ENTERING THE ENERGY & ENVIRONMENT POLICY FRONTIER

An examination of the intersection
of public opinion and public policy

by Nik Nanos

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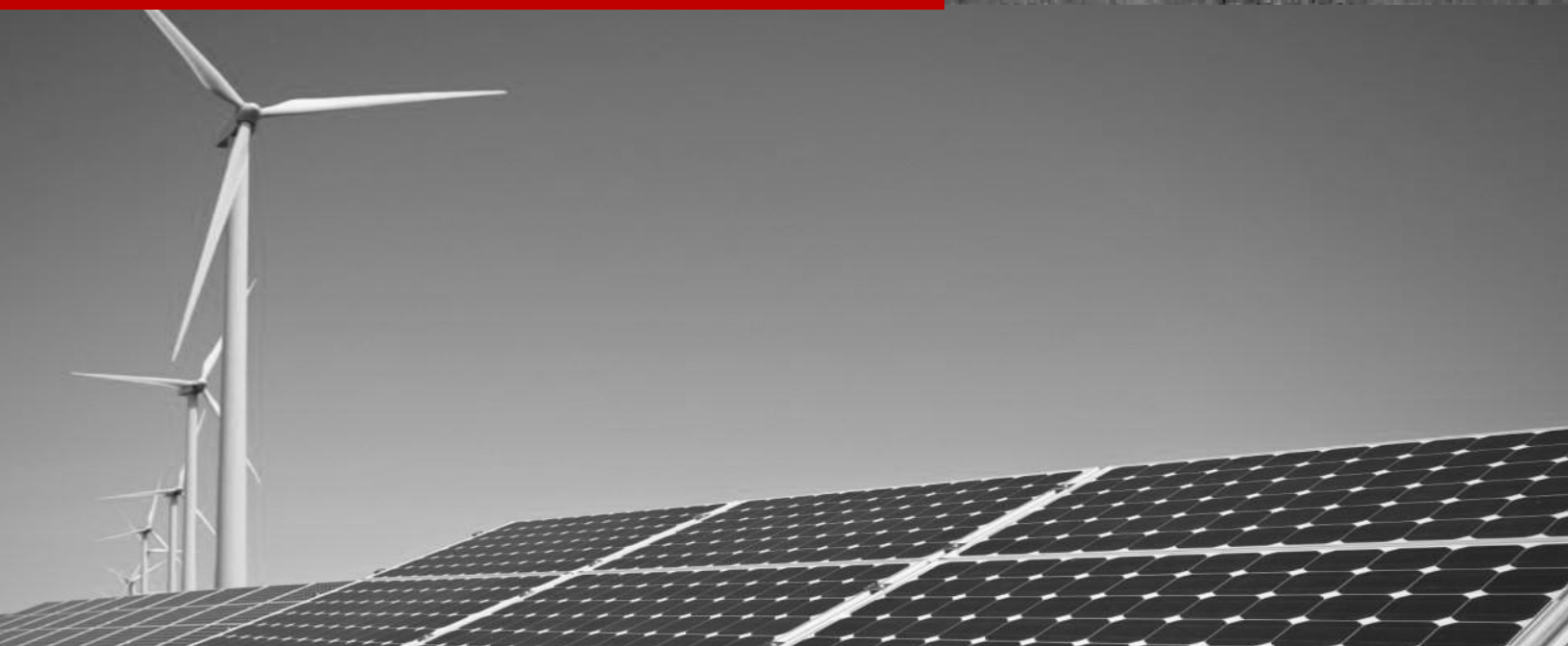

PREFACE

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This research was conducted as part of a scholar-in-residence program at the Woodrow Wilson International Center for Scholars in Washington, DC, between January and May 2013.

Nik Nanos is a 2013 Public Policy Scholar at the Wilson Center, a research associate professor at the State University of New York at Buffalo, and the Chairman of the Nanos Research Group of Companies.

The findings and observations are based on a series of sources. These ranged from elite key consultation interviews with a variety of stakeholders in the United States, statistical data in the public domain on energy, media clippings, and original public opinion research among Americans and Canadians on energy issues.

The opinions expressed in this document are those of Nik Nanos.

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ABOUT THIS PAPER

fron·tier

the part of a country that borders another country; boundary; border.

the limit of knowledge or the most advanced achievement in a particular field: *the frontiers of physics*, an outer limit in a field of endeavor, especially one in which the opportunities for research and development have not been exploited.

The game changer in energy policy was the discovery of new shale gas in significant abundance to reshape the energy landscape. Although coined by some as the harbinger of an energy revolution, the reality is that, like all revolutions, the journey may yield a destination different than many supposed.

Until quite recently, the possibility of energy independence in the United States was deemed remote and seemingly unattainable. The longstanding belief in the United States was that the United States would continue to rely on key North American energy partners, such as Canada and Mexico, as well as the Middle East. Even with the dependence narrative, pressures to reduce greenhouse gas emissions placed a growing focus on developing renewable energy sources, reducing energy demand, and lowering reliance on fossil fuels for energy generation.

The energy future looked dependent on the fluctuating and often expensive price of crude oil and the increasing louder calls for reduced greenhouse gas (GHG) emissions. A game changer in energy policy was the discovery of new shale gas in sufficient abundance to reshape the energy frontier, coupled with technological advancements to extract the resource.

This paper seeks to explore the changing energy landscape in the United States and Canada and to identify energy policy risks and opportunities.

This paper is based on the following sources:

- Original public opinion research comprised of independent national samples of opinion of Americans and Canadians.
- Elite in-depth interviews with 13 experts, advocacy groups, and the media in the United States.
- An analysis of secondary data, including media coverage in the United States, projections on sources of energy, and rail traffic.

A detailed methodology for this project is included in Appendix A.

WHAT WAS HEARD THROUGH THE PROJECT

There are two visions for the world - reliance on oil and gas, or becoming the Saudi Arabia of wind and sunshine. We can move in either direction.

We already have a strongly linked electricity grid and Canada has abundant zero carbon power that can be used in the U.S.. The two countries have a rich history of environmental co-operation.

Politics is the primary challenge. The Obama administration needs to see beyond the immediate challenges. Furthermore, Keystone is a relatively small part of the whole picture, but it will politically poison broader energy relations, whether approved or not.

Keystone has the potential to change the U.S./Canada energy relationship. Canadians aren't great at telling their story in regards to energy. Their biggest problem is that they don't brag.

Both countries are simultaneously going backwards – Canada with the tar sands and the U.S. with fracking. These problems are getting in the way of politics, causing countries to backpedal.

The challenge is the thoughtless resistance to energy projects of all kinds – those that oppose Keystone XL not because of any environmental consequences but because they oppose oil – and kneejerk reactions to any proposals that produce more energy such as wind.

Closer co-operation with Mexico would lead to economic benefits for North America, make Mexico a richer country, and in turn would help solve several social problems.

Energy is function of physics and physics doesn't respect man-made boundaries. Intelligent energy policy is a continental event.

The principal concept advanced in this paper is that the government should not pick energy winners and losers but focus on encouraging competition among energy sources within a common environmental standard. Also of note, decentralized sub-national environmental policy making, gridlock in Congress, and potential uncertainty in terms of the scope of recoverable energy resources should result in greater caution in favouring one energy source over another.

Promoting investment in a variety of technologies to recover and produce energy in an environmentally responsible manner will likely best minimize the long term energy and environmental policy risks.

The research also suggests that a comfortable majority of Americans support approval of the Keystone XL pipeline.

Nik Nanos

1.0 EXECUTIVE SUMMARY

This paper proposes that there are three elements to consider in developing a path forward for energy and environmental policy making:

- Certain states and provinces in the United States and Canada are taking an increasingly proactive approach to energy and environment policy. This is fostering a decentralized adoption or adaptation of energy or environmental policies as opposed to nation-to-nation summit decision making. This is a result of the demand for action at the state or provincial level and the gridlock in Congress.

- The long term projections on future energy needs are vulnerable to a number of uncertainties that range from technological unknowns, which could change the energy landscape, to environmental legislation yet to be enacted. In this uncertain future, governments should not focus on picking winners and losers but on encouraging investment in energy technology so a variety of energy sources can compete to set environmental standards within a market context.

- Even with decentralized state-driven policy making, achieving objectives for the environment will be difficult unless a framework for a National Carbon Policy is created. Considering the integration between the American and Canadian economies, the national governments need to take a role in starting a national dialogue that links a carbon policy to environmental goals.

Principal Findings

Increasingly decentralized policy making – Although states such as California have traditionally led on the environmental policy front, the gridlock in Congress, has further propelled state and provincial environmental policy activity with much of the dialogue on environmental and energy issues taking place at the state and provincial level. This policy environment is one which creates clusters of sub-national policies and coalitions of states and provinces with common sets of environmental objectives.

Reliance on oil from outside of North America – The public opinion suggests that appetite to reduce reliance on foreign oil from outside of North America trumps the priority to reduce GHG. Although reducing GHG remains important for both Americans and Canadians, the need for energy security, especially among Americans, is exceptionally strong.

Appetite for policy co-operation – Survey data indicate that there is a significant openness among Americans and Canadians to cooperate on both energy and environmental issues. Likewise, a majority of the individuals who participated in the elite outreach believed that greater co-operation on energy and environmental policy between the United States and Canada was necessary.

Renewables and energy winners/losers – Encouraging renewable energy sources has a very high level of importance in the general population but majorities would still support encouraging natural gas, oil, and coal if they met government environmental targets. This suggests that the public is more outcome (environment) oriented than focused on picking winners and losers.

