very trustworthy.” Table 7 shows that the trust deficit extends across the three cohort groups, with the largest lack of trust expressed towards companies and executives directly involved in the oil and gas and energy sector. The trust deficit is most evident among aboriginal Canadians. Given the long history and scope of issues between governments and aboriginal Canadians — reflected in grievances ranging from treaty rights and aboriginal title to the legacy of residential schools — the lower trust levels are not surprising. Indeed, the fact many major energy development projects occur on traditional First Nations lands and present environmental challenges to traditional First Nations economies and lifestyles, often strain relationships.⁴⁷ The low trust expressed by Canadians in general would appear to be a consequence of the nature of the policy debate, which is often drawn across regional economic lines. What is perhaps surprising is that similarly low trust levels were expressed by business and policy leaders towards oil and gas companies, energy company executives and the Canadian Association of Petroleum Producers.⁴⁸

The low priority ranking of energy across the three research papers seems inconsistent with its importance to the “Three Es” — economy, employment, environment — and the regional divisions that the debate over energy can create. It would appear this disconnect can in part be traced to the low trust levels in the oil and gas industry and its primary advocacy group. This trust deficit presents a major impediment to advancing an informed public policy dialogue on energy-related policy issues.

⁴⁶ Moore et al., “Energy and Energy,” 23.

⁴⁷ Moore, Turcotte and Winter, “Aboriginal-Canadians,” 17.

⁴⁸ Moore et al., “Energy and Energy,” 24.

**TABLE 7 “WHO DO YOU TRUST?”
PERCENTAGE OF TOTAL RESPONDENTS RANKING TRUSTWORTHINESS**

Category	No Trust (0)			Some Trust to Neutral (1-5)			Neutral to Full Trust (6-10)		
	Aboriginal Survey* (N=300)	General Population Survey** (N=1,508)	Business and Policy Leaders Survey*** (N=589)	Aboriginal Survey* (N=300)	General Population Survey** (N=1,508)	Business and Policy Leaders Survey*** (N=589)	Aboriginal Survey* (N=300)	General Population Survey** (N=1,508)	Business and Policy Leaders Survey*** (N=589)
Oil and Gas Companies	34%	26%	14%	51%	41%	54%	14%	19%	29%
Energy Executives	32%	22%	15%	52%	52%	56%	17%	21%	27%
CAPP	27%	19%	12%	48%	50%	49%	15%	24%	32%
Local Band Council	10%	n/a	n/a	45%	n/a	n/a	35%	n/a	n/a
Provincial Government	15%	13%	5%	53%	49%	41%	27%	34%	51%
Federal Government	24%	15%	9%	49%	47%	44%	23%	34%	44%
City Council	8%	8%	7%	58%	55%	49%	26%	31%	39%
Environmental Groups and Activists	6%	7%	7%	44%	40%	47%	46%	46%	42%
Community Groups and Activists	5%	5%	6%	41%	44%	49%	48%	47%	40%
Economists	8%	4%	3%	42%	39%	34%	43%	51%	59%
Academics	4%	3%	3%	30%	31%	29%	59%	58%	65%
Local Chamber of Commerce	10%	6%	4%	47%	47%	49%	32%	39%	40%

* Source: Michal C. Moore, André Turcotte and Jennifer Winter, “Aboriginal-Canadians and Energy Literacy: A Survey of Opinions and Thoughts on Energy,” University of Calgary School of Public Policy Research Paper 7, 6 (University of Calgary, February 2014), Appendix C, Questions F2.0–F2.11.

** Source: André Turcotte, Michal C. Moore and Jennifer Winter, “Energy Literacy in Canada,” University of Calgary School of Public Policy Research Paper 5, 32 (University of Calgary, October 2012), Appendix A, Questions E3.0–E.11.

*** Source: Michal C. Moore et al., “Energy and Energy Literacy in Canada: A Survey of Business and Policy Leadership,” University of Calgary School of Public Policy Research Paper 6, 10 (University of Calgary, February 2013), Appendix A, Questions G2.0–G2.11.

