

## ENERGY AND ENERGY LITERACY IN CANADA: A SURVEY OF BUSINESS AND POLICY LEADERSHIP<sup>†</sup>

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### SUMMARY

Lots of people have opinions about Canadian energy, how we use and export it, its costs and its impacts on the environment. In the end, however, it is leaders in business and policy circles whose opinions can have a greater impact on influencing how the rest of us think about energy, and ultimately, how our national energy picture eventually unfolds. Remarkably, however, a survey of leaders in business and policy-making across the country finds that their knowledge about Canadian energy systems is not that much deeper or different than the Canadian public at large. Their opinions about how we should use, conserve and export energy are also strikingly similar.

Anyone presuming that leaders in business and policy have a firm understanding of how Canadians get their energy might be startled to discover that, in Ontario, Alberta, the Atlantic region and Saskatchewan, a substantial fraction of these “elite” survey respondents incorrectly identify the primary resource used for energy in their province.

Nor are business and policy leaders the ardent free traders some of us might expect when it comes to energy exports and imports. While an overwhelming majority (89 per cent) of survey respondents considered it important or at least somewhat important to decrease Canada’s reliance on the U.S. market for our exports, 56 per cent of those surveyed also advocated for more Canadian energy independence, even if it meant reduced revenue for the Canadian economy. Not only that, but they largely believed that eliminating energy imports and relying exclusively on Canadian sources would somehow result in an overall drop in energy costs.

Furthermore, a strong majority of policy-makers and business leaders had a general agreement that it was worth bearing higher energy costs in the future if it resulted in better environmental quality.

Additionally, when it came to evaluating who they could trust for reliable information about energy, business and policy-making elites proved just about as skeptical as the general public when it came to companies, industry groups and government officials, ranking all three fairly weakly on trustworthiness. They saw academics and economic experts as slightly more trustable sources for information, though even those sources had limits. And while environmental and community groups and activists were given generally middling scores for trustworthiness, business leaders, interestingly enough, actually ranked these activist groups as just a bit more reliable than did policy-makers.

Finally, a clear preference in both groups was revealed for more planning and systematically adapting to changing energy markets and environmental conditions through the development of some form of public policy energy strategies.

<sup>†</sup> The authors are grateful to an anonymous referee whose comments substantially improved this paper.

## INTRODUCTION

Energy literacy is a term that reflects a composite of the consumer's values and knowledge regarding the energy system that supports daily activity in the home, commerce and industry. This survey and report complement an earlier pan-Canadian household survey that developed baseline information regarding consumer attitudes, understanding of the energy system, and demand characteristics exhibited by consumers. The second survey concentrates on business and policy leaders across the country, where the intent is to understand attitudes regarding energy use as well as investments and practices that are related to overall energy demand. As well, since this survey is focused on those in leadership positions, we hope to understand more about this cadre of respondents and their forecast for future costs and investment trends.

The importance of studying elite opinion has been repeatedly established in academic literature. One needs to go back to Vilfredo Pareto and Gaetano Mosca at the turn of the 20th century to see a clear distinction made between elite and mass opinion. Theoretically, elite opinion is deemed more influential as it possesses the capacity to affect policy decisions. Moreover, as Lazarsfeld's two-step "flow of communications" argues, elite opinion also has the ability to influence mass opinion. Hence, the importance of studying what elites<sup>1</sup> think and know about specific issues. Furthermore, as Hoffmann-Lange stated<sup>2</sup>: "compared to public opinion surveys, elite surveys have been relatively rare and the number of studies that have included both elite and non-elite respondents is even smaller." The current project was designed as a step towards rectifying that situation, at least with regards to issues related to energy in Canada.

## Background

In 2012, The School of Public Policy initiated a series of public opinion polls designed to investigate the level of public understanding and comprehension of energy issues throughout Canada, effectively establishing a standard of energy literacy. The first survey<sup>3</sup> targeted a broad selection of households throughout the country. It was followed by a special and limited survey of Alberta voters<sup>4</sup> who had recently voted in a pivotal provincial election, arguably representative of attitudes in the country's most energy-focused province. This third survey focuses on a more limited but influential group: business and policy leaders throughout the country, including the territories.

The focus continues to be energy knowledge and opinions about use, but the results are useful in an entirely different way, since the individuals and groups surveyed represent an elite sub-section of the population, namely those who are opinion-makers and thought-leaders in society. The results describe yet another spectrum of energy literacy and public policy formation.

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<sup>1</sup> A group of people considered to be the best in a particular society or category.

<sup>2</sup> Ursula Hoffman-Lange, "Studying Elite vs Mass Opinion," in *The SAGE Handbook of Public Opinion Research*, ed. Wolfgang Donsbach and Michael W. Traugott (London: SAGE Publications, 2007).

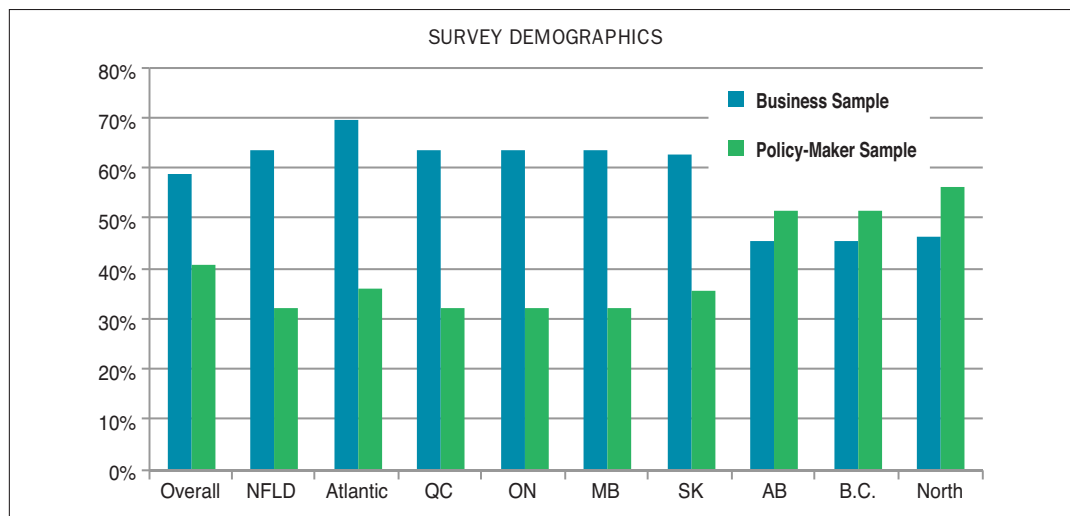
<sup>3</sup> A. Turcotte, M.C. Moore and J. Winter, "Energy Literacy in Canada," University of Calgary, *The School of Public Policy Research Papers* 5, 32, (2012).

<sup>4</sup> M.C. Moore and J. Winter, "Green Jobs in Alberta," Draft paper, The University of Calgary, School of Public Policy, 2013.

The survey was conducted in July 2012. A total of 589 individuals were interviewed for this phase. Specifically, 348 business leaders and 241 policy leaders participated in the study. Interviews were conducted by telephone or through a secure online website, as per the participants' preferences. The study reached out to elites (leaders) in all 10 provinces as well as in the Yukon, Nunavut and the Northwest Territories ("The North").

Business leaders were drawn from a national pool of executives and managers in a wide range of enterprises who had decision-making authority in their field; policy-makers were drawn from a pool of public-agency and non-profit, public-policy institutions who had authority to approve investments or had knowledge of energy investments in their field of interest (respondent categories by percentage are included in Appendix B). This category is portrayed as an "elite" group in recognition of the leadership role and responsibility for expenditure of funds, or for decision-making authority in their respective fields.

**FIGURE 1: DISTRIBUTION OF SURVEY RESPONDENTS BY GEOGRAPHY AND POSITION AS PERCENTAGE OF TOTAL SAMPLE**



## The Role of Energy

Undeniably, energy plays a critical role in the lives of all Canadians. It is a principal and primary export product — from raw fuels to upgraded, finished products — and is ubiquitous in the majority of economic activities. As such, it supports a large fraction of the Canadian economy. As well, considering the challenging range of climatic conditions in Canada, and the cost of delivering energy to consumers across large distances, citizens and decision-makers are very aware of energy and energy use as a key element of all economic decisions. As this survey — and the previous household survey — shows, Canadians are aware of, and feel generally connected to, the issues of environmental quality associated with energy extraction, processing and use.

Recent policy statements by the federal government suggest that the goal of Canada becoming a world energy superpower<sup>5</sup> is both accessible and desirable. This is a goal that cannot be reached without consistent, informed and sustainable public support. Implied in the previous statement is the idea that citizens who are well informed about energy costs, access demands, reliability and externalities, will play a more positive role in the formation and implementation of energy policy, whether at the federal or provincial level. The upshot can be a broad, interconnected system of policy prescriptions, investment incentives and environmental standards that will stand for long periods of time with high levels of public support.

This paper is organized into five parts. First, we describe the public-opinion environment and the level at which elites are concerned about energy. We then turn our attention to what business and policy leaders know about energy in various forms. The subsequent two sections look at policy concerns and future considerations. We are then in a position to draw conclusions about elite opinion on energy-related issues in Canada.

## THE PUBLIC-OPINION ENVIRONMENT

### Salient Concerns

The most important issues facing Canadians today, according to our sample, are health care and the state of the economy (Table 1). This view is shared nearly evenly between business (26 per cent) and policy leaders (32 per cent) and was dominant across the provinces. In aggregate, respondents were also concerned about job-related issues (10 per cent), pensions (nine per cent) and government spending (seven per cent), although there is distinct variation in these percentages across provinces. The environment (five per cent) was cited as the seventh most important issue, and energy (three per cent) ranked 10th.

**TABLE 1: WHAT IS THE MOST IMPORTANT ISSUE FACING CANADA TODAY?**

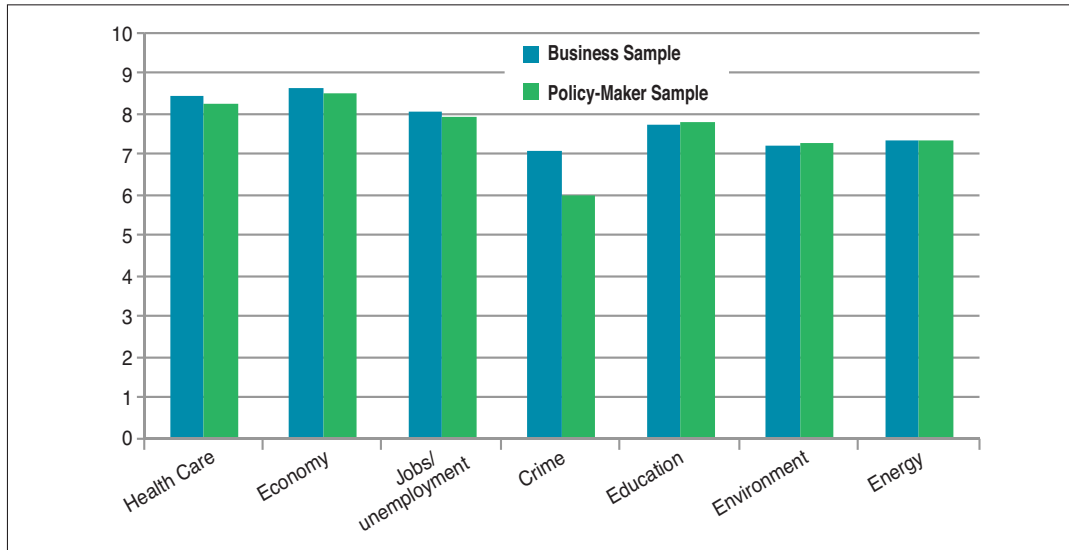
	Overall	NFLD	Atlantic	QC	ON	MB	SK	AB	B.C.	North
Economy/World Economy	29%	22%	37%	25%	45%	30%	21%	31%	24%	27%
Health Care	12%	23%	15%	10%	3%	7%	15%	10%	11%	13%
Employment/Unemployment/Jobs/Wages	10%	10%	12%	10%	17%	5%	5%	8%	13%	7%
Pensions/Retirement/Aging Population	9%	7%	3%	10%	7%	10%	15%	13%	8%	10%
Government Spending/Deficit/Debt	7%	3%	5%	8%	3%	12%	8%	8%	8%	7%
Conservatives/Current Govt/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

<sup>5</sup> “PM pitches Canadian energy,” *Toronto Sun*, Feb. 10, 2012, <http://www.torontosun.com/2012/02/10/harper-ties-chinese-energy-exports-to-support-for-fundamental-freedoms>; and “Canada: An Emerging Energy Superpower?” *The Mark*, Nov. 8, 2012, [http://www.themarknews.com/articles/canada-an-emerging-energy-superpower/#.UQg6S7-\\_J8E](http://www.themarknews.com/articles/canada-an-emerging-energy-superpower/#.UQg6S7-_J8E).

## Latent Concerns

Figure 2 displays the average importance scores for typical “political” issues in Canada. When asked to rate the importance of a series of specific issues, using a scale of zero to 10, where zero is “not at all important” and 10 is “very important,” business leaders (with an average rating score of 7.37) and policy leaders (with 7.38) continue to consider energy as a second-tier issue at best — behind the economy, jobs and health care.

**FIGURE 2: AVERAGE SCORE FOR IMPORTANCE OF ISSUES (SCALE OF 0 TO 10)**



Breaking down the importance scale into subcategories of importance, 82 per cent of respondents indicated that energy is either very important (30 per cent) or somewhat important (52 per cent). As demonstrated in Figure 3, the level of importance — “very” plus “somewhat” important — was fairly consistent across the country with the notable exceptions of Saskatchewan (88 per cent), Newfoundland (88 per cent), and the Atlantic provinces (90 per cent), where the importance of energy rated comparatively higher. Respondents in Manitoba ranked the level of importance of energy the lowest by far, at 71 per cent.