Keystone XL Pipeline – There exists significant public support for the approval of the Keystone XL Pipeline in both the United States and Canada, but the positive impression scores are lower than support for approval. The public does not necessarily embrace the project but believes it should be approved.

Examining the media coverage – A media analysis of 1,046 articles, editorials, and letters to the editors in major media outlets in the United States over the past four years on the Keystone XL Pipeline indicates that the coverage related to it has been marginally negative but balanced. The New York Times was noticeably more likely to have a media item that left a negative rather than a positive impression of the Keystone XL Pipeline.

The Uncertainty of Energy Projections – A review of data from the U.S. Geological Survey, which underpins many of the models that have long term energy projections, shows that there are significant ranges of estimates at the assessment unit level for newer vintages of natural gas discoveries. Adding uncertainties related to future unknown technological developments in extraction or yet to be enacted environmental legislation that may impact energy demand or the state of the economy and energy demand, one should exercise caution in the very long term energy forecasts and in making policy decisions to pick winners and losers for energy sources.

Will it move by pipeline or rail – Rail traffic data from the first 12 weeks of 2013 indicate that while U.S. rail traffic is up one percent overall, rail traffic for petroleum products is up 57.3% over the past year. An estimated additional 1,284 rail cars a day are needed to move petroleum products in the United States and Canada compared to 2011. Assuming the first quarter trend of 2013 continues, a train stretching from Winnipeg to Houston with 467,000 rail cars would be required to carry a one year supply of the additional petroleum products transported by rail. It is clear that the demand for oil coupled with the state of pipeline infrastructure has resulted in an increased volume of oil being transported by rail.

These are the principal research findings of the study conducted by Nik Nanos as part of a scholar-in-residence program supported by the Woodrow Wilson International Center for Scholars. To follow is the detailed analysis and the data upon which the findings were based.

2.0 CONSIDERATIONS AND OPPORTUNITIES OF THE PROPOSITIONS

An examination of the public opinion in the United States and Canada, experts and key stakeholders in the United States, and data in the public domain suggests a number key conclusions.

The three key propositions are intended to add to the dialogue on the future of energy and its relation to the environment in North America.

2.1 Decentralized Policy Making

Although there is an appetite among citizens and experts for developing a United States-Canada Energy and Environmental Framework, this Framework would be difficult to achieve because of the political context. Recently, decentralized policy making has been driven by states and provinces rather than by national governments. This fluid environment has been exacerbated by gridlock in Congress. Even with obstacles to national solutions, energy and its environmental impact transcend borders. However, there exists a public will to move forward.

Considerations

- There exists a lack of public understanding of the complexity of energy and energy issues and the roles that both Canada and Mexico play as energy partners with the United States.
- There is a perceived misalignment between the environmental priorities of the Obama administration and the focus of the Harper government on oil sands development.
- Negotiating a bi-national framework for energy and the environment will be difficult. Moreover, its ratification by the U.S. Congress and potentially the Canadian Parliament is not guaranteed. Likewise, entrenched political interests (pro- and anti-fossil fuel) view policy decisions as a zero-sum game.
- State and provincial jurisdictions are likely to look to each other rather than to their federal government to advance energy and environmental policy.

The Reality

- The supply of energy could be a significant economic factor in enhancing the competitiveness of North American enterprises globally. Concurrently, there will likely be continued public demand to reduce greenhouse gas emissions. Energy markets, including the economies in North America, already transcend borders and are sub-national in terms of policy making and market behaviour. There already

exists national co-operation on a host of other common interests, but many policies on energy and the environment are driven at the state and provincial level.

2.2 Winners, Losers and Energy Choices

Some argue that the country should move to a low-carbon economy in order to help manage the impact of carbon fuels on the environment, while others argue that we need to develop the energy resources we have to promote prosperity. If an economically and environmentally responsible economy is the goal, governments should avoid picking winners and losers to minimize risk.

Environmental targets can be set, and energy sources – regardless of whether they are renewables, fossil, hydro or nuclear – should compete. In this paradigm, technology and competition are the keys to managing greenhouse gas emissions and achieving environmental targets within a competitive market.

Considerations

- Technological breakthroughs and legislative changes will significantly impact the energy and environment landscape in the future.
- It is difficult for models attempting to project 20 and 30 years into the future to take into account the technological breakthroughs and legislative changes. Likewise, picking winners and losers by source of energy rather than by output (be it environmental or economic) may also be risky.
- Short term politicized energy policy decisions on specific projects may potentially be counterproductive in terms of the environmental impact, such as the infrastructure trade-off between moving oil by pipeline or other modes of transportation.
- Media organizations may engage in editorial campaigns against or in favour of specific energy sources instead of focusing on the net environmental impact. In this case, the simplification of the debate where some energy sources are framed as "good" and others "bad" shifts away from a focus on economic and environmental outcomes.
- Consumers are wedded to the status quo. Change occurs reactively as a result of energy or environmental shocks.
- Public opposition and NIMBY-ism (not-in-my-back-yard) to any energy project, renewable or non-renewable, may be a significant factor to any project regardless of the source of energy.

The Reality

- One can expect, at some point, a disruptive technology to alter the energy and environmental landscape. If the destination of economically and environmentally sustainable energy solutions is more important than the journey where there is a tendency to pick energy winners and losers, the objective should be to encourage investment in technology for a diversity of energy sources, both non-fossil and fossil, to work towards providing economically feasible and environmentally responsible energy solutions. The focus should be on the end result, not picking energy winners and losers.

2.3 A National Carbon Policy Dialogue

The fact that there are significant political hurdles to having a United States-Canada energy and environmental policy alignment should not detract from beginning a dialogue. An alternative first step would be to focus on creating a United States-Canada framework for a National Carbon Policy on energy and the environment. A common framework with shared United States-Canada objectives will help both countries achieve environmental goals while at the same time creating greater certainty in making investments in an array of energy sources to meet future needs. The integrated economies of the United States and Canada require a co-ordinated approach to invest in energy related technology and energy generation.

Considerations

- Although states and provinces will continue to proactively drive both environmental and energy policies, there remains a role for the respective federal government to engage and help guide policy making towards aligned national objectives.

- The current political environment is restrictive and should not preclude a dialogue on a National Carbon Policy. This potential dialogue on carbon represents a key element for both meet environmental objectives and also promote economic prosperity.

The Reality

- At some point, a framework for a National Carbon Policy in the United States and Canada will be put forward. Beginning that dialogue sooner, rather than later, could help create profile for the energy partnership that exists between the United States and Canada. The first step is to acknowledge and promote the fact in the United States that Canada is America's most important and reliable energy partner and to use that as a stepping stone for a political carbon policy and the environment dialogue.

3.0 DECENTRALIZED POLICY FRONTIER

In terms of environmental policy, we may be seeing a shift to more of a decentralized policy making framework for the near future. The key hallmark of the expected policy environment is the adoption or adaptation of policies at the sub-national level (state and province). The most common paradigm of the past was a nation-to-nation centralized model such as the Air Quality Agreement between the United States and Canada. Applying a decentralized framework to environmental policy development in North America provides a glimpse of what could be expected in the future for this policy area which is both national and state/provincial in its governance.

Sources: The Economist (November 24, 2012), The Sacramento Bee (April 26, 2013)

Many of the past transnational environmental policies have been the product of traditional policy making decision processes in which leaders and governments meet, negotiate, and ratify policies. For example, discussions on acid rain between the United States and Canada were initiated in 1986 by then Canadian Prime Minister Brian Mulroney through talks with U.S. President Ronald Reagan. These discussions culminated in the Air Quality Agreement, also known as the "Acid Rain Treaty," signed in 1991 by Mulroney and Reagan's successor, President George H. W. Bush[1]. In this process, in addition to the appetite of political leaders to advance the issue, there was a political and legislative environment to enable those policy changes.

In today's political environment, the level of partisanship in both the United States and Canada is quite high. This is particularly true in the United States. Gripped in a budget sequestration fever, which negatively colors the political and legislative context, issues that on the surface seem to have broad public support are gridlocked in Congress. In Canada, although the level of political partisanship is also quite high, the parliamentary majority of the Harper government does allow it to enable legislation it identifies as a priority. In this situation, the traditional summit model of policy making is more problematic, because although the political will of leaders may be resolute, the ability to enable is weakened.

The process of advancing environmental policy on the summit model, such as that that created in the Acid Rain Treaty, is difficult politically in terms of the different legislative priorities in the United States and Canada, the risks related to the negotiation and ratification process, indeterminate in terms of time, and complex because of the role of state/provincial

governments in environmental policy and different national legislative priorities in the United States and Canada.

An example of this sub-national decentralization is the increasingly important role that the State of California has played on environmental issues. Some observers have dubbed this the "California effect," where state-policy innovation falls outside of its jurisdiction[2]. The State of California has advanced policies on fuel standards which were adopted nationally and have had a broader impact outside of California. In April 2013, a formal agreement between the State of California and the Province of Quebec to link cap-and-trade programs was announced with the intention of expanding this agreement to Australia, the Northeast of the United States, and the European Union[3]. In this approach, jurisdictions have open-source like policy adoption for environmental policy in contrast with more traditional models such as those used for the Kyoto Accord, which include complex international negotiations.

Through the course of the elite consultations, a common thread of opinion related to the limits of the political situation to deliver energy and environmental policies at the national level because of a series of factors ranging from partisanship through to the vested interests of the key energy and environmental stakeholders. Movements among some key states and provinces to vigorously engage in environmental and energy policies is likely a response not only to the political landscape, but also to the view that traditional national and global summit-driven initiatives have not been effective.