Canada’s near total dependence on the U.S. market for its energy exports is also generally understood by Canadians. It is seen as a dimension of energy independence for the nation in that Canada is more than self-sufficient in its energy capacity to serve the needs of Canadians. As Table 8 shows, a total of 62 per cent of respondents said that reducing our dependence on the U.S. market was either very important or somewhat important. According to the results of the general population survey, Canadians seem to be aware that, given our vast natural resources and proven reserves, Canada is energy secure. When evaluating the energy literacy of Canadians based on the survey results, the majority of respondents were aware of Canada’s energy security and the main source for oil and gas exports. This sentiment, and the need to expand Canada’s energy export market beyond the U.S., aligns closely with what has been a high policy priority for the government of Canada in recent years, as is evident in the debate around regulatory reform for major resource projects and the proposed Northern Gateway and Trans Mountain pipeline projects. The government of Canada maintains that, given that growth in global energy demand is shifting to Asia, Canada must reduce its dependence on the U.S. market by expanding its

reach into global energy markets. To do that requires development of oil pipeline projects that reach tidewater and the global market.⁴⁹

TABLE 8 IMPORTANCE OF REDUCING THE CURRENT STRONG ENERGY RELATIONSHIP WITH THE U.S. GENERAL POPULATION

Very important	23%
Somewhat important	39%
Not too important	20%
Not at all important	8%
Don't know	10%

Source: André Turcotte, Michal C. Moore and Jennifer Winter, “Energy Literacy in Canada,” University of Calgary School of Public Policy Research Paper 5, 32 (University of Calgary, October 2012), Appendix A, Question D4.

CONCLUSION AND RECOMMENDATIONS

In Canada, the importance of energy in economic, social and environmental terms is undeniable. A dependable, affordable and sustainable supply of energy is the lifeblood of an economy that meets the needs of its citizens. For those reasons, energy presents a political and, by extension, public policy challenge that must deal with multiple factors and, at times, conflicting interests. Given energy’s central role as critical to the national economy, standard of living and quality of life, an informed public dialogue is the foundation required for broadly based engagement and creation of a responsible and sustainable public policy framework.

Research into the opinions of Canadians, divided into three cohorts—general population, business and policy leaders, and aboriginal people—found broad, high-level awareness of the dimensions of energy as an issue. But it did not translate into elevating it in importance. In the context of other issues, such as the economy and health care, energy policy does not rank as a high priority for most Canadians. The cost of energy and the environmental impact resulting from energy production and generation are two aspects of energy that most Canadians identify as issues. The public’s low ranking of energy issues reflects the reality of an energy-secure nation. But it also appears to result from a lack of knowledge of the challenges required to build energy-policy consensus in Canada.

To advance the energy dialogue in Canada, it is important to recognize the barriers to greater energy literacy and the resulting policy limitations. The fundamental issue is the relationship between trust and literacy. Without public trust in the key interlocutors, there cannot be the awareness and literacy for an informed and fully engaged debate. Based on the previous research condensed in this paper, the key challenges are how to:

- elevate the level of literacy, awareness and depth of understanding of energy-policy challenges to build a public environment that supports an agenda more conducive to co-operation and collaboration;

⁴⁹ Speech by Greg Rickford, Minister of Natural Resources, Sudbury, Ont., August 25, 2014. He notes that all the increase in energy demand will from non-OECD nations.

- build trust by overcoming the credibility gap that governments and key energy-sector stakeholders face when speaking to energy issues;
- build knowledge and consensus on an issue that, for the most part, falls within provincial jurisdiction with many competing and often-conflicting provincial priorities and interests, yet is crucial to the national interest;
- keep expectations achievable by noting limited success of past efforts to coalesce opinions and create a Canadian energy framework, whether dialogue through non-government mechanisms such as the Energy Policy Institute of Canada, the International Institute for Sustainable Development and the Winnipeg Consensus, the Alberta government’s national energy strategy initiative, or the Council of the Federation; and,
- establish reasonable goals that focus on areas of common interest that avoid jurisdictional conflicts that often derail efforts to build a national approach in developing a dialogue and action on energy.

Based on these realities, as well as recognition of the history of what has often been the divisive nature of the energy debate in Canada, the policy objectives should be kept modest and therefore achievable. In the past, ambitious national energy initiatives have faltered due to lack of public trust and the divisions inherent in regional economic interests. The overarching goal should be a public that is more informed about the importance of energy to the standard of living and quality of life in Canada, as well as the complexities and trade-offs required to maximize the economic benefits, while meeting environmental goals and respecting the rights of First Nations and aboriginal people who are often directly affected by energy development projects.