**FIGURE 3: IMPORTANCE OF ENERGY BY REGION**

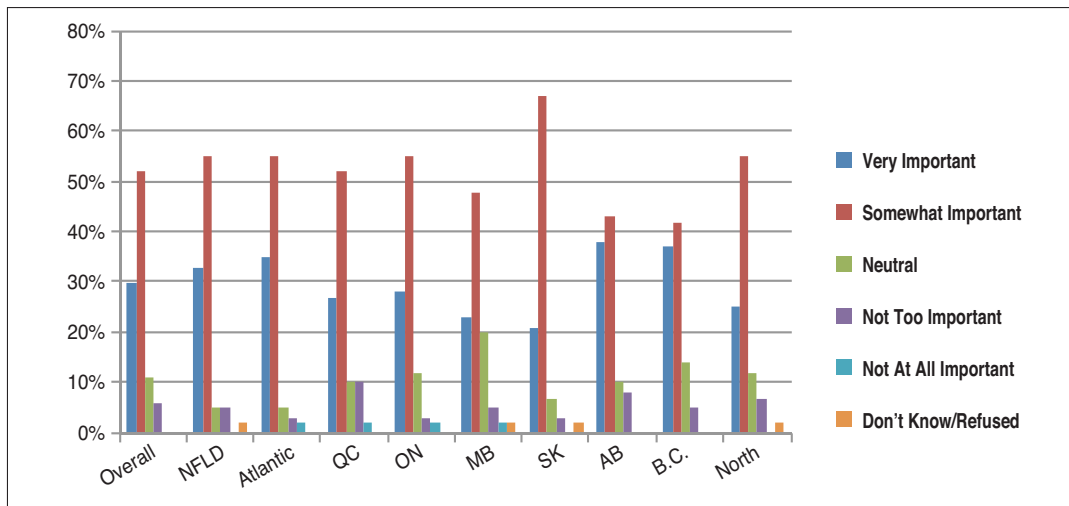


Table 2 displays the energy sector's share of GDP by province as well as the share of mining, quarrying and oil and gas extraction for 2011. Somewhat surprisingly, the importance of energy as an issue does not appear to be related to its importance in provincial economies. Energy importance ranks high in Newfoundland and Saskatchewan, which are energy-intensive economies, but also ranks high in the Atlantic provinces, where energy represents only a small share of the economy.

**TABLE 2: IMPORTANCE OF THE ENERGY SECTOR**

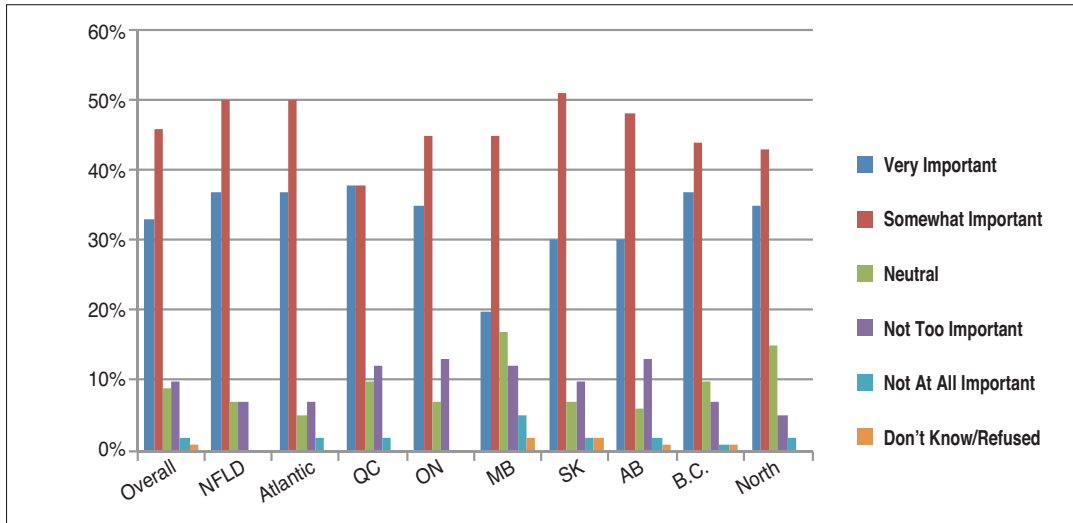
	Percentage of respondents ranking energy as "very important" or "somewhat important"	Percentage Share of GDP (2011)	
		Energy sector <sup>6</sup>	Mining, quarrying, and oil and gas extraction
Newfoundland and Labrador	88	34.79	40.82
Prince Edward Island	90	-	0.06
Nova Scotia	90	3.69	1.54
New Brunswick	90	6.28	3.47
Quebec	79	4.48	1.38
Ontario	83	2.42	1.1
Manitoba	71	5.97	4.38
Saskatchewan	88	25.04	28.41
Alberta	81	28.19	24.83
British Columbia	79	7.16	4.98
Yukon	80	1.43	20.34
Northwest Territories	80	12.29	34.34
Nunavut	80	-	19.32

Source: CANSIM Table 379-0028

In comparative terms, we see that latent concern about the environment is similar to concern about energy (Figure 4). As the figure below indicates, 79 per cent of those interviewed believe the environment is "very important" (33 per cent) or "somewhat important" (46 per cent). As was the case with energy, concern over the environment is fairly consistent across the country. Concern is lowest in Manitoba, with a 65 per cent importance rating, and again high in Newfoundland (87 per cent) and the Atlantic provinces (87 per cent).

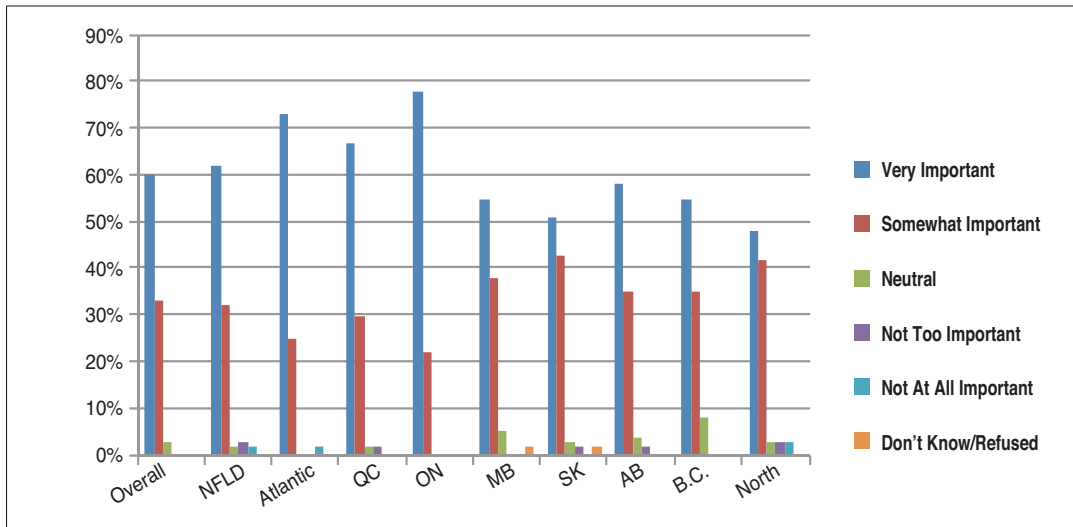
<sup>6</sup> This combines the North American Industry Classification System (NAICS) codes 211, 2121, 21229, 21311A, 2211, 2212, 32411, 32419, 486.

**FIGURE 4: IMPORTANCE OF THE ENVIRONMENT BY REGION**



However, concern over the economy dominates the opinions of respondents, superseding both energy and the environment. Respondents were almost unanimous in stating the importance of the economy (93 per cent). However, respondents in the eastern parts of the country were more likely to perceive the economy as a “very important” issue than were their western counterparts. The sums of scores for the importance of the economy were generally higher in provinces east of Manitoba.

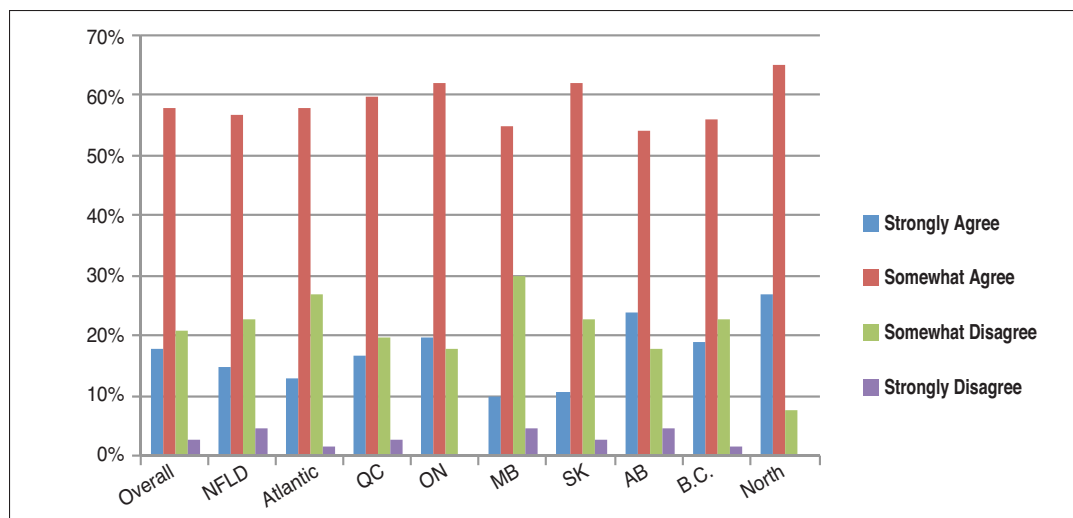
**FIGURE 5: IMPORTANCE OF THE ECONOMY BY REGION**



## LEVEL OF KNOWLEDGE

Elite respondents were then asked a series of questions that allowed them to express what they knew or professed to know about energy characteristics, including energy generation, distribution, use, conservation and byproducts or waste. We began our inquiry by asking business and policy elites whether they agree with the statement: “I have a good understanding of energy issues in Canada.” Three-quarters (76 per cent) of respondents either strongly agree (18 per cent) or somewhat agree (58 per cent) with the statement. Policy leaders (86 per cent) were more likely than business leaders (70 per cent) to be confident in their personal level of knowledge about energy, even though the number of business respondents is larger. Little regional variation can be observed on that particular dimension.

**FIGURE 6: OWN OVERALL UNDERSTANDING OF ENERGY ISSUES**



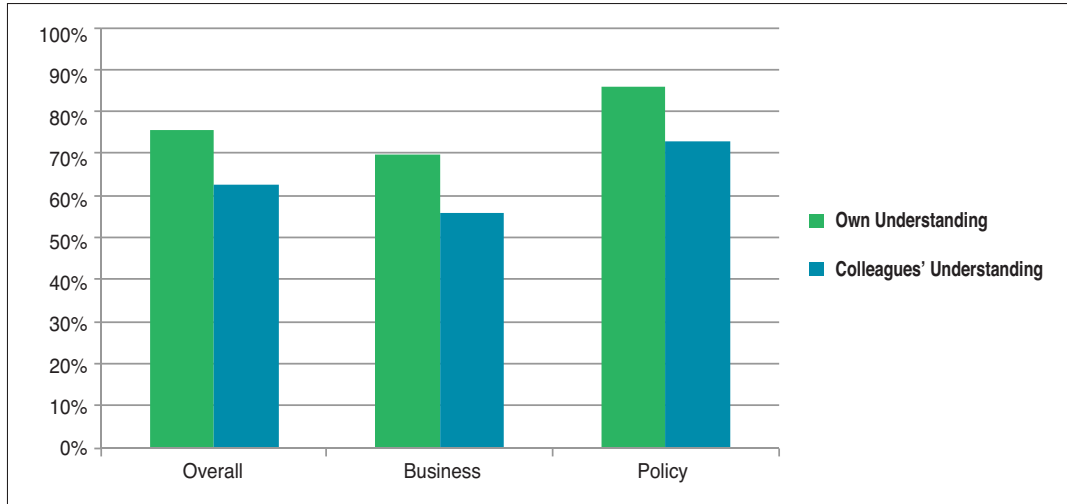
As a follow-up query, we asked respondents to appraise the level of energy knowledge of their peers. Interestingly, respondents are more confident in their personal level of knowledge than that of their colleagues. This mirrors responses from the first survey, where the average respondent considered himself/herself to be better informed than other Canadians.

Some 63 per cent of respondents “strongly agree” (10 per cent) or “somewhat agree” (53 per cent) that “leaders in my sector have a good understanding of energy issues in Canada.” Looking at the gap between personal and peer level of knowledge, we see that while 70 per cent of business leaders are confident in their level of personal knowledge about energy issues, only 56 per cent of them have the same confidence in their colleagues. A similar gap exists amongst policy-makers. While 86 per cent feel they have a good level of knowledge about energy issues, comparatively fewer (73 per cent) think the same of their colleagues. In other surveys this is a relatively strong indicator of respondents’ revealed preferences, that is, it is more likely to represent their real confidence levels in knowledge.<sup>7</sup>

<sup>7</sup> B. Walp and M. Moore, Riverside County Citizen Survey, Opinions on Open Space Ballot Initiative, Riverside, California, June 1989.