Moving forward, decentralized movements, as opposed to centrally driven solutions, may take on even greater importance in environmental policy making.

4.0 Public Opinion – the U.S. and Canadian Policy Environment

A review of the public opinion environment suggests that citizens are supportive of greater U.S.-Canada co-operation in terms of both energy and environmental policies. Likewise, although some energy sources have much more favourable impressions than others, applying a common environmental standard to all energy sources and allowing them to compete would likely be embraced by both Americans and Canadians as demonstrated in the public opinion research.

Policy is not created in a vacuum. It is largely the result of a combination of factors, including government priorities, public opinion, and competing policy demands. As part of this study, U.S. and Canadian policy maps, which visually display the policy landscape on 15 policy issues, were created (Exhibits 1 and 2). By polling the public in the United States and Canada, we were able to determine citizens' priorities (using a scale of 1 to 10, where 1 was not at all important and 10 was very important) and also how confident or not confident they were in each nation's ability to find solutions (for the map, "not confident" was assigned a value of 1 and "confident" was assigned a value of 4). Fifteen policy areas were rotated and tested as part of the policy mapping procedure, including:

- managing the pressures of an aging population;
- further protecting our environment;
- having trade policies that encourage investment;
- encouraging American/Canadian culture;
- being energy self-sufficient;
- ensuring Americans/Canadians have a high standard of living;
- investing in our education system;
- keeping our healthcare system strong;
- creating jobs;
- preserving social programs;
- balancing government budgets;
- investing in infrastructure, such as roads and bridges;
- ensuring safe communities;
- asserting America's/Canada's role in international affairs; and,
- protecting our borders.

Exhibit 1

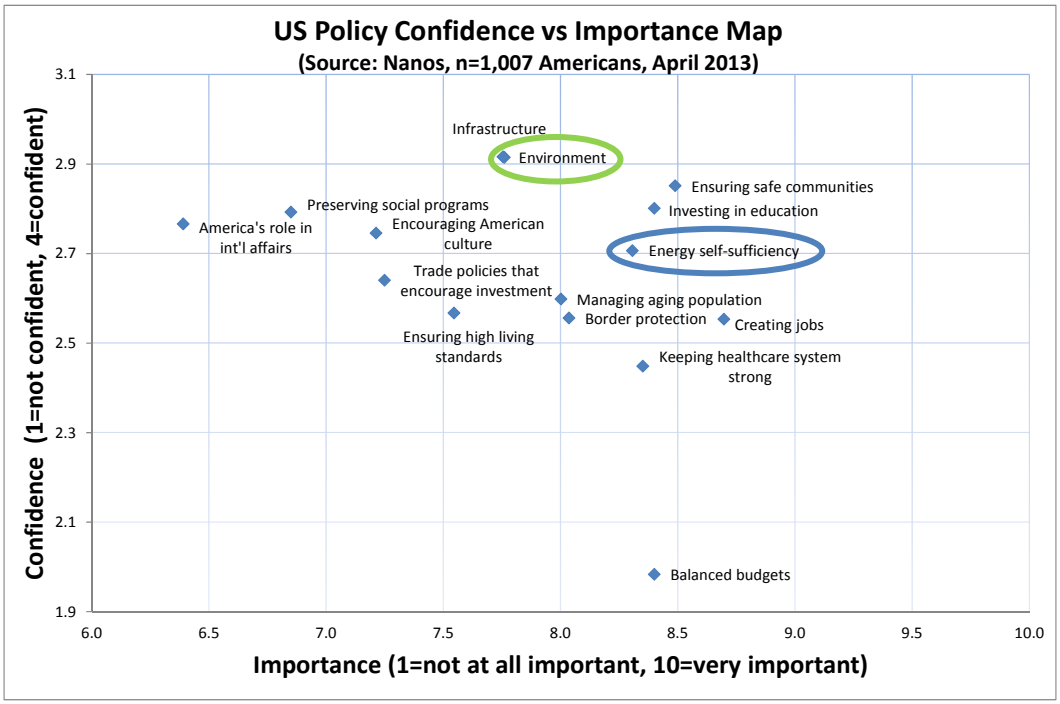
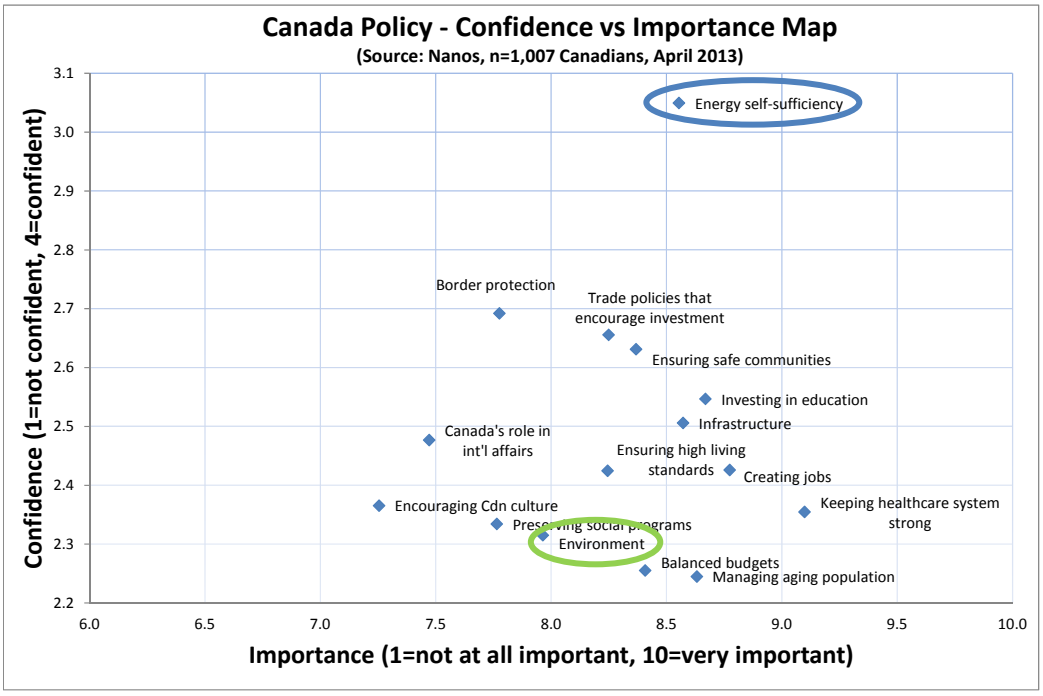


Exhibit 2



The purpose of the survey research and the subsequent creation of the map was to contextualize energy and environmental policy priorities within a broader policy framework. The maps illustrate three key points:

- **The Environment –** Americans are much more confident than Canadians that as a nation, they can find solutions to further protect the environment. On the other hand, Americans have a low level of confidence in the government's capability to balance the budget. Americans and Canadians rated energy self-sufficiency equally important to investing in education and keeping the healthcare system strong.

- **Energy Self-sufficiency –** Canadians are much more confident than Americans in their country's ability to be energy self-sufficient. Second, Canadians identified keeping the healthcare system strong as the most important policy issue. Canadians are much less confident than Americans on their country's ability to protect the environment.

- **Overall Confidence –** At the time the survey was conducted, Americans were generally more confident than Canadians on their country's ability to find solutions to policy challenges. The responses of Americans and Canadians can be visualized in the clusters on the maps.

5.0 Public Opinion - Energy Policy Direction and Priorities

Identifying the priorities and confidence in finding solutions among both Americans and Canadians enabled us to understand the context in the United States and Canada for energy and the environment policy-making. It would be fair to say that when one tests on priorities individually, most are deemed important by the public. Examining views in terms of a forced-choice model[4] of two priorities provides a better understanding of the trade-offs between reducing GHG and reducing reliance on oil from outside of North America. Broadly speaking, our exploration of policy priorities focused on perceptions related to energy and to the environment. Although the term "energy security" has been used in other studies, we did not use that term in the questionnaire because we could not guarantee that respondents would interpret the meaning of "energy security" consistently. Rather than use the term "energy security," we presented respondents with specific policy options and tested Americans' and Canadians' views on these detailed policy options.