These are issues that often divide the nation on regional, economic and political lines. They are reflected in the effects of an over-reliance on oil and gas extraction, which some argue leads to economic distortions, often referred to as “Dutch disease” caused by an overvalued “petrocurrency” during periods of high oil and gas prices which results in a weakening of the manufacturing export sector.⁵⁰ The petrocurrency argument has been underscored for some by the recent and rapid decline in the Canadian dollar vis-à-vis the U.S. dollar, concurrent with the collapse in world oil prices. Complicating the goal of raising energy literacy and awareness is the lack of public trust in key players engaged in the debate, particularly those representing the energy sector itself.

Credible information is a key behavioural determinant in building support for public policy. A more informed public engaged in energy choices that affect it directly, creates greater legitimacy and space for policy-makers to more confidently address often-divisive energy issues.

To achieve that goal, the following recommendations are proposed:

- The lack of trust evident in the research must be addressed. To do that requires energy information and analysis for the public that is recognized as independent, accurate and data-based. A single repository of energy information would help build

⁵⁰ When oil prices were at their peak in 2013–14, debate emerged in Canada over how much of a high Canadian dollar at the time (vis-à-vis the U.S. dollar) was a result of Canada’s economic over-reliance on oil and gas extraction.

the necessary trust, which in turn would increase literacy. Therefore, consideration should be given to establishing an independent online source for the public to access relevant and expert energy information. Currently, energy information is scattered across multiple channels, such as Natural Resources Canada, Statistics Canada, the National Energy Board, provincial governments, industry associations and other stakeholders. Research clearly indicates that a significant number of Canadians lack confidence with many current sources of energy information, and expressed the greatest trust in information from non-aligned groups such as academics and community organizations. An independent source of expert information that is seen to include the full spectrum of voices engaged in the energy debate would be a source for the media and, by extension, help raise public awareness and literacy. Ideally, a central, independent source of relevant and balanced energy information would be a sustainable energy institute or centre funded by governments and located at a post-secondary institution. Another possible model would be a Canadian version of the U.S. Energy Information Administration, which is widely seen as a trustworthy source that provides independent statistics and analysis.

- The often-divisive nature of the energy dialogue in Canada, where competing interests can make policy consensus elusive, speaks to the need for a vehicle that brings together the actors in a search for common ground. Recognizing the interconnected interests, a national sustainable energy coalition that includes aboriginal Canadians, economic and environmental academics, former senior public servants, as well as respected national and regional opinion leaders, could provide a forum for a dialogue that helps shape consensus. The group could serve as an advisory board to a new sustainable energy institute funded by federal and provincial governments and help stimulate dialogue and debate on broader energy issues.
- Governments should keep objectives modest and should focus on common energy interests that form the basis for a realistic and achievable national public policy platform. Specifically, attention should centre on energy-efficiency measures, which, based on survey research, have wide public support and do not raise jurisdictional conflicts between federal and provincial governments. With the cost of energy being a significant factor for individual Canadians, family households and business, a national energy-efficiency strategy would allow the federal government and provinces to rally around policies that bring benefits to Canadians and improve the efficiency and competitiveness of Canadian industry and business. For the federal government, energy efficiency as part of a focus on responsible energy use would be consistent with the thematics of its Responsible Resource Development initiative, which is founded on the notion of a responsible approach to resource policy. The benefits of energy efficiency are clearly identified by the International Energy Agency, which says “energy efficiency has the potential to support economic growth; enhance social development, advance environmental sustainability, ensure energy-system security and help build wealth.”⁵¹
- Seek to engage Canadians through an approach of depoliticized national and personal interest that avoids political or regional division. The energy issue needs to be

⁵¹ International Energy Agency, “Energy efficiency: a key tool for boosting economic and social development,” (September 2014).

linked to economic self-interest and environmental responsibility, which is achieved through more efficient and reduced use of energy that delivers both financial and environmental benefits. Doing so would raise awareness and literacy of energy issues, specifically the sources of energy, their costs and environmental consequences.

- Frame the dialogue in national-interest terms. Doing so incorporates the importance of energy-market diversification to the Canadian economy, the need for environmental policies that meet our domestic needs and international obligations, and recognizes the importance of First Nations and aboriginal people as part of energy policy development.

With Canada being a major energy producer and exporter, the need for the public to be informed and engaged on energy issues is crucial. Major shifts unfolding in the global energy market, the need for Canada to expand its energy-market reach, the necessity to address concerns of First Nations and aboriginal Canadians impacted by energy development, along with rising global concern over climate change, all present a complex policy environment for governments. Raising public awareness of the range of issues and linking that to the individual and collective benefits derived from a more energy-efficient economy will help create a public environment that will help support policies and help ensure a sustainable and growing Canadian energy economy.

About the Author

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