**FIGURE 7: AGREEMENT<sup>8</sup> WITH “GOOD UNDERSTANDING OF ENERGY ISSUES IN CANADA”**



When our analysis was broadened to ask what respondents thought were the major areas of misunderstanding about energy, the top three categories included: the impacts of generation and pollution (14 per cent); understanding solutions, including conservation potential (11 per cent); and a lack of currency in energy information (10 per cent). The percentage of respondents in these categories were not evenly balanced. Business and policy leaders were split on the perceived misunderstandings by others of the environmental impacts of generation and pollution (11 per cent for business respondents; 20 per cent for policy); they responded similarly on perceived misunderstandings around energy solutions (11 per cent; 11 per cent); and split again on the question of keeping informed on energy issues (six per cent; 18 per cent).

**TABLE 3: ENERGY MISUNDERSTANDING BY OTHERS**

	Overall	Business	Policy
Environmental Impact of Generation/Pollution	14%	11%	20%
What Can Be Done/Why/How to Conserve	11%	11%	11%
Not Being/Keeping Informed/Educated	10%	6%	18%
Don't Realize Not Limitless/Will Run Out	9%	10%	8%
The Real Cost of Green Energy	9%	9%	8%
Why Sell Power/Sell Cheaper Than Cost	7%	10%	2%
Costs-Why So Expensive to Produce	6%	8%	3%
How Much Is Used/How Much Is Wasted	4%	5%	2%
Where Energy Comes From/How Produced	4%	3%	5%
Everything	2%	1%	5%
Difference Between/Different Sources	2%	2%	3%
Importance of Change/New Policy	2%	<1%	6%
All About Greed/Profit	2%	3%	<1%
Distribution/How It Is Distributed	1%	1%	2%
Other	1%	<1%	5%
Don't Know/Refused	15%	19%	5%

<sup>8</sup> Includes both “strongly” and “somewhat” agree.

## Knowledge of Specific Energy Characteristics

Energy issues are well reported and discussed in various media throughout Canada. This is not surprising considering the role of energy in the economy, and the diversity of those reporting or commenting allows a high degree of comparison and, ultimately, tests of veracity. Before we explore the level of specific knowledge about energy amongst business and policy leaders, it is worth understanding where the elites in this country obtain their information on this topic and what they perceived as the gaps in the availability of pertinent information.

While television remains the main source of information, Table 4 shows that the Internet is poised to rise to the top spot and has clearly eclipsed newspapers — both national and local newspapers combined. In fact, the Internet is already the main source of information amongst the respondents in the North, B.C., Alberta and Manitoba.

**TABLE 4: MAIN SOURCES OF INFORMATION**

	Overall	NFLD	Atlantic	QC	ON	MB	SK	AB	B.C.	North
Television	22%	35%	18%	40%	17%	17%	28%	20%	14%	8%
Internet - General	21%	15%	17%	25%	13%	25%	16%	21%	21%	30%
National Newspapers	11%	3%	8%	13%	27%	7%	7%	6%	17%	12%
Government Reports	10%	12%	12%	5%	8%	10%	10%	10%	15%	10%
Local Newspapers	7%	8%	17%	5%	3%	15%	8%	6%	4%	<1%
Industry Reports	7%	7%	5%	<1%	8%	7%	8%	13%	4%	10%
Websites	4%	7%	5%	2%	5%	2%	2%	2%	4%	8%
Radio	4%	<1%	8%	5%	<1%	3%	8%	5%	2%	2%
All Combination	3%	7%	<1%	2%	5%	2%	3%	2%	5%	3%
Magazines	2%	2%	3%	<1%	3%	<1%	2%	1%	1%	3%
Through Job/Employment	1%	<1%	3%	<1%	2%	2%	<1%	2%	1%	2%
Personal Research/Knowledge	1%	<1%	<1%	<1%	2%	2%	3%	1%	<1%	2%
Blogs	1%	<1%	<1%	<1%	3%	2%	2%	1%	<1%	2%
Academic Journal/Articles	1%	<1%	<1%	<1%	<1%	2%	<1%	<1%	2%	2%
Other	1%	2%	2%	<1%	<1%	<1%	<1%	<1%	2%	<1%
None	2%	2%	<1%	3%	2%	7%	<1%	2%	2%	<1%
Don't Know/Refused	3%	2%	2%	<1%	2%	<1%	3%	6%	5%	7%

In addition to being asked about sources of information, respondents were asked about their satisfaction with the amount of information currently available on energy issues. Satisfaction is generally high (73 per cent of those responding were “very” or “somewhat” satisfied with their sources, although only 11 per cent of respondents indicated they were “*very satisfied*” with information available); a surprising segment of the sample felt they were not satisfied (23 per cent of the total sample). For those who were “not very” or “not at all” satisfied, the gaps most apparent in sources were in four key areas (shown in Table 5 below): cost/prices, effects on research and future development, conservation and alternative energy solutions. A significant fraction indicated that there was not enough realism or non-biased, fact-based information available.

**TABLE 5: WHAT SPECIFIC INFORMATION ON ENERGY ISSUES WOULD YOU LIKE TO HAVE AVAILABLE?**  
**For Respondents Who Indicated “Not Very” and “Not At All” Satisfied (27% of Respondents)**

	Overall	NFLD	Atlantic	QC	ON	MB	SK	AB	B.C.	North
Cost/Prices/Consumption/Subsidy/Profit	17%	21%	<1%	14%	21%	21%	33%	6%	15%	23%
Impact Research/Future Development/Need	14%	7%	25%	9%	21%	14%	17%	6%	15%	15%
Conservation/Energy Solution/Alternative Sources	14%	14%	8%	14%	21%	14%	<1%	6%	19%	23%
Only Facts/Non-Biased/Realistic	14%	<1%	17%	23%	11%	7%	22%	13%	11%	15%
Everything/All Info/In Detail	7%	14%	<1%	9%	11%	14%	<1%	13%	4%	<1%
Production/Distribution/Other Processes	2%	7%	<1%	<1%	<1%	<1%	<1%	6%	4%	<1%
None/No More	2%	<1%	<1%	5%	<1%	<1%	<1%	13%	<1%	<1%
Other	6%	<1%	8%	14%	5%	<1%	11%	6%	7%	<1%
Don't Know/Refused	24%	36%	42%	14%	11%	29%	17%	31%	26%	23%

A significant segment of the survey population strongly agree (43 per cent) or somewhat agree (49 per cent) with the statement that the level of public awareness should be increased with regard to energy issues. There was very little difference of opinion on this need between groups, and there is some congruence on the types of programs that would be recommended for achieving this goal.

**TABLE 6: WHAT SPECIFIC MEASURES DO YOU RECOMMEND TO INCREASE PUBLIC AWARENESS OF ENERGY ISSUES?**

	Overall	NFLD	Atlantic	QC	ON	MB	SK	AB	B.C.	North
Comm Project/Campaigns/Education/Forum	10%	3%	10%	6%	11%	16%	11%	11%	6%	16%
Future Plan/Cost/Conservation/Prod. Info	9%	7%	14%	7%	9%	2%	7%	7%	11%	12%
True/Fact-Based Info/Discussion	8%	10%	10%	6%	9%	5%	7%	7%	13%	5%
Info-TV/Radio/Magazine/Media/Newspaper	8%	12%	7%	15%	4%	5%	9%	9%	5%	11%
Report/Academic Paper/Gov't-Industry Statement	7%	9%	5%	6%	5%	<1%	4%	9%	14%	7%
Advertisement/Marketing	6%	12%	2%	6%	11%	9%	5%	4%	1%	4%
Educate The Young/Children/Schools	3%	3%	3%	4%	<1%	<1%	5%	3%	5%	<1%
Brochures/Direct Mail/Flyers/Handouts	2%	2%	2%	2%	7%	4%	<1%	1%	3%	<1%
More Info (Gen)/Online/Websites	2%	<1%	3%	2%	5%	2%	<1%	1%	3%	2%
Nothing/Can't Educate People	1%	<1%	2%	<1%	2%	<1%	<1%	3%	3%	4%
Scare/Cut Power/Incearse Cost/Consequence	1%	2%	<1%	4%	<1%	<1%	<1%	<1%	3%	5%
Public Responsible For Learning	1%	2%	<1%	2%	<1%	2%	<1%	3%	<1%	<1%
Other	5%	3%	3%	17%	9%	7%	<1%	3%	3%	2%
Don't Know/Refused	37%	34%	39%	26%	30%	49%	51%	39%	33%	33%

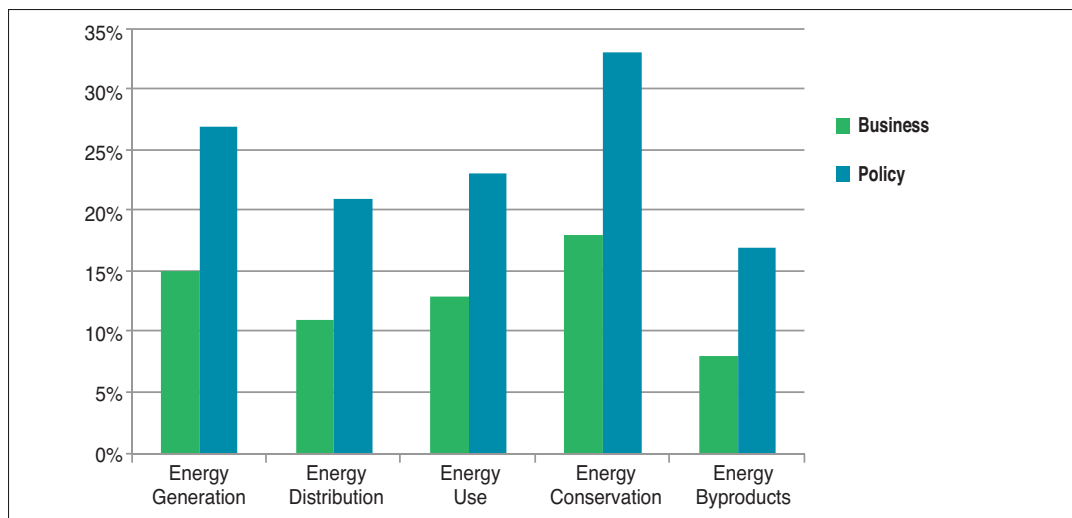
Given that there is some dissatisfaction with the availability of information about energy-related issues, we turn our attention to specific knowledge about energy. Respondents were asked a series of questions that allowed them to express what they knew or professed to know about energy characteristics (see Table 7). Some 84 per cent of our elite respondents say they know a little or know a lot about energy conservation, followed by knowledge about energy use in Canada (83 per cent) and energy generation (81 per cent). They are less likely to express the same level of confidence about energy distribution in Canada (73 per cent) and especially the management of the byproducts of energy generation such as waste (61 per cent).

On every specific issue, business elites were significantly less knowledgeable than policy elites. The largest gap in specific knowledge was about “waste” — where 76 per cent of policy elites, but only 51 per cent of business elites, professed to have some knowledge — and “energy distribution,” where 86 per cent of policy elites but only 65 per cent of business elites, believed they have some significant knowledge about these issues.

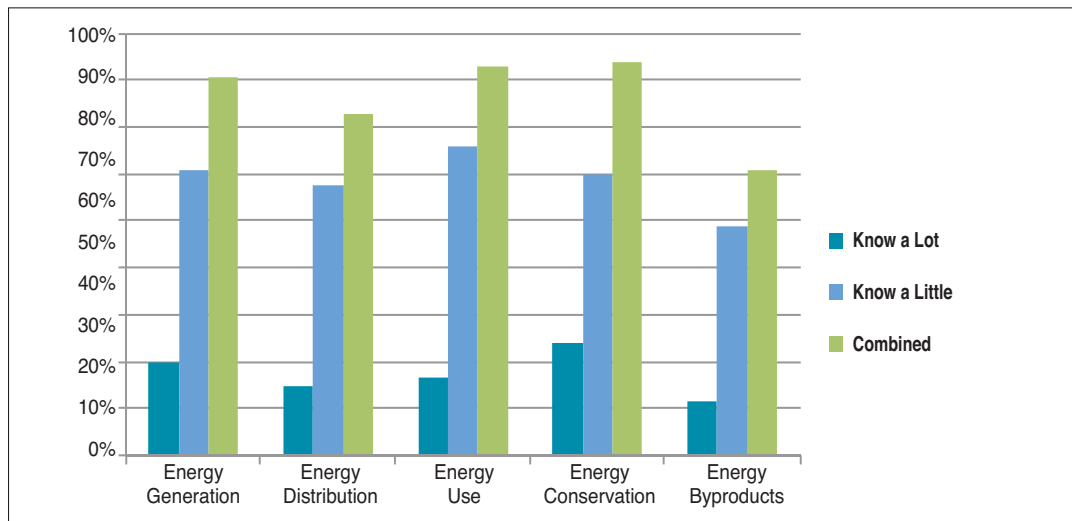
**TABLE 7: KNOWLEDGE OF ENERGY ISSUES AS PER CENT OF TOTAL**

Topic	Know a Lot	Know a Little	Combined	Don't know much	Never heard of it
Energy Conservation	24	60	84	15	1
Energy Generation	20	61	81	16	3
Energy Use	17	66	83	16	1
Energy Distribution	15	58	73	25	2
Energy Byproducts	12	49	61	34	5

**FIGURE 8: PER CENT ANSWERING “KNOW A LOT” BY ENERGY ISSUE**



**FIGURE 9: KNOWLEDGE OF ENERGY ISSUES**



## Sources of Energy

A useful indicator of energy literacy is basic knowledge of the source of energy that dominates in each province. This information is widely referenced in the media, and underscores basic resources that are distinguished by technology and fuel in the electricity sector. We have used electricity as the proxy for understanding energy resources since, for most respondents, it represents the most common energy source (with the exception of transportation fuels) in the usage patterns of most consumers and businesses. When asked to identify dominant fuels, both business and policy leaders were relatively close in their assumptions, as shown in Table 8 below.