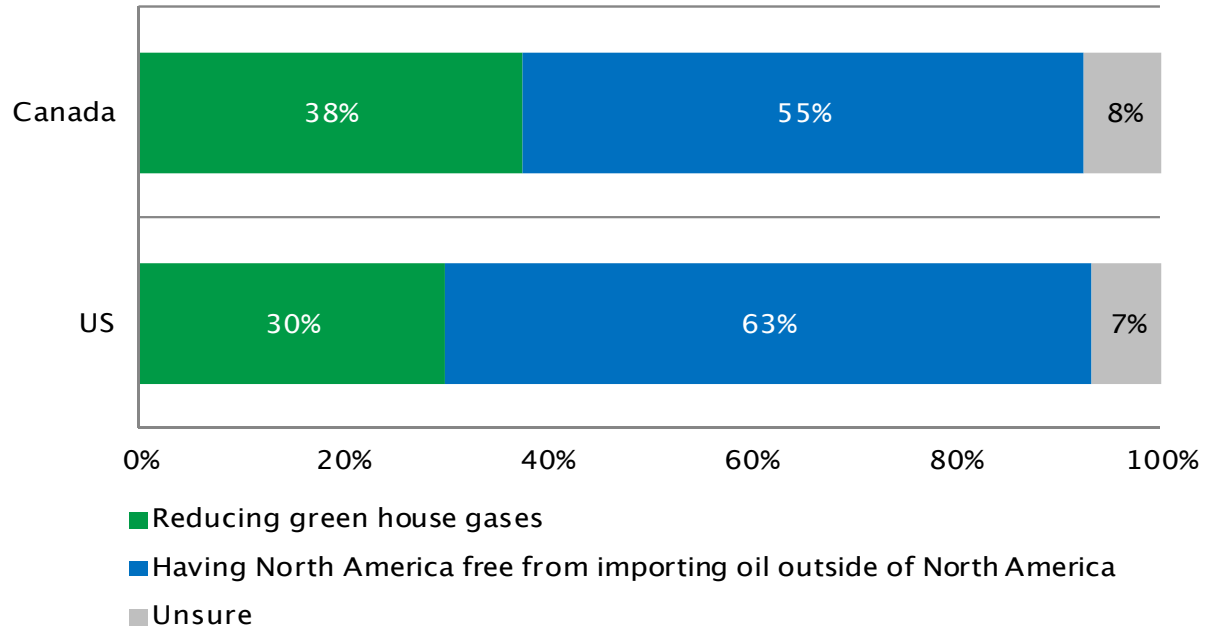
5.1 Reducing GHG Emissions and Oil Imports

Public opinion research shows that both Americans and Canadians favor reducing reliance on importing oil from outside of North America over reducing GHG emissions. Americans were twice as likely to prefer less reliance on oil imports as a priority (63 percent) than reducing GHG (30 percent). These views are generally consistent across most demographic sub-populations.

Considering Canada's vast energy resources, it is not surprising that fewer Canadians identified reliance on oil from outside of North America as a concern. The only region in North America

Exhibit 3

Question: What is more important to you, reducing green house gases or having North America free from importing oil outside of North America?

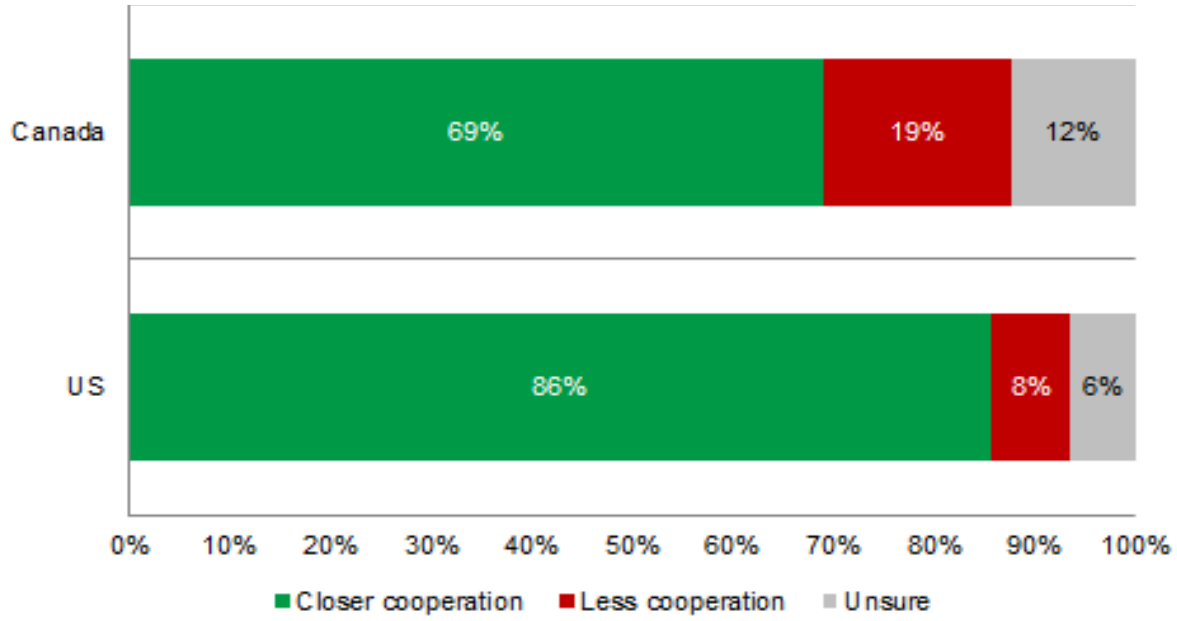


that deviated from this trend was Quebec. Among the sub-sample of Quebecers, 53 percent identified reducing GHG emissions as a priority, compared to 39 percent that identified reducing reliance on imported oil as a priority. This study's findings on Quebec are consistent with other public opinion research on environmental issues conducted in that province, which suggest a greater focus on the environment as an issue in Quebec compared to many other regions. This is likely a result of Quebec's reliance on renewable hydro-electric energy. For example, according to the Government of Quebec, 97 percent of all the electricity the province produces is "green electricity"[5].

5.2 Views on Co-operation on Energy Policy and Environmental Standards

Consistent with the findings of the elite outreach, respondents indicated their desire for greater cooperation within North America in the areas of energy and the environment. The desire for energy cooperation is higher in the United States than in Canada, and in fact, many Americans want to see the United States work more closely with Canada on all energy-related issues (86 percent). In contrast, just under seven out of ten Canadians (69 percent) would like to see closer co-operation with the United States on energy-related issues. Still, in both countries, respondents indicated their desire for the United States and Canada to be close energy partners.

Exhibit 4
Thinking of the future direction of energy policy, would it be your preference for there to be closer cooperation or less cooperation with America/Canada as an energy partner



Although the appetite for energy cooperation with Mexico is significant in both the United States and Canada, the level is lower than for the United States-Canada partnership (86 percent of U.S. respondents indicated a desire for Closer Co-operation with Canada, but only 60 percent

of U.S. respondents indicated their desire for Closer Co-operation with Mexico; Canada Closer Co-operation with the United States 69 percent, Closer Co-operation with Mexico 47 percent).

A number of the individuals in the elite interviews believed that greater co-operation between the United States and Canada on energy issues would be achievable but that there are structural obstacles to adding Mexico as an energy partner in the short term. The obstacles they identified include the need for the Mexican energy sector to reform and for the Mexican government to set a possible new path for Mexico's state-owned petroleum company, PEMEX.

Both Americans and Canadians also thought having common environmental standards between countries was quite important. In a similar pattern to the energy co-operation results, the level of intensity of importance of cooperation between the United States and Canada was higher in the US and also higher than the intensity of importance of co-operation between the United States, Canada, and Mexico.

Exhibit 5
Thinking of the future direction of energy policy, would it be your preference for there to be closer cooperation or less cooperation with Mexico as an energy partner

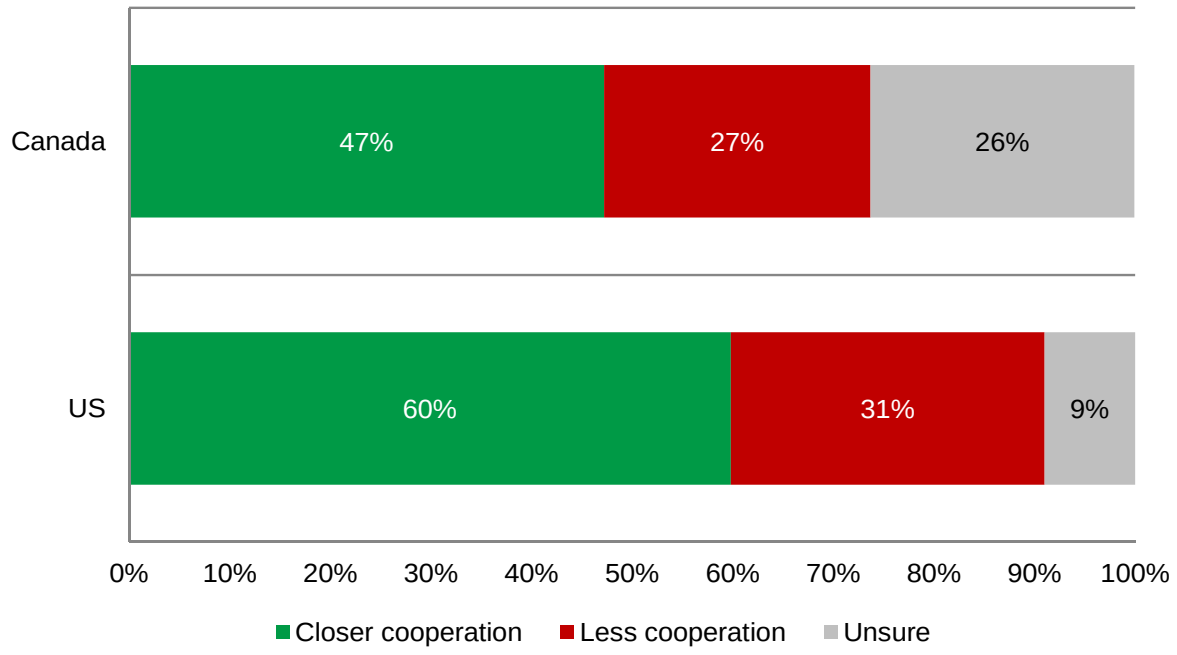
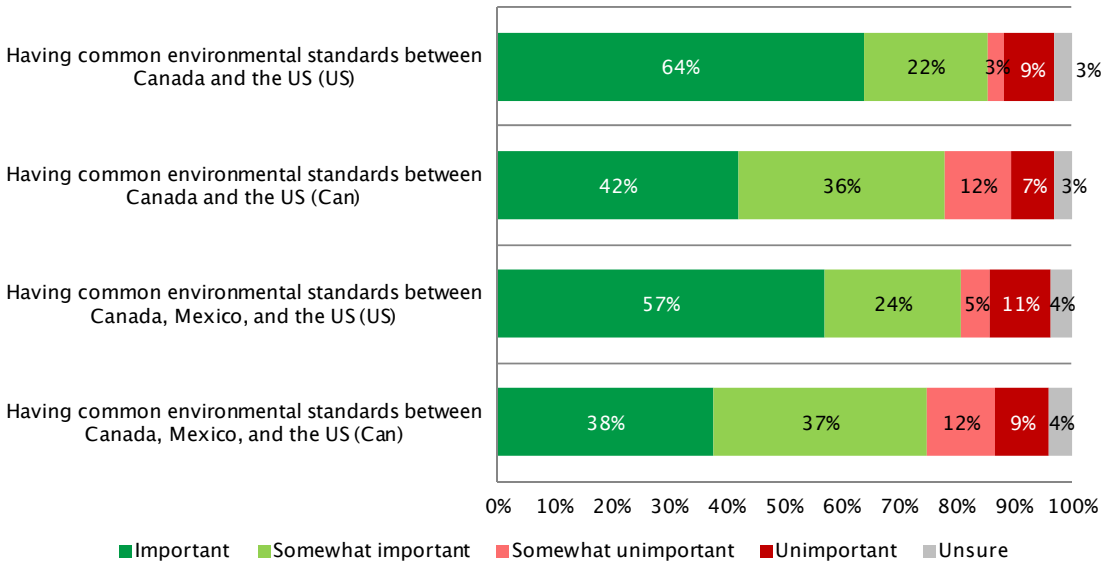