**TABLE 8: PER CENT IDENTIFYING MAJOR SOURCE OF ENERGY IN RESPONDENTS' PROVINCE**

Energy Type	Overall	Business Opinion	Policy-Maker Opinion
Coal	18	15	22
Natural Gas	17	17	17
Hydro	58	60	54
Wind	2	2	<1
Solar	1	1	<1
Nuclear	5	4	7

We compared responses to the published composite sources of energy by province from Statistics Canada. In this comparison, northern territories were grouped as “The North” and all Maritime provinces except Newfoundland were grouped as “Atlantic Canada.” The breakdown of current electricity energy resources are shown in Table 9 below. Dominant sources are highlighted in yellow, net export in green and net import in blue.

**TABLE 9: ACTUAL GENERATION SOURCES (2010%)**

	Hydro	Nuclear	Coal	Natural Gas	Renewables	% of Total Supply Generated Internally
Canada Average	59.16%	15.75%	13.69%	6.49%	2.32%	106.28%
B.C.	86.70%	0.00%	0.00%	4.68%	6.05%	95.25%
Alberta	3.20%	0.00%	71.73%	17.90%	3.66%	93.50%
Saskatchewan	19.19%	0.00%	60.00%	15.09%	2.52%	100.13%
Manitoba	98.73%	0.00%	0.13%	0.07%	1.02%	138.49%
Ontario	21.52%	55.42%	8.31%	10.24%	2.18%	110.38%
Quebec	95.90%	2.11%	0.00%	0.14%	1.13%	91.96%
Newfoundland	97.29%	0.00%	0.00%	0.00%	0.45%	367.35%
Atlantic	18.85%	0.00%	38.93%	18.04%	5.53%	85.54%
The North	69.72%	0.00%	0.00%	3.02%	0.01%	100.00%

Source: CANSIM tables 127-0006 through 127-0010.

When the assumptions of those responding were compared to actual sources of generation and fuel, we can see that the main sources of generation for each province or area are often at variance with beliefs. While not definitive, this illustrates a disconnect in basic knowledge regarding supply sources, and ultimately, the most efficient way to use these resources. This

may indicate a preference as opposed to knowledge (i.e., a preference for cleaner rather than “dirtier” resources) and/or a basic lack of knowledge regarding the system. Ultimately this is important when consumer support for system improvements (such as new transmission facilities) or the choice of alternative power (e.g., nuclear to wind, coal to natural gas) is contemplated by decision-makers.

**TABLE 10: RESPONSES BY AREA AND ASSUMED SOURCE**

	Hydro	Nuclear	Coal	Natural Gas	Renewables
Respondent Average	58%	5%	18%	17%	3%
B.C.	94%	<1%	<1%	6%	<1%
Alberta	8%	1%	38%	51%	1%
Saskatchewan	20%	<1%	46%	33%	2%
Manitoba	70%	<1%	13%	15%	2%
Ontario	38%	38%	7%	15%	2%
Quebec	100%	<1%	<1%	<1%	<1%
Newfoundland	90%	2%	2%	5%	2%
Atlantic	35%	7%	45%	5%	8%
The North	72%	2%	8%	15%	4%

In general, the knowledge of primary energy sources, as shown in Table 11, is good but there are notable exceptions. While not a definitive indicator, the rankings parallel those in the first pan-Canadian household survey and tend to indicate a mixture of ignorance regarding the primary resources used in each province as well as a tendency to identify sources that respondents may view as cleaner or more efficient than is the case for the actual primary resources. In addition, in some provinces, multiple fuel sources can make it difficult to correctly identify the primary source. This knowledge “gap” is a useful indicator of where future education and planning programs may be targeted, connecting the nature of available technologies and fuels with average business and household energy demand.

**TABLE 11: CORRECT IDENTIFICATION OF PRIMARY ELECTRICITY SOURCE**

Respondent average	58%
Quebec	100%
Newfoundland	90%
The North	72%
Manitoba	70%
Saskatchewan	46%
Atlantic Canada	45%
Alberta	38%
Ontario	38%

## POLICY CONCERNS

### Energy Costs

Energy costs constitute a category of information that dominates many news and media sites daily. Interest in cost levels generally is unsurprisingly high overall. In the case of business and policy leaders, especially for those with fiscal responsibilities, interest and knowledge are likely influenced directly.

When asked whether energy costs have changed over the past five years, 83 per cent indicated that their costs had increased, a percentage that was consistent across categories. Only 14 per cent overall indicated that costs had remained roughly the same. Of those indicating that costs had increased, 82 per cent indicated that it affected their day-to-day operations. When this question was paired with a focus on overall operations, one third of the respondents indicated the result was lost sales and increased product costs (22 per cent), and a reduction in budgets and reducing other expenses (11 per cent). A long list of alternative consequences was cited (see Table 12 below) that appear to have impacted both business and political institutions at roughly the same scale.

Energy use, as well as control or management of energy use, are capital-intensive activities, yet represent opportunities to control costs and increase profits. This is true whether a business or a public agency (using taxpayer-generated revenues) is involved. Consequently, this linkage becomes more important over time as fuel costs increase or accountability and performance are more closely scrutinized.

**TABLE 12: HOW HAS THE CHANGE IN ENERGY COSTS AFFECTED THE DAY-TO-DAY OPERATIONS IN YOUR SECTOR?**  
For Respondents Indicating Strongly or Somewhat Agree to Changes in Energy Costs Affecting Operations (71% 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%
COL 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

When the issue of planning for the future is introduced, only 28 per cent (23 per cent for business; 36 per cent for policy) strongly agreed that the increase in energy costs over the past five years has influenced their planning. This suggests there are built-in expectations concerning impending, or continued increases in energy costs. A majority (53 per cent) “somewhat agree” that energy costs have influenced their planning. For those whose planning was affected by energy costs, the majority of the planning has been focused on introducing efficiency measures, reducing operations, replacing equipment, “greening” their organization, and introducing new budget processes. When asked about profits and operating efficiency over the past five years, 27 per cent of those responding indicated that energy cost increases had reduced revenue between five and 10 per cent; an additional 22 per cent of respondents indicated that business revenue reductions had exceeded 10 per cent during this period.

### Support for Energy Sources

We asked about support for various fuels that form the basis of electricity generation for Canada in general, although these vary by province and territory. The question centred on whether or not the industries were viewed as sustainable for the nation in the long run. Specifically, the respondents were asked to rank each energy source on their opinion regarding its cost effectiveness as an energy source, with a rank of zero indicating “not very sustainable” and a rank of 10 indicating “very sustainable.” In this case, “sustainability” means the cost effectiveness of each energy source. Average scores are reported in Figure 10 and Table 13 below.

This point of view about the sustainable nature of resources is in contrast to how respondents feel about supporting one form of energy versus another (the question encouraged respondents to evaluate sustainability for Canada rather than their province). Here, respondent support levels are very similar to the earlier general population survey. Coal continues to have low support with policy and business leaders, with an overall rating of 4.07. Perceived sustainability for nuclear was also low at 5.3, followed by natural gas (6.63). Renewable resources in general fared well, with wind (7.13), solar (7.03), and hydroelectric power receiving high scores. Hydroelectric power received the highest rating at 7.96.

**FIGURE 10: AVERAGE SUSTAINABILITY SCORES FOR ENERGY SOURCES (SCALE OF ZERO TO 10)**

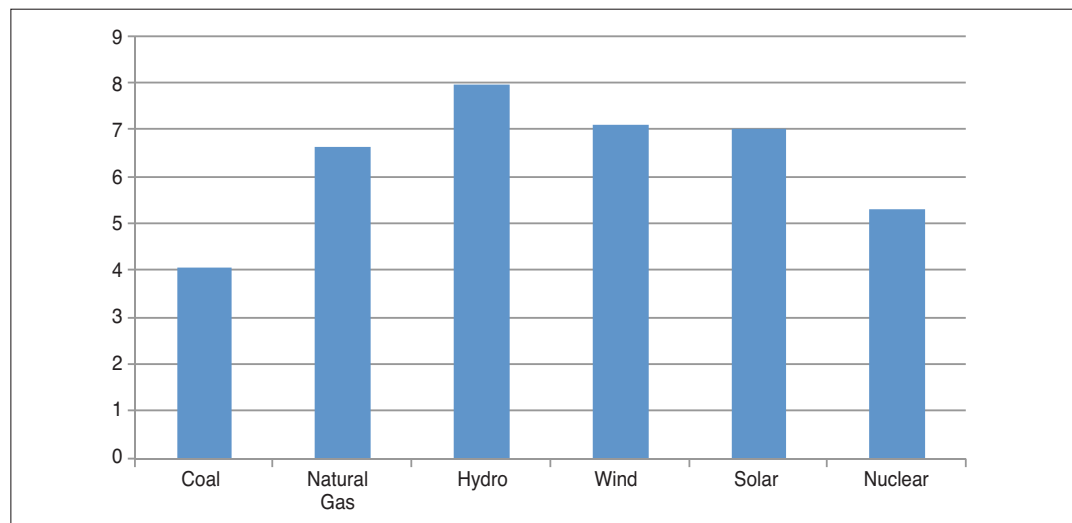




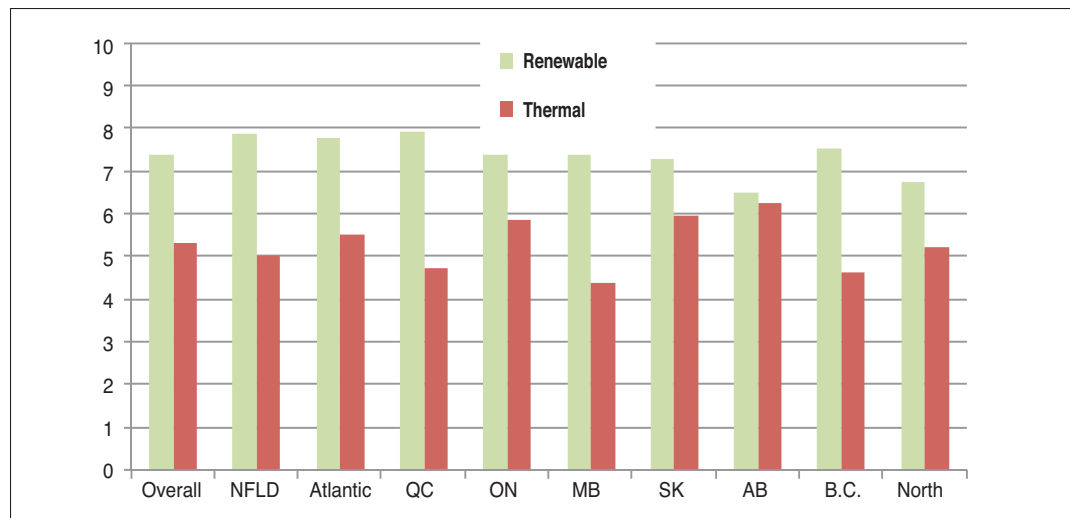
Table 13 separates the scores by fuel type and the region of respondents. Not surprisingly, scores for hydroelectricity are highest in provinces where the majority of electricity is produced by hydro dams, but are still high overall. The thermal-heavy provinces of Alberta and Saskatchewan show low support for coal but moderate support for natural gas. It is interesting to note that support for nuclear power is highest in Ontario, where nuclear power plants represented 55 per cent of generating capacity in 2010. Opinions on the sustainability of different fuels appear to be somewhat related to current fuel sources.

**TABLE 13: AVERAGE SUSTAINABILITY SCORES BY REGION (SCALE OF ZERO TO 10)**

	Overall	NFLD	Atlantic	QC	ON	MB	SK	AB	B.C.	North
Hydro	7.96	8.32	7.49	8.9	8.16	8.23	7.15	7.47	8.09	7.86
Wind	7.13	7.86	8.12	7.47	6.69	6.89	7.47	6.12	7.33	6.47
Solar	7.03	7.47	7.78	7.4	7.28	7.08	7.27	6	7.28	5.91
Natural Gas	6.63	6.36	6.77	6.48	7.19	5.81	7.09	7.38	6.04	6.43
Nuclear	5.3	5.09	5.96	4.71	6.26	4.53	6.17	5.58	4.23	5.22
Coal	4.07	3.72	3.9	3.07	4.15	2.92	4.68	5.89	3.61	4.05

When collapsed into the broad categories of renewable and thermal resources (see Figure 11 below), renewable fuel sources clearly dominate in terms of perceived cost effectiveness and sustainability. For all but Alberta, there is a clear preference for renewable fuels, regardless of the dominant fuel in electricity generation. While not definitive, this reaction across both groups of business and policy-makers underpins the broader nature of support for technologies and energy sources that are perceived to be more sustainable and to have “greener” characteristics associated with them.

**FIGURE 11: AVERAGE SUSTAINABILITY SCORES FOR THERMAL AND RENEWABLE FUELS (SCALE OF ZERO TO 10)**



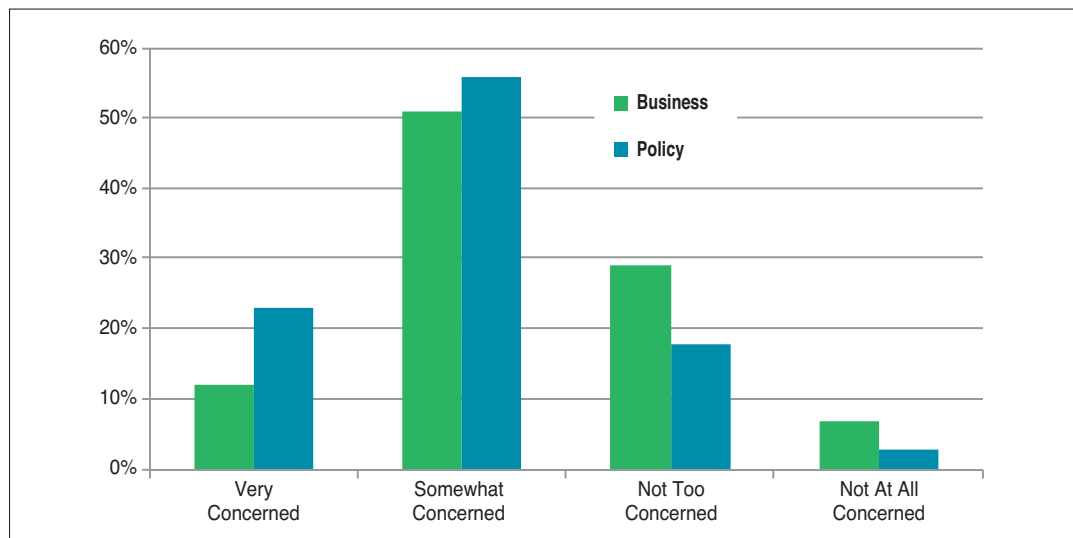
## Energy and the Environment

Energy development is generally acknowledged to generate environmental impacts in this survey; this is consistent with the previous survey conducted of the general public, where we found high levels of concern with environmental impacts. In this survey, however, these “high” levels of concern about the impact of energy generation on the environment were not dominant. Most responses were in the category of “somewhat concerned” rather than “very concerned.”

For instance, in the business community, only 12 per cent said they were “very concerned,” and only 23 per cent of the policy-makers had the same response, averaging 17 per cent across the entire sample. For the category “somewhat concerned,” a much lower test, the sample only gained a plurality of 53 per cent overall, with business and policy respondents nearly equally divided. A significant number of respondents (30 per cent) indicated they were “not too concerned” or “not at all concerned” with this issue.

When asked further about this issue, 12 per cent indicated that conservation and new methods of energy extraction or use reduced environmental impact, with another 19 per cent indicating it simply was not a major issue, was not a priority or that they simply did not care. A strong combination of justifications offered included: the issue of costs involved; the trade-off with potential profits (10 per cent to two per cent, with a predictable bias from business); or that it was simply a political issue that could and should be pursued later. A notable proportion of the respondents (20 per cent) refused to answer the question or stated they did not know the answer.

**FIGURE 12: LEVEL OF CONCERN OVER IMPACT OF ENERGY GENERATION ON THE ENVIRONMENT**



However, when respondents were asked a broad question as to whether or not preserving the quality of the environment is worth bearing an increase in energy costs in the future (Table 14), a strong majority (70 per cent) said they feel that there is a connection between energy use and environmental quality, and feel an obligation to support maintaining environmental quality through higher energy costs. This balance is very strong and consistent across sectors and in all regions of the country.

It is of interest that the sum of those “strongly” and “somewhat” agreeing with the need for higher energy costs to maintain environmental quality, in Table 14, are the same as the sum of “very concerned” and “somewhat concerned” responses about environmental impact shown in Figure 12 above. Similarly, the sum of the percentages for those who “somewhat disagree” and “strongly disagree” with the higher-energy cost statement in Table 14 just match the 30 per cent of those who were “not too concerned” or “not at all concerned” about environmental impacts in Figure 12.

While Table 14 responses are concerned with the preservation of environmental quality through future energy cost increases, the correlation with the concern shown in Figure 12 is unmistakable and suggests strong policy support in the future when these characteristics are positively addressed.

**TABLE 14: PRESERVING ENVIRONMENTAL QUALITY IS WORTH AN INCREASE IN FUTURE ENERGY COSTS**

Category	Overall	Business	Policy
Strongly agree	24	19	32
Somewhat agree	46	48	43
Somewhat disagree	19	22	15
Strongly disagree	11	11	10

## FUTURE CONSIDERATIONS

Policy is made at various levels, from private to public. In the case of energy generation and use, leadership in establishing use policies, spending priorities or incentives can define the world of investment and behaviour, or change it over time. How executives and policy leaders feel about their own leadership and initiatives is a good indicator of confidence in the energy sector and its impacts. We provided a range of possible choices for respondents, designed to explore the range of leadership observed and expected in this sector.

When asked about the impact of energy generation on the environment, for instance, respondents were asked to match the role of leadership with their own viewpoint. Sixty-nine percent of those interviewed in this study (business: 68 per cent; policy leaders: 71 per cent) indicated that leaders in their own sector should be doing more, while only a quarter (26 per cent) indicated that leaders were doing enough. Only four per cent indicated that leaders should be doing less than current efforts (as opposed to taking no action).

As government is typically seen as the agent to improve environmental and economic conditions, it is not surprising that a large burden of leadership is expected from those in power (see Table 15 below). When asked about their views about the government’s role in dealing with the impact of energy generation on the environment, 74 per cent believe the federal government should be doing more while 72 per cent feel the same way about provincial governments. The private sector is not seen as free of responsibilities, as 69 per cent also see a greater role for their own sector.<sup>9</sup>

<sup>9</sup> The survey includes respondents in federal, provincial and municipal governments.

**TABLE 15: ROLE OF LEADERS AND GOVERNMENT IN MITIGATING**

	Overall	Business	Policy
Leaders in my sector should be doing more	69%	68%	71%
Leaders in my sector should be doing less	4%	6%	2%
Leaders in my sector are doing enough	26%	26%	27%
Provincial government should be doing more	72%	71%	73%
Provincial government should be doing less	4%	4%	4%
Provincial government is doing enough	24%	26%	22%
Federal government should be doing more	74%	73%	76%
Federal government should be doing less	5%	4%	6%
Federal government is doing enough	21%	22%	18%

Respondents were also asked why leaders should be doing more, doing less or were doing enough (Table 16). The majority of recommendations for action seemed to be based on the impression that appropriate changes weren't happening, and that cost management could be improved. Four per cent indicated that a plan for long-term solutions should be developed. However, six per cent of respondents felt they were doing all that could be done and there was no real problem or threat that must be addressed anyway.

**TABLE 16: REASONS FOR MORE/LESS/ENOUGH ACTION BY LEADERS**

	Overall	Business	Policy
Always Do More/Nothing Gets Done/Needed	19%	22%	14%
Contain Costs/Balance Cost vs. Benefit	9%	9%	8%
Need to Lead/Example/Step Up/Encourage	7%	5%	10%
Doing All that Can be Done/Enough	6%	7%	5%
Need Plan To Save Envir./Climate/Future	5%	4%	6%
Take Time/Long-Term Plan/Study/Info	4%	2%	6%
No Problem/Issue/Works Fine/Not Priority	4%	3%	5%
Money/Energy Demand/Waste Growing	3%	3%	3%
Important/Nat'l Issue/Crisis/Priority	3%	3%	2%
Short-Term Gain/Profit/Not Long-Term/Tax	3%	3%	2%
No Reason/They Just Are/Just Because	2%	3%	1%
They Have No Impact/Out of Our Control	2%	1%	3%
Inconsistent/Need Oversight/Partnership	2%	2%	2%
Many Systems/Prgms In Place/Change Seen	1%	1%	1%
Gov't Should Lead/Do More	1%	<1%	1%
Impact Over-Stated/Hype	1%	1%	1%
Other	6%	8%	4%
Don't know/Refused	24%	22%	26%

### The Role of Government in Planning, Research and Development

Energy production and energy systems are extremely capital intensive and have a clear need for constant renewal and new investment in order to optimize delivery and reliability. Nearly every business wrestles with the dilemma of how to fund R&D, since it represents either a potential diversion of current profits or, in the case of government, the need for additional tax

revenues. However, when this issue was addressed by survey respondents, a high number (45 per cent) indicated they “strongly” agreed with the need for new investment in energy R&D. This was bolstered by an additional segment (46 per cent) who indicated that they “somewhat” agreed that there was a need for new investment in this area. Notable here was the fact that only eight per cent were not in agreement throughout the sample. As shown in Table 17 below, areas of R&D that were highlighted by respondents typically focused on controlling spending and the transition to new forms of energy generation (49 per cent).

**TABLE 17: REASONS FOR GREATER INVESTMENT IN R&D**  
**For Respondents Who Indicated Agree or Somewhat Agree to Planning for Future Energy Needs Requires Greater Investment in R&D (92% of Respondents)**

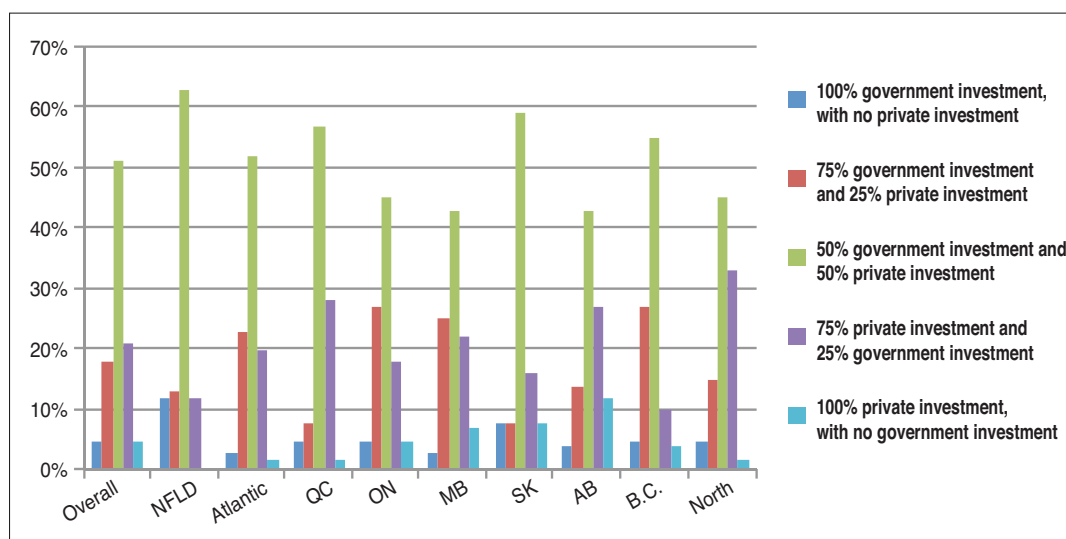
	Overall	Business	Policy
Need More R&D/Planning/Innovation	23%	22%	25%
Less Fossil/More Renewable/Alternatives	8%	7%	8%
Control Spending/Cost Effective/Viable	6%	5%	8%
Implement/Do Work Now/Knowledge Exists	6%	6%	5%
New Tech Needed/Explored/Efficiencies	6%	5%	7%
Just Because/It's True/My Opinion	4%	6%	1%
Consider Enviro./Climate Change/Future Gen	4%	5%	3%
Increase Investment/Tax/Incent./Spending	3%	3%	3%
Already Spending/Money Always/Expensive	3%	5%	1%
Ensure Results/Positive Spinoff	2%	1%	3%
Control Resources/Energy/Keep in Canada	1%	<1%	2%

Most of the respondents (74 per cent) felt the burden of planning for future energy needs should be on government, with the dominant point of view that this sector was in the best position to act and implement the appropriate programs. Support for government involvement was strongest in the government sector (70 per cent support from business respondents; 80 per cent from policy-makers), which is interesting in part because it implies future budget and spending commitments in an era when fiscal resources are at a premium.

Respondents indicated that R&D should represent a shared cost burden (Figure 13), with the majority favouring an equal split between public and private sectors.<sup>10</sup> Similar support across policy and business leaders is exhibited in Table 18. Policy-makers appear to slightly prefer a higher private investment share. Cost sharing and investment partnerships are particularly important in industries where size, scale and available capital make it difficult to develop effective and targeted research and development programs that can be adapted or implemented in a cost-effective manner. Rather, the impact of government- or university-sponsored research programs that make information available, can facilitate adoption and innovation in ways that bring costs down and encourage more widespread dissemination of information and more rapid adoption and integration of new cost-saving technologies.

<sup>10</sup> This model has worked well in the United States with its 11 National Energy Laboratories devoted to advanced R&D in co-operation with industry.

**FIGURE 13: SUPPORT FOR PUBLIC-TO-PRIVATE INVESTMENT RATIOS**



**TABLE 18: SUPPORT FOR PUBLIC-TO-PRIVATE INVESTMENT RATIOS**

	Overall	Business	Policy
100% government investment, with no private investment	5%	6%	5%
75% government investment and 25% private investment	18%	18%	18%
50% government investment and 50% private investment	51%	53%	48%
75% private investment and 25% government investment	21%	18%	25%
100% private investment, with no government investment	5%	5%	5%

## Energy Policy in Canada

Both business and policy leaders are well aware of the dynamic relationship between energy supplies and systems used for domestic consumption and resources or upgraded products meant for export. They clearly appreciate the role of exports in supporting the national economy. However, in parallel with the view expressed by the general population, both business and policy leaders express a strong sentiment favouring energy independence both from the principal customer, the United States, as well as the world at large.