Exhibit 6

Are the following important, somewhat important, somewhat unimportant or unimportant to you:



Factoring respondents in both the United States and Canada who believed it was either important or somewhat important, very strong proportions of the populace see co-operation as an important element of the environmental policy mix.

The survey opinion was consistent with the elite feedback. Issues such as proximity of the three markets, current trade alignment through the NAFTA, and positive potential spillover effects of strengthened ties among the three countries point to an opportunity to explore a more co-ordinated energy and environmental framework for North America. Many of the experts noted that each country is not a monolithic energy market but a series of energy markets with different needs – thus necessitating cross-national and sub-regional strategies to optimize energy. Likewise, environmental concerns, such as acid rain, were seen as common issues requiring a bi- or multi-national response.

During the elite consultations, a number of individuals indicated that better country-to-country policy development on both energy and environmental issues would have a positive impact on environmental policy outcomes and would benefit the North American economy.

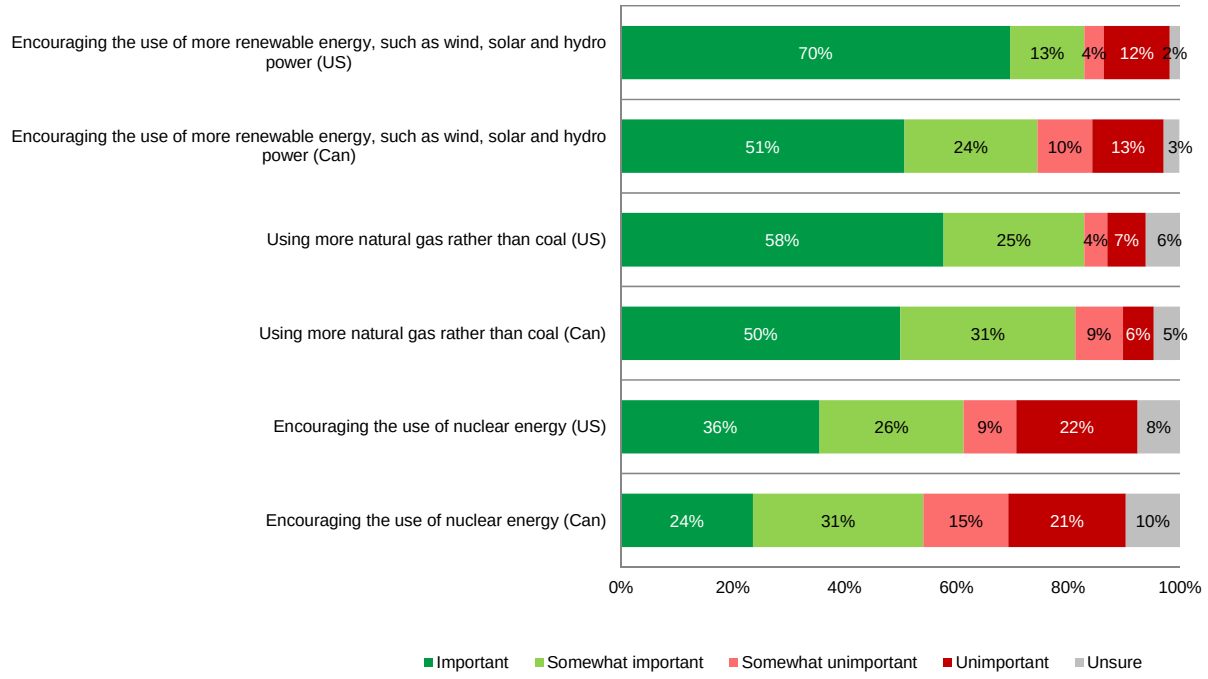
Based on public opinion and the elite outreach, it is not inconceivable that Canada and the United States might consider developing a common framework to tackle energy and environmental priorities. Once established, these bilateral policies could be extended to include Mexico, after there is greater certainty on the future configuration of PEMEX. This transition/development would be akin to free trade discussions where the Canada-U.S. Free Trade Agreement was established first and then evolved into the North American Free Trade Agreement, which included Mexico.

5.3 Perceptions on Energy Sources

Although the purpose of the study was not to examine in detail the energy mix of the future, one of its objectives was to get a sense of how the public felt about an array of energy sources. The study identified renewables as a central part of the public energy narrative, as well as the public's perception of the relationship between coal and natural gas. Combining the views of Americans and Canadians who said encouraging renewables was important or somewhat important suggested that the appetite for encouraging renewables is quite strong. This was especially true in the United States, more so than in Canada (83 percent of Americans said encouraging renewables was important or somewhat important, compared to 75 percent of Canadians). Similarly, views on encouraging natural gas rather than coal received positive but not as intense importance scores. Of note, a majority of Canadians and Americans still thought that encouraging coal and nuclear was important or somewhat important.

In the United States there is a clear and significant public appetite to encourage renewable energy, such as wind, solar, and hydro power. The public would support strategies that favor renewable energy as part of a broader long term energy plan.

Exhibit 7
Are the following important, somewhat important, somewhat unimportant or unimportant to you [ROTATE]:



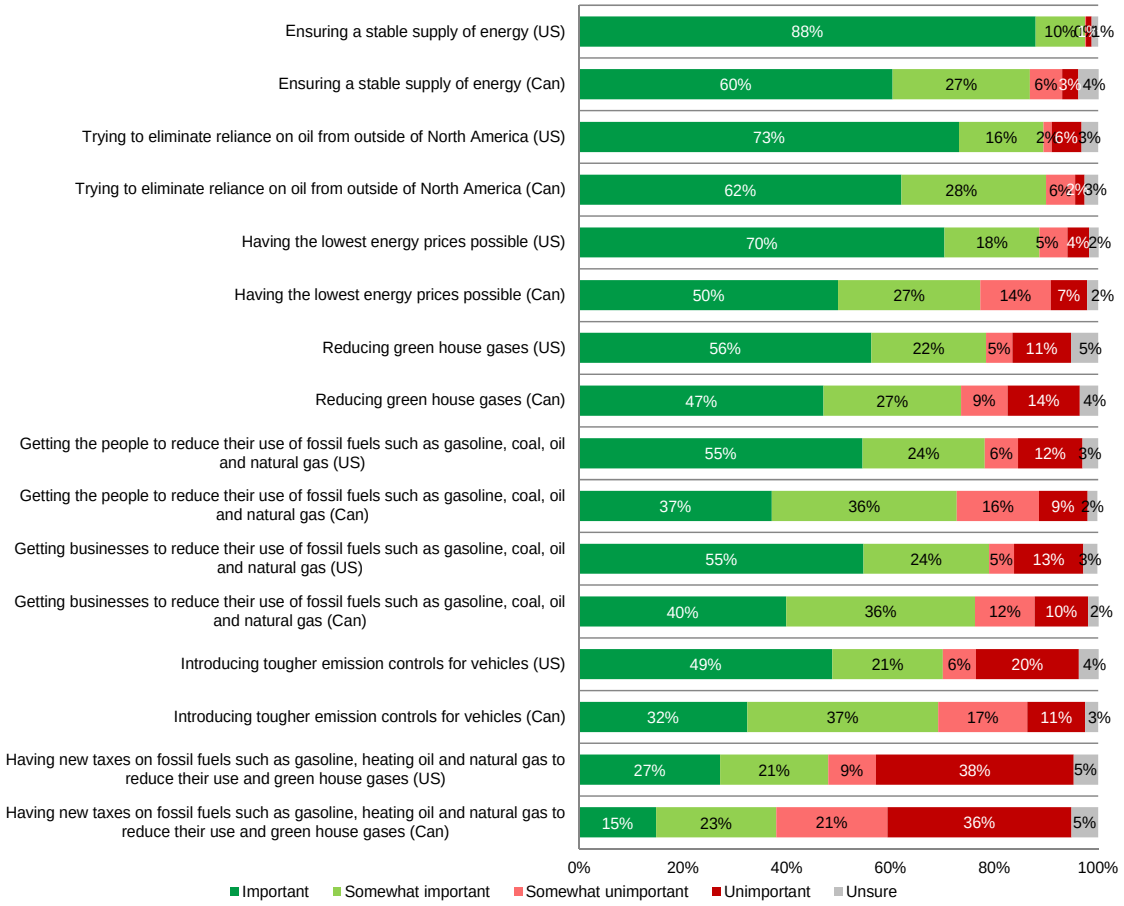
5.4 Energy Policies

In addition to ensuring a stable supply of energy and eliminating the reliance of oil from outside of North America, Americans identified having lower energy prices as important. New taxes on fossil fuels had the lowest level of importance on the policy grid, although Americans were more likely to believe it was important compared to Canadians (United States Important/somewhat important: 48 percent; Canada Important/somewhat important: 38 percent). Most other proposals including reducing GHG, reducing the use of fossil fuels, and introducing tougher emissions controls for vehicles were identified as important or somewhat important policies for a clear majority of the populations in both the United States and Canada.