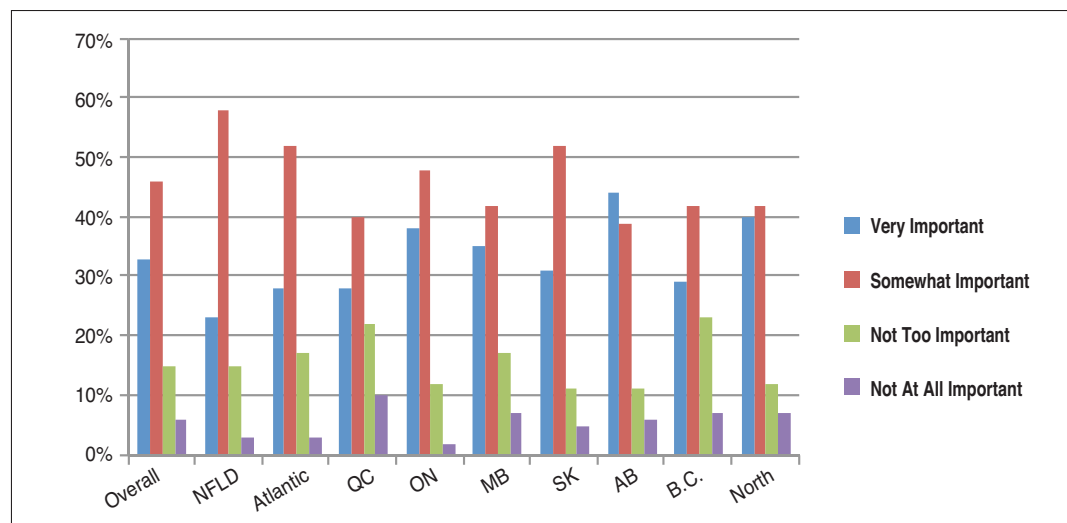
When given the choice to favour revenue over energy independence, 56 per cent of the sample favoured energy independence, even at the risk of job loss or profitability (see Table 19 below). There were slight differences between groups, but the balance generally remained on the side of independence.

**TABLE 19: SUPPORT FOR REVENUE GENERATION VS. ENERGY INDEPENDENCE**

	Overall	NFLD	Atlantic	QC	ON	MB	SK	AB	B.C.	North
Revenue generation	44%	48%	37%	52%	50%	48%	33%	49%	36%	48%
Energy independence	56%	52%	63%	48%	50%	52%	67%	51%	64%	52%

Reducing reliance on the U.S. as the principal customer appealed to the elite respondents with 33 per cent indicating that it was “very important” and 46 per cent indicating it was “somewhat important” to achieve this goal, suggesting a pragmatic view of shifting away from what has been a stable marketplace in order to achieve more independent future trading relationships.

**FIGURE 14: IMPORTANCE OF REDUCING RELIANCE ON THE U.S.**



**TABLE 20: IMPORTANCE OF REDUCING RELIANCE ON THE U.S.**

	Overall	NFLD	Atlantic	QC	ON	MB	SK	AB	B.C.	North
Very important	33%	23%	28%	28%	38%	35%	31%	44%	29%	40%
Somewhat important	46%	58%	52%	40%	48%	42%	52%	39%	42%	42%
Not too important	15%	15%	17%	22%	12%	17%	11%	11%	23%	12%
Not at all important	6%	3%	3%	10%	2%	7%	5%	6%	7%	7%

Most believed that reliance on energy produced within Canada would allow reduced costs for energy consumption and would underpin the move to higher levels of independence. Here, 24 per cent of the elites interviewed strongly agreed, although businesspeople were more optimistic about the outcome than policy-makers (29 per cent for business; 18 per cent for policy).

**TABLE 21: RELIANCE ON ENERGY PRODUCED IN CANADA WILL CAUSE ENERGY COSTS TO GO DOWN**

	Overall	NFLD	Atlantic	QC	ON	MB	SK	AB	B.C.	North
Strongly agree	24%	23%	37%	27%	25%	22%	25%	15%	27%	22%
Somewhat agree	48%	47%	40%	45%	50%	53%	49%	51%	49%	43%
Somewhat disagree	22%	27%	17%	22%	13%	20%	20%	30%	19%	30%
Strongly disagree	6%	3%	7%	7%	12%	5%	7%	4%	5%	5%
<b>∑ AGREE</b>	<b>72%</b>	<b>70%</b>	<b>77%</b>	<b>72%</b>	<b>75%</b>	<b>75%</b>	<b>74%</b>	<b>66%</b>	<b>76%</b>	<b>65%</b>
<b>∑ DISAGREE</b>	<b>28%</b>	<b>30%</b>	<b>24%</b>	<b>29%</b>	<b>25%</b>	<b>25%</b>	<b>27%</b>	<b>34%</b>	<b>24%</b>	<b>35%</b>

## TRUST AND CONFIDENCE

As we pointed out at the beginning of this paper, studying elite opinion is important since it is likely to play an important role in policy development. Energy is a crucial question for the future of Canada, and our analysis has given us an in-depth look at what business and policy leaders know and think about issues related to energy in Canada. However, if we are to move ahead with a more coherent energy policy, Canadians will have to turn to trusted people and institutions for leadership and directions.

Government and business practices and policy are based on a broad system of trust, rules, regulation and convention. The issue of trust cannot be overstated, since at the heart of our society, lack of trust or even a waning of this ephemeral quality can initiate long-term changes in investment and the stability of social or governmental policy. In the end, the issue of trust speaks to the hopes of the entire citizenry, which of course includes elected and non-elected leadership. Given the nature, size and influence of the energy industry in Canada, the perceptions of leadership in this case give pause, and hope, for changing the level of discourse about the use of energy resources.

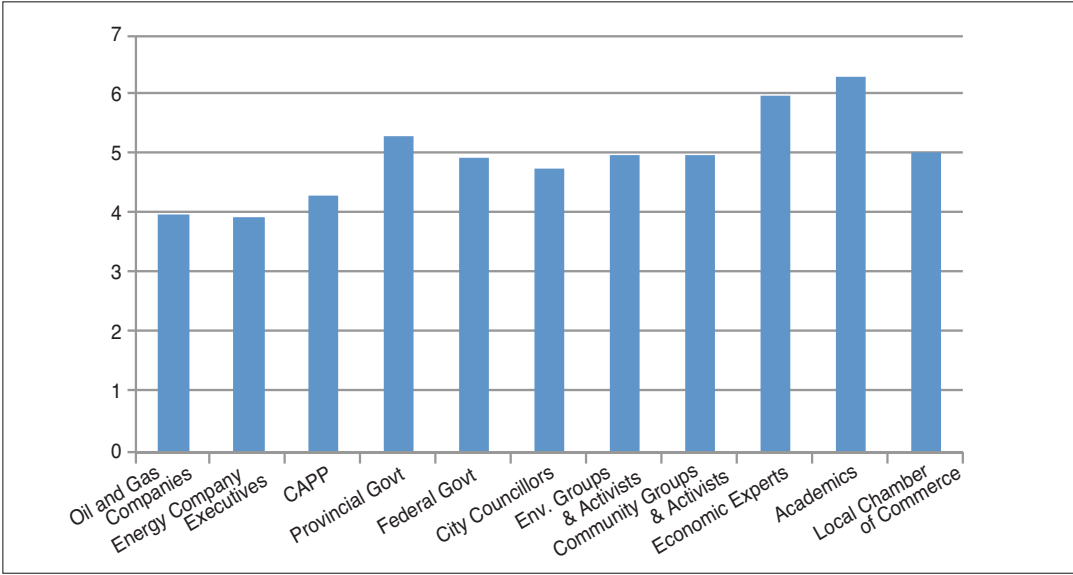
As with our previous survey, we find significant levels of low trust, even among the leadership in the country, for some of the most basic of institutions dealing with energy issues. The numbers in this case speak for themselves, with low levels of satisfaction and trust for core elements of the economy, especially those representing the energy industry.

Elite respondents were asked to rate the trustworthiness of a series of groups and institutions, using a zero to 10 scale, where zero is “not at all trustworthy” and 10 is “very trustworthy.” Overall, academics (6.31), economic experts (6.02), provincial governments (5.33) and local chambers of commerce (5.04) receive the highest ratings. Environmental groups and activists (5.01), community groups and activists (4.98), the federal government (4.95) and city councillors (4.79) get comparatively lower ratings, but rate well ahead of the Canadian Association of Petroleum Producers (4.30), oil companies (3.98) and energy company executives (3.93).

Ultimately, the issue of trust will influence the utility of future programs for improving overall energy literacy in the population, reflecting the perceived veracity of both information disseminated and the source utilized.

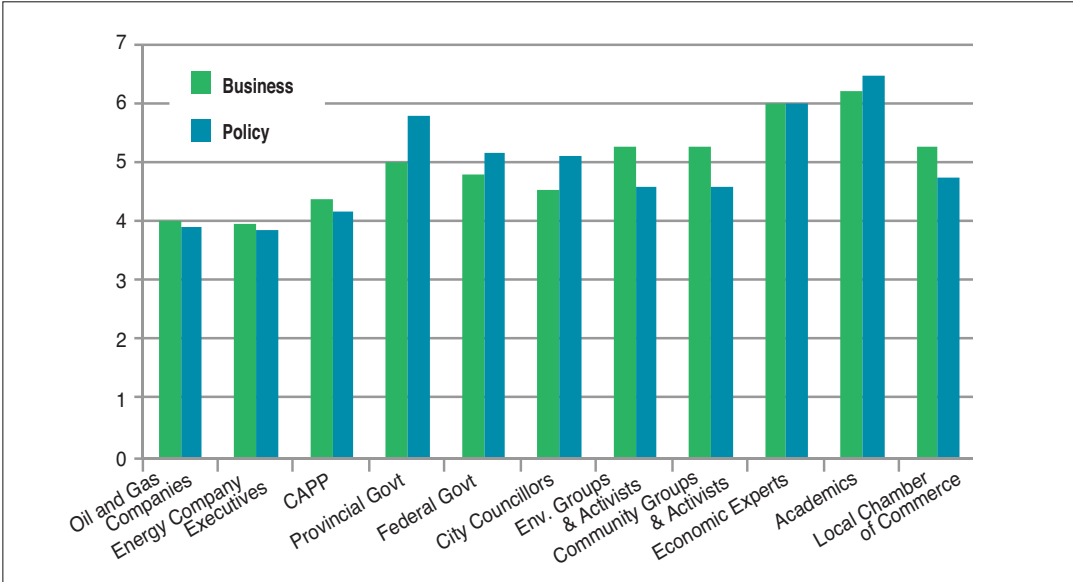


**FIGURE 15: TRUST SCORES**



Business and policy leaders hold similar views with two notable exceptions. Business leaders have a more trustworthy view of environmental and community groups than those involved in policy-making.

**FIGURE 16: TRUST SCORES BY RESPONDENT TYPE**



**TABLE 22: THE ISSUE OF TRUST BY REGION**

	Overall	NFLD	Atlantic	QC	ON	MB	SK	AB	B.C.	North
Oil and Gas Companies	3.98	4.3	4.1	3.15	3.95	3.76	4.2	4.88	3.26	4.19
Energy Company Executives	3.93	4.27	4.24	3.64	4.22	3.71	3.55	4.54	3.23	4.03
CAPP	4.3	4.75	4.68	3.71	4.47	3.76	4.4	5.18	3.54	4.21
Provincial Government	5.33	5.84	5.76	5.27	5.32	4.95	5.13	5.51	4.67	5.78
Federal Government	4.95	5.23	5.53	4.3	5.47	4.68	4.59	5.14	4.39	5.34
City Councillors	4.79	5.21	4.86	4.34	5.17	4.2	4.72	4.57	5.26	4.61
Environmental Groups and Activists	5.01	5.66	5.43	5.78	5.78	4.47	4.49	3.54	5.36	4.86
Community Groups and Activists	4.98	5.73	5.5	5.64	5.44	4.38	4.4	3.62	5.57	4.76
Economic Experts	6.02	6.63	6.44	6.14	6.43	5.78	5.2	5.81	5.99	5.78
Academics	6.31	7	6.83	6.93	6.47	5.98	5.84	5.43	6.6	5.93
Local Chamber of Commerce	5.04	5.39	5.43	4.68	5.64	5.13	5.12	4.83	4.64	4.76

### Trust in the Future and Effectiveness of Initiatives to Save Energy

Anticipation and perception of the future is important for the leaders in either sector, and they expressed that perception in a range of responses to various questions within the survey. Canadian leaders in both the business and policy arena seem very optimistic about the future, with 68 per cent indicating that the best years are yet to come.

**TABLE 23: THE BEST YEARS**

	Overall	NFLD	Atlantic	QC	ON	MB	SK	AB	B.C.	North
Canada's best years are in the future	68%	60%	77%	57%	72%	73%	67%	74%	62%	75%
Canada's best years are in the past	32%	40%	23%	43%	28%	27%	33%	26%	38%	25%

Looking forward, when respondents were asked if costs would get better or worse in the next five years (Table 24), only seven per cent felt they would get better, 79 per cent indicated they would get worse and only 10 per cent expected costs to remain the same. Looking further into the future (Table 25), the prognosis declined slightly with 80 per cent indicating cost conditions would worsen.

Considering the availability and reliability of energy (Tables 24 and 25), most respondents indicated that conditions were likely to remain the same (49 per cent) in the short term (five years). For energy availability, responses split in the long term (10 years) with 37 per cent indicating things would stay the same but only 21 per cent indicating there would be improvement. In this case, those forecasting a decline in availability (short term 29 per cent; long term 36 per cent) outweighed those who felt conditions would improve (short term 17 per cent; long term 21 per cent). Respondents had similar predictions for energy reliability and quality in the long term, with slight increases in pessimism and optimism relative to the short term.

**TABLE 24: ASPECTS OF ENERGY CHANGING IN THE NEXT FIVE YEARS**

Topic	Stays the Same	Improves	Gets Worse
Costs	10	7	79
Energy Availability	49	17	29
Reliability and Quality	49	20	23
Environmental Sustainability	34	22	34

**TABLE 25: ASPECTS OF ENERGY USE CHANGING IN THE NEXT 10 YEARS**

Topic	Stays the Same	Improves	Gets Worse
Costs	13	4	80
Energy Availability	37	21	36
Reliability and Quality	45	25	26
Environmental Sustainability	27	32	34

Energy is a key variable in day-to-day operations, planning and budgets and in choices for new technology and infrastructure investment. Energy decisions both anticipate and reflect demographic characteristics and the outcomes of using energy systems. Consequently, how leadership — whether in business or the policy arena — views and understands the basic elements of energy systems, will help determine the nature of community investment and development in the future.

Respondents were asked a question regarding their own organization’s effectiveness in implementing initiatives to address energy needs, a proxy for confidence in the future and the role of energy in achieving that future. In this case, confidence declines somewhat as shown in Table 26 below: A majority expressed the feeling that energy measures historically undertaken were only somewhat effective in meeting goals.

**TABLE 26: ENERGY INITIATIVE EFFECTIVENESS**

**For Respondents Whose Organizations Undertook Initiatives in the Past Five Years (53% of Respondents)**

	Overall	NFLD	Atlantic	QC	ON	MB	SK	AB	B.C.
Very Effective	11%	12%	11%	9%	17%	13%	16%	5%	17%
Somewhat Effective	57%	60%	57%	74%	56%	50%	53%	64%	49%
Neutral	15%	8%	21%	<1%	17%	10%	16%	14%	21%
Not Too Effective	11%	8%	7%	9%	7%	10%	9%	12%	9%
Not At All Effective	1%	<1%	<1%	4%	<1%	<1%	<1%	2%	<1%
Don't Know/Refused	6%	12%	4%	4%	2%	17%	6%	2%	4%

## SUMMARY AND CONCLUSIONS

This study extends the effort to establish a datum or base understanding of energy literacy in Canada by including a sample of business and policy leaders. Any long-term program, or series of policies, that include energy development and use in the country must ultimately include or seek public support, including individuals in these categories. Consequently, their level of knowledge is an important base to define.

While Canada's energy resources are diverse in type, quality and quantity, identifying, extracting, upgrading, transporting and ultimately using or exporting them demands support and approval at all levels of society. We expected both business and policy leaders to be generally better informed and to express clearer and more incisive opinions regarding energy systems than what we have observed in the general public. In most cases, however, opinions and understanding did not deviate substantially from that of the general population.

In the case of current levels of "understanding" energy systems, this survey reveals that energy is a topic that engenders opinion and varying levels of knowledge in the leadership of the country. However, as a primary day-to-day "issue," energy is trumped by issues relating to the economy, health care and to some extent, the environment both generally and in conjunction with energy systems. Leaders do not dismiss energy or necessarily take it for granted; rather, the respondents tend to see energy as integrated into other sectors of the economy, not separately. This seems to be very important going forward when special attention, approval or investment must be singularly targeted towards energy infrastructure or import/export balances.

Using electricity as a proxy, respondents were generally aware of the primary sources of energy used by Canadians. Attitudes were generally less positive about certain current fuels such as coal, but favoured future investment and policy prescriptions that would encourage "cleaner" resources such as natural gas and renewables. Most leaders have a largely realistic, if hopeful view of integrating renewable resources, such as wind and solar, into the energy system.

Business leaders tended to have the most specific information in the area of energy conservation, which probably reflects the fact that they are closer to expenditures made in the interest of improving energy performance. Beyond this, general knowledge of the characteristics and performance potential of various energy technologies including some of the externalities from their use appeared to be only slightly appreciated or understood. By contrast, there was a high degree of interest and support for future R&D to reduce costs and build more effective technology by both groups of leaders.

Across both groups, the interest in future system planning is high and there was broad support for creating pan-Canadian energy plans or strategies. The leaders interviewed, however, expressed a similar preference to that revealed in the previous household survey,<sup>11</sup> where the value of energy independence, even at the risk of lost employment, was extremely high, and support for abandoning or diminishing the role of the U.S. as a principal client and consumer of Canadian products was also high.

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<sup>11</sup> A. Turcotte, M.C. Moore and J. Winter, "Energy Literacy in Canada" (2012).

In sum, we can say that leadership in the country is generally knowledgeable regarding energy matters, but it does not treat this area as a separate and distinguishable category of public policy planning. This fact diminishes and potentially masks some of the challenges emerging for new long-term investment that is sustainable and serves both domestic and international markets. One difficulty here is that the integration of energy in all other sectors of the economy makes it hard to justify focused policies that target energy-only issues. Nonetheless, it was clear to a majority of respondents that in the future several sub-issues were important for planning and investment and, by inference, for society as a whole.

These include the ideas that energy planning and education are important for the country, and should be improved and emphasized. Included in this category is the need for more comprehensive public funding and support for energy research and development, as well as tying appropriate additional charged costs to supporting the improvement of environmental quality. Since trust of traditional organizations is low, including trust in government, progress in improving energy literacy should involve programs that link across categories, providing value, reliability and confidence, if changes in public behaviour are expected.

This suggests that the large-scale changes coming in the future, ranging from shifts in oil and gas dependence to alternative fuels and systems, must be the subject of more public attention, education and involvement, perhaps in the form of a national or regional strategy discussion on the future of energy.

Ultimately, for all respondents, overall confidence in the future of the country is high. This correlates closely with opinions regarding the need to responsibly deal with environmental impacts associated with energy generation, transportation and use. However, we find a consistent thread of pessimism regarding the price and availability of future energy supplies, coupled with a lack of information and knowledge regarding the supply of reliable and accessible energy products and services, and actual patterns of use and demand.

## APPENDIX A – ENERGY SURVEY QUESTIONS

### [INTRO]

Hello, my name is \*\* from Feedback Research. The School of Public Policy at the University of Calgary has commissioned us to conduct a series of confidential interviews with Canadian Leaders. You should have received a recent email from \*\* informing you of the study. We would like to schedule a 15-minute telephone interview with (INSERT NAME). Alternatively, we can provide you with a secure email link. What would be the best option?

What would be a good time to Interview (INSERT NAME)

### [SECOND INTRO]

Thank you for participating in this study. We want to reassure you that this study is private and confidential and no firm or individual will be identified.

### SECTION A: Warm-up

#### [A1]

In your opinion, what is the most important issue facing Canada today?

*[VERBATIM RESPONSE]*

#### [A2]

Using a scale of 0 to 10 where 0 is “not at all important” and 10 is “very important,” how important are each of the following issues in Canada right now?

*[GRID ROWS; RANDOMIZE]*

- Health care
- Economy
- Jobs/unemployment
- Crime
- Education
- Environment
- Energy

*[GRID COLUMNS; SINGLE RESPONSE PER ROW]*

- 0 – Not at all important
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10 – Very important
- Don't know

## SECTION B: Awareness and Familiarity

### [B1]

How much would you say you know about each of the following?

*[GRID ROWS; RANDOMIZE; SINGLE RESPONSE PER ROW]*

- Energy generation in Canada
- Energy distribution in Canada
- Energy use in Canada
- Energy conservation
- Management of the by-products of energy generation (waste)

*[GRID COLUMNS]*

- Know a lot
- Know a little
- Heard of it but don't know much
- Never heard of it

### [B2]

How much do you agree or disagree with the following statements?

*[GRID ROWS; DO NOT RANDOMIZE; SINGLE RESPONSE PER ROW]*

- "I have a good understanding of energy issues in Canada."
- "Leaders in my sector have a good understanding of energy issues in Canada."

*[GRID COLUMNS]*

- Strongly agree
- Somewhat agree
- Somewhat disagree
- Strongly disagree

### [B3]

*[IF DISAGREE TO "SECTOR LEADERS" IN B2]*

What do you think that leaders in your sector do not understand about energy issues in Canada?

*[VERBATIM RESPONSE]*

### [B4]

As far as you know, which one of the following is the major source of energy used in your province?

*[RANDOMIZE; SINGLE RESPONSE]*

- Coal
- Natural gas
- Hydro
- Wind power
- Solar power
- Nuclear

## SECTION C: Energy Costs

**[C1]**

Over the past five years, would you say that energy costs in your sector have increased, decreased or stayed about the same?

*[SINGLE RESPONSE]*

- Increased
- Decreased
- Stayed about the same

**[C2]**

*[IF “INCREASED” OR “DECREASED” IN C1]*

How much do you agree or disagree that the change in energy costs over the past five years has affected day-to-day operations in your sector?

*[SINGLE RESPONSE]*

- Strongly agree
- Somewhat agree
- Somewhat disagree
- Strongly disagree

**[C3]**

*[IF “STRONGLY/SOMEWHAT AGREE” IN C2]*

How has the change in energy costs affected the day-to-day operations in your sector?

*[VERBATIM RESPONSE]*

**[C4]**

*[IF “INCREASED” OR “DECREASED” IN C1]*

How much do you agree or disagree that the change in energy costs over the past five years has affected planning for the future in your sector?

*[SINGLE RESPONSE]*

- Strongly agree
- Somewhat agree
- Somewhat disagree
- Strongly disagree

**[C5]**

*[IF “STRONGLY/SOMEWHAT AGREE” IN C4]*

How has the change in energy costs over the past five years affected planning for the future in your sector?

*[VERBATIM RESPONSE]*



**[C6]**

If you were to estimate the impact of energy costs over the past five years on your sector's total revenue, which statement would best characterize your view?

*[SINGLE RESPONSE]*

- Changes in energy costs have reduced revenue between 5% and 10%
- Changes in energy costs have reduced revenue by more than 10%
- Changes in energy costs have increased revenue
- Energy costs have had no impact on revenue
- Don't Know

**SECTION D: Environmental Concerns**

**[D1]**

Using a scale of 0 to 10 where 0 is “not very sustainable” and 10 is “very sustainable” in your opinion, how cost effective are the following sources of energy for Canada?

*[GRID ROWS; RANDOMIZE]*

- Coal
- Natural gas
- Hydro
- Wind power
- Solar power
- Nuclear

*[GRID COLUMNS; SINGLE RESPONSE PER ROW]*

- 0 – Not at all sustainable
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10 – Very sustainable
- Don't know

**[D2]**

Overall, how concerned would you say are leaders in your sector about the impact of energy generation on the environment?

*[SINGLE RESPONSE]*

- Very concerned
- Somewhat concerned
- Not too concerned
- Not at all concerned

**[D3]**

Why do you say that?

*[VERBATIM RESPONSE]*

**[D4]**

As far as you know, what are the leaders in your sector doing or have already done to address issues related to energy costs? Please check all that apply.

*[MULTIPLE RESPONSE, RANDOMIZE]*

- Upgraded facilities, equipment (including commercial vehicles) or infrastructure to make these more energy efficient
- Reduced power consumption in facilities or offices by at least 30%
- Keep thermostat in facilities or offices set to 18 degrees Celsius or less during the winter months
- Keep thermostat in facilities or offices set to at least 25 degrees Celsius during the summer months
- Adjusted workplace schedules to reduce energy use during the hours when there is most demand
- Reduced transportation costs by eliminating all unnecessary or gratuitous driving or air travel by employees
- Replaced all light bulbs in facilities and offices with energy efficient light bulbs
- Reduced commercial waste by at least 30%
- Obtained a commercial energy audit
- Other (specify)
- None of these

**[D5]**

When it comes to the impact of energy generation on the environment, which of the following statements regarding the role of leaders in your sector is closest to your own view?

*[SINGLE RESPONSE]*

- Leaders in my sector should be doing more
- Leaders in my sector should be doing less
- Leaders in my sector are doing enough

**[D6]**

Why do you say that?

*[VERBATIM RESPONSE]*

**[D7]**

When it comes to the impact of energy generation on the environment, which of the following statements regarding the role of the provincial government is closest to your own view?

*[RANDOMIZE; SINGLE RESPONSE]*

- Provincial government should be doing more
- Provincial government should be doing less
- Provincial government is doing enough

**[D8]**

When it comes to the impact of energy generation on the environment, which of the following statements regarding the role of the federal government is closest to your own view?

*[RANDOMIZE; SINGLE RESPONSE]*

- Federal government should be doing more
- Federal government should be doing less
- Federal government is doing enough

**[D9]**

Why do you say that?

*[VERBATIM RESPONSE]*

## **SECTION E: Energy Planning**

**[E1]**

When it comes to planning for the future energy needs of your sector, which of the following statements regarding the role of leaders in your sector is closest to your own view?

*[RANDOMIZE; SINGLE RESPONSE]*

- Leaders in my sector should be doing more
- Leaders in my sector should be doing less
- Leaders in my sector are doing enough

**[E2]**

Why do you say that?

*[VERBATIM RESPONSE]*

**[E3]**

When it comes to planning for the future energy needs of your sector, which of the following statements regarding the role of government is closest to your own view?

*[RANDOMIZE; SINGLE RESPONSE]*

- Government should be doing more
- Government should be doing less
- Government is doing enough

**[E4]**

Why do you say that?

*[VERBATIM RESPONSE]*

**[E5]**

How much do you agree or disagree with the statement “planning for our future energy needs requires greater investment in research and development”?

*[SINGLE RESPONSE]*

- Strongly agree
- Somewhat agree
- Somewhat disagree
- Strongly disagree

**[E6]**

*[IF “STRONGLY/SOMEWHAT AGREE” IN E9]*

**[E7]**

When it comes to planning for the future energy needs of the country, which of the following statements regarding the role of leaders in your sector is closest to your own view?

*[RANDOMIZE; SINGLE RESPONSE]*

- Leaders in my sector should be doing more
- Leaders in my sector should be doing less
- Leaders in my sector are doing enough

**[E8]**

Why do you say that?

*[VERBATIM RESPONSE]*

**[E9]**

When it comes to planning for the future energy needs of the country, which of the following statements regarding the role of government is closest to your own view?

*[RANDOMIZE; SINGLE RESPONSE]*

- Government should be doing more
- Government should be doing less
- Government is doing enough

**[E10]**

Why do you say that?

*[VERBATIM RESPONSE]*

When it comes to investing in research and development for our future energy needs, which statement regarding the ratio of public to private investment is closest to your own view?