Beyond ensuring a stable supply of energy, reducing reliance on oil from outside of North America, and having low energy prices, it is clear that new taxes on fossil fuels would be met with resistance by some. Significantly, Americans would more likely accept new taxes compared to Canadians.

Exhibit 8

Are the following important, somewhat important, somewhat unimportant or unimportant to you [ROTATE]:

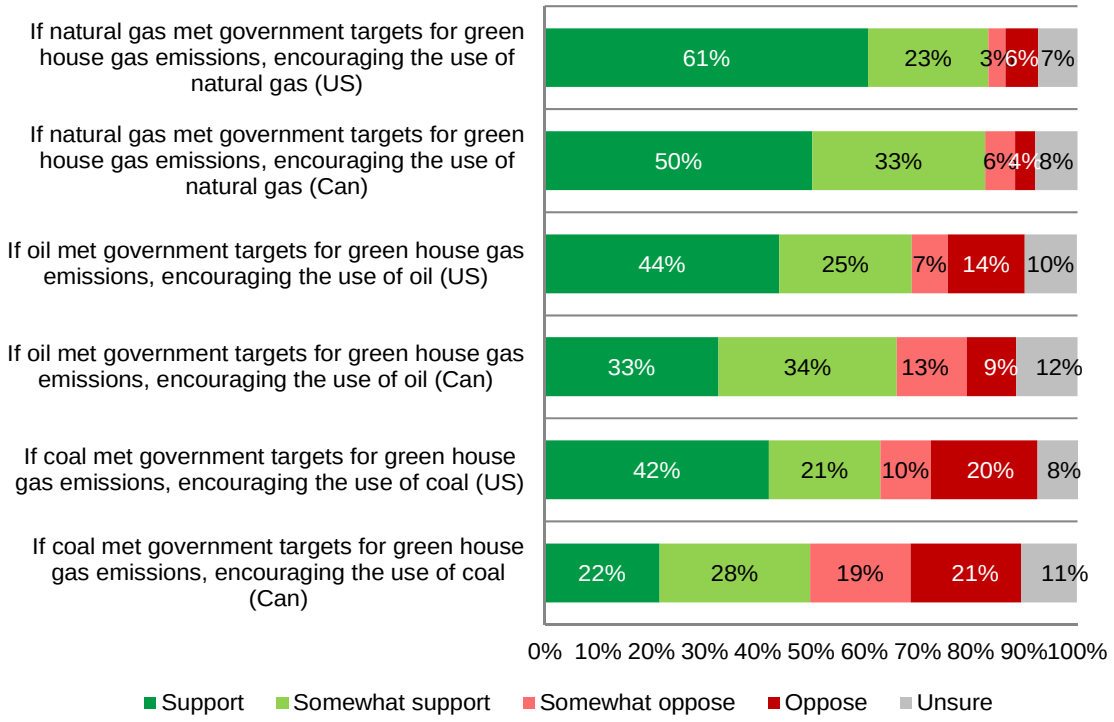


5.5 Energy Choices

In order to explore the concept of choices between fossil-based energy sources, a series of possible scenarios was tested among respondents in the United States and Canada. The purpose of this approach was to measure openness or resistance to different fossil fuel options based on a possible association with the fossil fuel meeting government targets for GHG emissions (no specific targets were tested because of the complexity of the issue). A majority of Americans supported the continued use of all fossil fuels if such fuels met government targets for reducing GHG emissions. Natural gas had the highest level of support, and although coal had the lowest comparative level, 63 percent of Americans said they would support or somewhat support the use of coal in the United States if it met government targets for GHG emissions. The majority of Canadian respondents were also supportive of natural gas if it met government targets for GHG, but the percentage of Canadians who encouraged the use coal was 50 percent in favour and 40 percent against, with 10 percent unsure.

Based on the public opinion, one can surmise that a majority of the public is likely more focused on the ability of an energy source to meet a particular environmental standard rather than picking winners and losers where specific sources of energy are actively discouraged.

Exhibit 9
Would you support, somewhat support, somewhat oppose or oppose the following:



6.0 PUBLIC OPINION - VIEWS ON KEYSTONE XL PIPELINE

Examining the views of Americans and Canadians on the Keystone XL Pipeline suggests that the pipeline itself has a significant level of awareness in both countries. The awareness of the pipeline in Canada is likely a result of the efforts of both environmentalists and various Canadian governments, including provincial and federally-elected officials, to create a visible profile on the project in Canada and in the United States. As the Obama administration deliberates whether to approve the pipeline, Canadian officials are especially keen to advance public opinion in the United States in favor of the Keystone XL Pipeline.

Exhibit 10

Question: Have you heard or not heard of the Keystone Pipeline project which is a pipeline system to transport synthetic crude oil and bitumen from the Alberta oil sands in Canada to the United States?

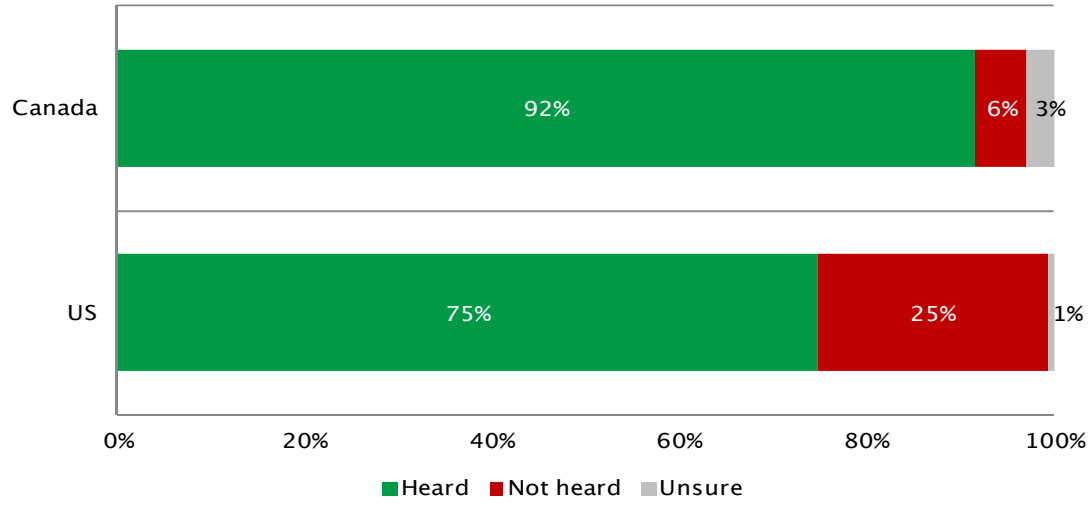
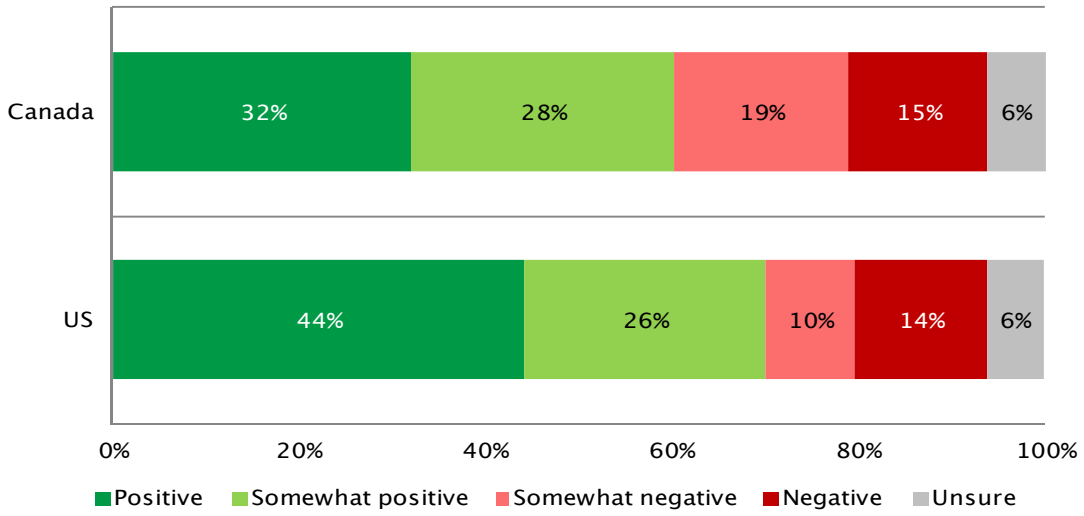


Exhibit 11

Question: Do you have a positive, somewhat positive, somewhat negative or negative view of the Keystone Pipeline project? (Aware only)