- 100% government investment, with no private investment
- 75% government investment and 25% private investment
- 50% government investment and 50% private investment
- 75% private investment and 25% government investment
- 100% private investment, with no government investment

## **SECTION F: Energy Imports and Exports**

**[SPLIT SAMPLE: F1a; F1b]**

**[F1a]**

Some people say that Canada's energy policy should be focused on revenue generation for the country even if it means that we have to import some of our energy from other countries. Other people say that Canada's energy policy should be focused on achieving energy independence from the rest of the world (that is, no imports from other countries) even if it means reducing our profitability or the number of jobs.

Which of these two viewpoints is closest to your own?

- Canada's energy policy should be focused on revenue generation for the country even if it means that we have to import some of our energy from other countries.
- Canada's energy policy should be focused on achieving energy independence from the rest of the world (that is, no imports from other countries) even if it means reducing our profitability or the number of jobs.

**[F1b]**

Some people say that Canada's energy policy should be focused on achieving energy independence from the rest of the world (that is, no imports) even if it means reducing our profitability or the number of jobs. Other people say that Canada's energy policy should be focused revenue generation for the country even if it means that we have to import some of our energy from other countries.

Which of these two viewpoints is closest to your own?

- Canada's energy policy should be focused on achieving energy independence from the rest of the world (that is, no imports from other countries) even if it means reducing our profitability or the number of jobs.
- Canada's energy policy should be focused on revenue generation for the country even if it means that we have to import some of our energy from other countries.

**[F2]**

As you may know, currently up to 98% of certain Canadian energy exports go to the United States. In your opinion, how important is it that we reduce our reliance on the United States by exporting more of our energy to other countries?

*[SINGLE RESPONSE]*

- Very important
- Somewhat important
- Not too important
- Not at all important

**SECTION G: Attitudes and Behaviours**

**[G1]**

How much do you agree or disagree with the following statements?

*[GRID ROWS; DO NOT RANDOMIZE; SINGLE RESPONSE PER ROW]*

- "Preserving the quality of the environment is worth a 10 to 25% increase in energy costs in the future"
- "If we could rely more on energy produced in Canada (that is, we could achieve "energy independence") the overall energy costs in our sector would go down"
- "Canada should limit exports of energy (e.g., oil, gas, coal) in order to preserve supplies for future use here at home"

*[GRID COLUMNS]*

- Strongly agree
- Somewhat agree
- Somewhat disagree
- Strongly disagree

**[G2]**

Using a scale of 0 to 10 where 0 is “not at all trustworthy” and 10 is “very trustworthy,” how trustworthy do you consider the following as a source of information on energy issues in Canada?

*[GRID ROWS; RANDOMIZE]*

- Oil and gas companies
- Energy company executives
- Canadian Association of Petroleum Producers
- Provincial government
- Federal government
- City councillors
- Environmental groups and activists
- Community groups and activists
- Economic experts
- Academics
- Local chamber of commerce
- Other

*[GRID COLUMNS; SINGLE RESPONSE PER ROW]*

- 0 – Not at all trustworthy
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10 – Very trustworthy
- Don’t know

**[G3]**

What is your main source of information on energy issues?

*[RANDOMIZE; SINGLE RESPONSE]*

- Government reports
- Industry reports
- Television
- Internet – general
- Websites
- Blogs
- Local newspapers
- National newspapers
- Magazines
- Radio
- Other (specify)
- None
- Don’t Know

**[G4]**

Overall, how satisfied are you with the amount of information on energy issues that is currently available?

*[SINGLE RESPONSE]*

- Very satisfied
- Somewhat satisfied
- Not very satisfied
- Not at all satisfied

**[G5]**

*[IF NOT VERY/NOT AT ALL SATISFIED]*

What specific information on energy issues would you like to see made available to you?

*[VERBATIM RESPONSE]*

**[G6]**

How much do you agree or disagree with the following statement: “More needs to be done to increase public awareness of energy issues?”

- Strongly agree
- Somewhat agree
- Somewhat disagree
- Strongly disagree

**[G7]**

*[IF STRONGLY/SOMEWHAT AGREE IN G6]*

What specific measures do you recommend to increase public awareness of energy issues?

*[VERBATIM RESPONSE]*

## **SECTION H: Profiling Questions**

**[H1]**

What is the primary sector that you currently work in?

*[VERBATIM]*

**[H2]**

How long have you worked in your current sector?

*[SINGLE RESPONSE]*

- Less than five years
- 6 years to 20 years
- More than 20 years



**[H3]**

Does your organization use a commercial energy audit service to monitor its energy use?

*[SINGLE RESPONSE]*

- Yes
- No
- Don't know

**[H4]**

As far as you know, in the past five years has your organization undertaken any initiatives to address its energy needs?

*[SINGLE RESPONSE]*

- Yes
- No
- Don't know

**[H5]**

*[IF "YES" IN H4]*

What specific types of initiatives to address energy needs have been implemented by your organization?

*[VERBATIM RESPONSE]*

**[H6]**

*[IF "YES" IN H4]*

In your opinion, to what degree have the initiatives to address energy needs in your organization been effective? Please use a scale where 0 is "not at all effective" and 10 is "very effective."

*[SINGLE RESPONSE]*

- 0 – Not at all effective
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10 – Very effective
- Don't know

**[H7]**

*[IF LESS THAN "8" IN H6]*

What strategies would you recommend to improve the effectiveness of managing energy needs in your organization?

*[VERBATIM RESPONSE]*

**[H8]**

*[IF "NO" IN H4]*

If your organization were to implement initiatives to address energy needs, what types of initiatives would you recommend?

*[VERBATIM RESPONSE]*

**[SPLIT SAMPLE: H9a; H9b]**

**[H9a]**

In the next five years, do you think the following aspects of energy use will improve, get worse, or stay the same?

*[GRID ROWS; RANDOMIZE]*

- Cost
- Availability
- Reliability or quality?
- Environmental sustainability

*[GRID COLUMNS]*

- Improve
- Get worse
- Stay the same
- Don't Know

**[H9b]**

In the next 10 years, do you think the following aspects of energy use will improve, get worse, or stay the same?

*[GRID ROWS; RANDOMIZE]*

- Cost
- Availability
- Reliability
- Environmental sustainability

*[GRID COLUMNS]*

- Improve
- Get worse
- Stay the same
- Don't Know

**[H10]**

In your opinion, are Canada's best years yet to come in the future, or are they in the past?

- Canada's best years are yet to come in the future
- Canada's best years are in the past

## **SECTION Z: Demographics**

Thank you for your time and openness so far. We have just a few more questions to help us classify your responses today.

**[Z1]**

Are you...

*[SINGLE RESPONSE]*

- Male?
- Female?

**[Z2]**

In what year were you born?

*[NUMERICAL RESPONSE: RANGE = 1900-1994]*

**[Z3]**

Please enter the first three digits of your organization's postal code in the space below.  
(IF MULTIPLE LOCATIONS – Headquarters)

*[ALPHANUMERIC RESPONSE; FORMAT A1A]*

**[Z4]**

Including yourself, how many people are currently employed in your organization?

*[SINGLE RESPONSE]*

- Less than 20
- Between 21 and 99
- 100 or more

**[Z5]**

What percentage of the total employees in your organization work in jobs which relate to energy production or procurement?

*[NUMERICAL RESPONSE 0-100]*

**[Z6]**

What is the highest level of education that you have completed or the highest degree that you have received?

*[SINGLE RESPONSE]*

- Less than high school (Grades 1-8)
- High school diploma or equivalent
- College, CEGEP or other non-university certificate or diploma
- Undergraduate university degree, certificate or diploma
- Master's degree
- Degree in medicine, dentistry, veterinary medicine or optometry
- Doctorate
- None of the above
- Prefer not to answer
- Employment

**[Z7]**

Which one of the following categories best describes your current employment status?

*[SINGLE RESPONSE]*

- Employed full-time
- Employed part-time
- Self-employed
- Currently between jobs
- Retired

**[Z8]**

In which province do you live?

- Newfoundland and Labrador
- Nova Scotia
- Prince Edward Island
- New Brunswick
- Quebec
- Ontario
- Manitoba
- Saskatchewan
- Alberta
- B.C.
- Nunavut
- Northwest Territories
- Yukon

**[OUTRO]**

Thank you very much for your valuable feedback. We greatly appreciate your participation in this important survey. You may now close this browser window.

## APPENDIX B: RESPONDENT CHARACTERISTICS

The survey of business and policy leaders was conducted in July 2012, with 348 business leaders and 241 policy leaders participating in the survey. Business leaders were drawn from a pool of executives and managers in a wide range of enterprises throughout Canada who had decision-making authority in their field; policy-makers were drawn from a pool of public agency and non-profit, public-policy institutions who had authority to approve investments or had knowledge of energy investments in their field of interest.

The study reached out to leaders in all parts of the country. The survey was not meant to be a random sample representative of overall Canadian population demographics. Instead, it was designed to capture the opinions of business and policy leaders in relatively equal numbers throughout Canada. For example, according to the 2011 census, Ontario has 38 per cent of Canada's population, but Ontario respondents comprised 10 per cent of the survey sample.

Table B1 displays sample percentages by region. The sample was evenly distributed throughout most provinces/regions, with a slightly higher number of responses in Alberta and B.C. The business leader sample is evenly distributed across regions, with the exception of The North. The number of policy leader responses is substantially higher in Alberta, British Columbia and The North. We do not expect this "oversampling" to affect our analysis, as all comparisons are within-province or within-group and meet the test of representation of the groups being sampled.

**TABLE B1: REGIONAL BREAKDOWN OF RESPONDENTS**

	Overall	Business	Policy
Newfoundland and Labrador	10%	11%	8%
Atlantic	10%	11%	8%
Quebec	10%	11%	8%
Ontario	10%	11%	8%
Manitoba	10%	11%	8%
Saskatchewan	10%	11%	9%
Alberta	14%	11%	18%
British Columbia	14%	11%	18%
The North	10%	8%	13%
Sample Size (N)	589	348	241

A concern may be that a heavy concentration of respondents in the energy sector or an energy-related industry would bias the responses, as these individuals would presumably be more knowledgeable about energy and/or be more aware of energy or environmental issues. Table B2 displays the primary sector where respondents were employed in at the time of the survey, for the full sample and sorted by the business and policy leader groups. We see that the overall sample is heavily weighted to municipal government, and the policy group is mainly municipal government, government (general), politicians, public institutions, and policy institutes. Respondents in the energy sector account for only four per cent of the overall sample, and each sub-sample. As such, we do not expect these respondents to bias the responses more than any other group.

**TABLE B2: PRIMARY SECTOR OF RESPONDENTS**

	<b>Overall</b>	<b>Business</b>	<b>Policy</b>
Politics/Gov't (Gen)/Public/Policy	8%	3%	16%
Retail/Sales/Rental/Wholesale	6%	10%	1%
Health Care/Social Svcs/Pharma	5%	7%	2%
IT/Information/Insurance/Chemical	4%	6%	1%
Education/Academia	4%	5%	3%
Energy Resources/Distribution/Utilities	4%	4%	4%
Administration/Accounting/Property Mgmt	4%	5%	1%
Tourism/Entertain/Culture/Hospitality	3%	6%	<1%
Financial/Economics	3%	5%	1%
Business/Consulting/Management/Legal	3%	3%	2%
Agriculture/Farming	3%	3%	2%
Construction/Trades/Engineering	3%	4%	1%
Retired/Infirm/Disabled/Unemployed	2%	3%	<1%
Provincial Gov't	2%	1%	4%
Transportation/Trucking/Automotive	2%	3%	<1%
Private Ent/Self Employed/Small Bus	2%	2%	1%
Media/Print/Publishing	1%	2%	1%
Military/Security/Justice	1%	1%	2%
Not For Profit	1%	2%	<1%
Manufacturing	1%	1%	1%
Economic Development/R&D	1%	1%	1%
Energy Conservation/Waste Mgmt/Recycling	1%	<1%	2%
Federal Gov't	1%	<1%	2%
Mining/Exploration	1%	1%	<1%
Other	2%	2%	1%
Don't know/Refused	16%	20%	10%
Sample Size (N)	589	348	241

## About the Authors

**Michal C. Moore**, (PhD) is an economist and Professor of Energy Economics at The School of Public Policy at the University of Calgary.

He is the former chief economist at the U.S. National Renewable Laboratory in Golden Colorado, where he led a research team engaged in examining over-the-horizon issues for the U.S. Department of Energy and developing new methods for cross-cutting analysis. He is an economist and a former commissioner with the California Energy Commission, where he held the designated economist position.

**André Turcotte**, (PhD) is an Associate Professor at Carleton University's School of Journalism and Communication. He is also the Graduate Supervisor for the Clayton H. Riddell Graduate Program in Political Management. He lectures in advanced quantitative research, political communication theory and persuasion.

Over the years, Dr. André Turcotte has provided public opinion research advice to many of Canada's leading private sector firms as well as several government organizations. Between 1992 and 1993, he was the co-editor of The Gallup Poll. He was part of the polling team for the Chretien Liberals in the 1993 Federal Election. Between 1994 and 2000, Dr. Turcotte was the official pollster of the Reform Party of Canada and its Leader, Preston Manning. During that period, he acted as a political commentator on all major Canadian TV networks both in English and French, as well as providing commentary in print and on the radio. He has also published articles in academic journals and chapters in several books. More recently, he has co-authored *Dynasties and Interludes* which look at the dynamics of electoral politics in Canada from 1867 to the present day.

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### ISSN

1919-112x SPP Research Papers (Print)  
1919-1138 SPP Research Papers (Online)

### DATE OF ISSUE

February 2013

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