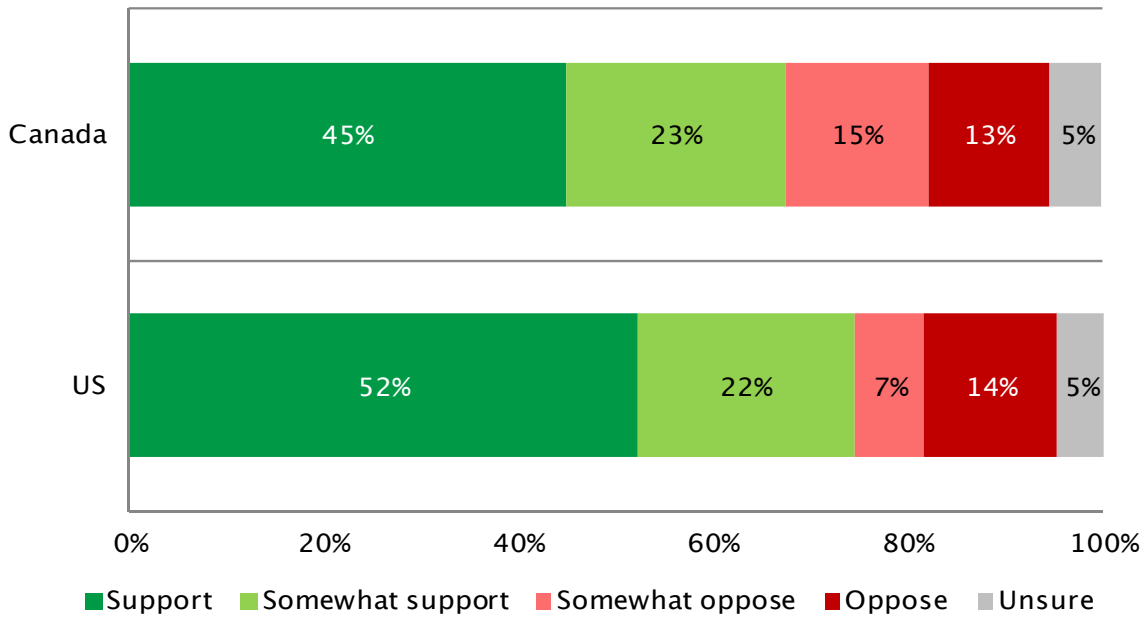
It is also clear that the pipeline's visibility in the United States is largely due to significant media coverage, including the pipeline's prominence during the most recent presidential election cycle when a decision was postponed.

An examination of the other opinions explored as part of the study indicates that Americans were twice as likely to place reducing dependence on oil from outside of North America as a more important policy priority (63 percent) than reducing GHG emissions (30 percent) in a direct trade-off (i.e. choose directly between the two possible priorities) situation. However, when tested independently, reducing GHG was considered important or somewhat important by almost eight in ten (78 percent) Americans, while trying to eliminate reliance on oil from outside of North America was considered important or somewhat important by nine in ten Americans (90 percent). Although reducing GHG is important to Americans, when faced with a choice between reducing GHG emissions or lessening dependence on oil from outside of North America, Americans would prefer to reduce dependence on external sources of oil.

Impressions measured in the public opinion in both Canada and the United States were less positive than support for the pipeline. This result suggests that Americans and Canadians may not be embracing the project proactively, but generally see it as necessary in terms of energy security priorities.

Exhibit 12

Question: Based on what you have heard about the proposed Keystone XL Pipeline between Canada and the US, do you support, somewhat support, somewhat oppose or oppose the US government approving the project? (Aware only)



7.0 KEYSTONE XL PIPELINE MEDIA ANALYSIS

The media analysis and public opinion research both suggest that there exists considerable awareness of the Keystone XL pipeline in the United States. The newspaper coverage was only marginally negative, with the exception of one major media organization that was consistently negative. The key conclusion is that the media coverage of the pipeline has not been overwhelmingly negative.

As part of the study, we analyzed 1,046 items in the top newspapers by circulation in the United States. The search parameters for the media analysis included the keywords "Keystone" and "pipeline" for the period of the first Obama administration through April 1, 2013. Each of the items was read and categorized in terms of relevance (on a scale of 1 to 5, where 1 was low relevance and 5 was high relevance) and also in terms of impression of the Keystone XL Pipeline (on a scale of 1 to 5, where 1 was negative impression and 5 was positive impression).

Over the course of the last four years, there have been 483 million media impressions (reach in the marketplace based on the circulation of newspaper organisations) and 1,046 items (articles, editorials, opinion pieces, letters to the editors, etc.) related to the Keystone XL Pipeline project in the United States among major American newspapers. This estimate excludes television and radio coverage of the pipeline. Overall, a majority of the items examined were primarily focused on the Keystone XL Pipeline, with a high degree of relevance to the issue. The absolute number of items in the analysis show that the media impressions were marginally more likely to project a negative or somewhat negative impression (31.0 percent were rated a 1 and 2 on the 5-point scale) rather than a positive impression (25.6 percent was a 4 or 5 on the 5 point scale).

Exhibit 13

Relevance of Newspaper Items referring to Keystone XL Pipeline

		Frequency	Percent	Cumulative Percent
Value	Low relevance	148	14.1	14.1
	2	103	9.8	24.0
	3	104	9.9	33.9
	4	96	9.2	43.1
	High relevance	595	56.9	100.0
	Total	**1046**	**100.0**	

Exhibit 14

Positive/Negative Impressions of Keystone XL Pipeline among Newspaper Items

		Frequency	Percent	Cumulative Percent
Value	Negative impression	122	11.7	11.7
	2	202	19.3	31.0
	3	455	43.5	74.5
	4	125	12.0	86.4
	Positive impression	142	13.6	100.0
	Total	**1046**	**100.0**	

Exhibit 15

Positive/Negative Impressions of Keystone XL Pipeline among Newspaper Items

Keystone XL Media Impressions	Impressions	Percent
Positive Media Impressions	95,869,541	19.8%
Neutral Media Impressions	224,533,005	46.4%
Negative Media Impressions	(163,080,745)	33.7%
Total Media Impressions	483,483,291	100.0%
Net Impact of Media Impressions	(67,211,204)	

Once one factors the media impressions of the respective newspaper organizations (Exhibit 15), however, the impact becomes more noticeably negative. Overall, there were almost 483 million media impressions in the United States on Keystone XL Pipeline during the analysis period, with 34 percent of the newspaper impressions being negative and 20 percent of the reach positive.

Readers should also note that one important newspaper organization had a disproportionate impact on the Keystone XL Pipeline narrative in the newspaper impression analysis. The net impact of items from the New York Times resulted in 53 million net negative media impressions. This single organization represented 79 percent of the net negative impressions in the United States newspaper marketplace on an aggregated basis. Likewise, for the period in the analysis, the New York Times was estimated to have approximately three times greater likelihood to have a negative rather than a positive article on the Keystone XL Pipeline (see Exhibit 15: 38 percent negative impression compared to 13 percent positive impression). This suggests that, excluding the New York Times, coverage of the Keystone XL Pipeline has generally been balanced between positive and negative stories (only a net negative five percent differential as opposed to a negative 14 point differential between positive and negative impressions).

Exhibit 16

New York Times Media Impressions of Keystone XL Pipeline Newspaper Items
with a Comparison of the Aggregated Impressions without the New York Times Items

Keystone XL Media Impressions	Impressions NYT	Percent	Net w/o NYT	Percent
Positive Media Impressions	25,821,840	12.5%	70,047,701	25.3%
Neutral Media Impressions	101,673,495	49.2%	122,859,510	44.4%
Negative Media Impressions	(79,079,385)	38.3%	84,001,360	30.3%
Total Media Impressions	206,574,720	100.0%	276,908,571	
Net Impact of Media Impressions	(53,257,545.00)		(13,953,659)	

8.0 ELITE OUTREACH

As part of the research study, a series of elite interviews, which addressed energy issues that related to Canada and Mexico, were conducted with individuals in the energy and environment sectors in the United States. The elite outreach included advocacy groups, associations, experts, and the media. The elite interviews were conducted either in person or by phone. The purpose of the interviews was to provide context for the energy policy research and to help gather information sources for the study area. The analysis of the 13 in-depth elite stakeholder outreach interviews should be considered qualitative in nature and cannot be projected to any group (see Appendix D for the Elite Outreach Discussion Guide).

The individuals that shared their views as part of the elite outreach generally reinforced the need for greater co-operation between the United States and Canada on both energy and environmental policies. There was significant concern related to the ability to develop bi-national solutions because of the current political environment in the United States.

8.1 Energy Policy Cooperation

When asked about the future direction of energy policy in the United States, the majority of individuals consulted expressed the view that the United States should have closer co-operation with both Canada and Mexico on energy issues. The individuals believed that the benefits of greater co-operation outweighed the risks, and a potential hemispheric energy security and environmental framework or strategy. They also believed that multi-lateral cooperation could benefit the US, Canada, and Mexico. Already economic partners through the NAFTA, the three countries could work together on energy and environment issues. Individuals from the elite consultations identified two factors—positive relations with both Mexico and Canada, and the close proximity of energy resources to US markets—as opportunities to engage in continental environmental priorities.

8.2 Policy Opportunities for U.S. Energy Policy Making with Canada

The elite stakeholders had diverse and sometimes conflicting views of U.S. energy policy with respect to Canada, though there were a number of significant commonalities of opinion. Whether one was an environmental advocate, industry association representative, or environment or expert, the key consensus is that the United States and Canada have to work more closely on energy and environmental policy. The elite stakeholders generally believed that the current policy context did not yield optimal energy or environmental policy outcomes. The common threads of elite opinion included:

1. **Co-operation –** The United States and Canada need to embrace policies that promote greater North American co-operation on energy and environmental issues in order to promote investment in energy infrastructure and to achieve environmental objectives.

2. **Smart Grid** – A number of experts pointed to the need to further promote a North American electricity smart grid to allow the movement of electricity across the borders while realizing that North America is a series of regional energy markets with different needs, energy capabilities, and priorities.

3. **Co-operation on Environmental Objectives** – The United States and Canada have a rich history of environmental co-operation in many areas, such as acid rain, and the two countries ought to extend this co-operation to energy and environment policy frameworks.

8.3 Policy Challenges for U.S. Energy Policy Making with Canada

Elite stakeholders identified a number of challenges facing the United States and Canada on co-ordinating energy policy. Many of these challenges stem from the lack of a co-ordinated policy framework between the two countries on energy and the environment. Other challenges are rooted in the domestic political situation in each country. These challenges included:

1. The perceived misalignment of national objectives in energy and the environment between the Obama administration and the Harper government.

2. The belief that proactive state and provincial governments are shaping energy and environmental policy due to weak federal political leadership in the United States and Canada resulting in policy ad hockery.

3. Public failure to think of Canada as America's most important energy partner.

4. Lack of knowledge in the United States of Canada's environmental record.

5. In general, the concern that the American public sees Canada as having a vested interest in fossil fuels with oil sands development as the signature Canadian energy initiative in the public domain. Likewise, the American public is generally unaware of Canada's diversified portfolio of energy sources, including Canada's significant renewable hydro-electric capacity.

There was disagreement among the elite stakeholders on a handful of issues. A number of the participants in the elite consultation identified the need to reduce North America's carbon footprint. Other respondents believe that the Keystone XL Pipeline either condemned the United States to continued reliance on carbon fuels, or was necessary as part of America's long term energy future.

8.4 Policy Opportunities for U.S. Energy Policy Making with Mexico

While many individuals in the elite outreach viewed joint United States-Canada energy policy as opportunities for policy alignment, these same respondents viewed joint United States-Mexico policy in terms of investment opportunities.

1. Many elite respondents expect Mexico's energy sector to be reformed and predict that these reforms will pave the way for investment and technology transfer opportunities for the United States, which will promote Mexican economic growth.

2. The United States has an interest in the successful reform of Mexico's energy sector because a stronger Mexico leads to greater stability in the United States-Mexico relationship.

3. There is a range of energy opportunities for the United States to explore with Mexico. These opportunities include supporting Mexico's energy conservation and efficiency, and developing solar, shale gas, and refining capacities in Mexico.

8.5 Policy Challenges for U.S. Energy Policy Making with Mexico

Policy challenges related to U.S. energy policy vis-à-vis Mexico were generally addressed in terms of structural obstacles, domestic political issues, and Mexican-U.S. political legacy issues according to the individuals that participated in the elite outreach.

1. The structure of the Mexican energy industry, including constitutional limitations and resistance to change, were often cited by the elite stakeholders as challenges to energy policy making.

2. Stakeholders also noted the complexity of the U.S.-Mexican relationship in terms of immigration, border security issues, and U.S. foreign investment as being key challenges to be managed.

3. The U.S. public needs to better understand the role of Mexico as a U.S. energy partner.

4. There needs to be greater alignment of the environmental policies between Mexico and the United States.

8.6 Impact of Canada Diversifying Oil and Natural Gas Exports to Asia

A majority of elite stakeholders believed that Canadian diversification of exports in oil and natural gas to Asia would have an impact on U.S. energy policy. Opinion among the experts, advocacy groups, and media included in the outreach was mixed as to whether the impact would be positive or negative.

When asked the same question on the impact of Canadian energy diversification on U.S. environmental policy, however, elite stakeholders were twice as likely to say that Canadian energy diversification to Asian markets would *not* have an impact on U.S. environmental policy. Elite stakeholders generally believed that the United States is on a particular environmental policy path, irrespective of Canadian energy market priorities, but that changes in Canadian energy policy priorities would more likely have a direct impact on U.S. energy policy decisions.

8.7 Projecting Energy Trends into the Future

Elite stakeholders were generally divided in terms of confidence in the International Energy Agency's (IEA) projections that the United States could be a net oil exporter by 2030 and a net exporter of natural gas by 2020[6]. The lack of consensus over the IEA projections ranged from views that the IEA has a good track record, to views that the IEA is either too optimistic or too pessimistic.

When asked about the long-term mix of energy sources in the United States, most elite stakeholders consulted believed that fossil fuels would continue to dominate the mix but would diminish in total energy source share. Many couched their views in terms of incremental changes, for example, more renewable energy and less coal energy. The exception was natural gas, which was recognized by a number of individuals as the energy source with the greatest positive or negative changes.

8.8 Opportunities and Challenges for Energy Self-sufficiency in the United States

Elite stakeholders were optimistic about the future of energy in the United States. For those more inclined to renewable energy such as wind or solar, there was a sense of optimism that in the long run, renewable energy sources could be a viable and important part of the energy mix. Other elite stakeholders believed that technology would enable greater development of shale gas and domestic oil. Regardless, most elite stakeholders acknowledged that shale gas and shale oil would have an important impact on the conventional energy picture. As one elite stakeholder said, "There are two visions of the world…reliance on oil and gas, or becoming the Saudi Arabia of wind and sunshine. We can move in either direction." A number of those consulted expected movement forward on both the renewable and carbon fronts.

Many of the challenges to achieving energy self-sufficiency cited by elite stakeholders were political in nature:

1. Energy is not well understood by the public. There is strong rhetoric on all sides of the issue.

2. The influence of the fossil fuel lobby on the political system was seen as an obstacle to change.

3. One individual said, “the thoughtless resistance to energy projects of all kinds,”—fossil fuel or renewable—propelled by the not-in-my-back-yard syndrome, is a significant problem.

9.0 Oil Demand and Transportation Impact

Another indicator of the short-term infrastructure needs of the energy sector are the data related to U.S. and Canadian Rail Traffic. According to the Association of American Railroads, although total U.S. rail traffic is up 1.0 percent for the first 12 weeks of 2013 (ending March 23, 2013), rail traffic for petroleum and petroleum products is cumulatively up 57.3 percent in the United States. Likewise, rail traffic in Canada for petroleum and petroleum products is up 29.7 percent (see Exhibits 16 and 17) for the first twelve weeks of 2013.

Exhibit 17

U.S. Rail Traffic[1]

Week 12, 2013 – Ended March 23, 2013

	This Week		Year-To-Date		
	Cars	vs 2012	Cumulative	Avg/wk[2]	vs 2012
Total Carloads	**278,738**	0.2%	**3,289,507**	**274,126**	-3.0%
Chemicals	30,460	-0.9%	357,355	29,780	-1.4%
Coal	110,013	-1.4%	1,321,841	110,153	-8.4%
Farm and Food Products, Excluding Grain	16,415	-1.5%	199,467	16,622	-1.3%
Forest Products	11,171	6.0%	131,297	10,941	2.6%
Grain	17,034	-17.3%	214,519	17,877	-15.0%
Metallic Ores and Metals	23,517	-2.9%	280,473	23,373	-6.3%
Motor Vehicles and Parts	17,561	5.0%	191,301	15,942	2.5%
Nonmetallic Minerals and Products	32,279	9.1%	343,883	28,657	5.8%
Petroleum and Petroleum Products	13,404	57.0%	160,358	13,363	57.3%
Other	6,884	-24.2%	89,013	7,418	-2.6%
Intermodal Units	**235,641**	1.4%	**2,851,329**	**237,611**	6.2%
Total Traffic	**514,379**	0.7%	**6,140,836**	**511,736**	1.0%

[1] Excludes U.S. operations of CN and Canadian Pacific.

[2] Average per week figures may not sum to totals as a result of independent rounding.

Exhibit 18

Canadian Rail Traffic[1]

Week 12, 2013 – Ended March 23, 2013

	This Week		Year-To-Date		
	Cars	vs 2012	Cumulative	Avg/wk[2]	vs 2012
Total Carloads	**79,130**	1.9%	**927,709**	**77,309**	2.4%
Chemicals	11,884	9.2%	136,828	11,402	11.7%
Coal	9,149	6.2%	107,721	8,977	5.4%
Farm and Food Products, Excluding Grain	6,570	-12.3%	77,770	6,481	-6.3%
Forest Products	8,066	-2.0%	91,327	7,611	-1.2%
Grain	8,186	-2.8%	104,593	8,716	-1.4%
Metallic Ores and Metals	16,621	6.7%	189,593	15,799	-0.5%
Motor Vehicles and Parts	5,820	-7.5%	62,194	5,183	-8.9%
Nonmetallic Minerals and Products	5,317	6.1%	60,959	5,080	8.5%
Petroleum and Petroleum Products	6,402	34.8%	82,394	6,866	29.7%
Other	1,115	-53.4%	14,330	1,194	-32.7%
Intermodal Units	**50,589**	-2.2%	**613,408**	**51,117**	5.8%
Total Traffic	**129,719**	0.3%	**1,541,117**	**128,426**	3.7%

[1] Includes U.S. operations of CN and Canadian Pacific.

[2] Average per week figures may not sum to totals as a result of independent rounding.

Current oil pipeline infrastructure may not be able to meet demand as indicated by increasing petroleum product transportation by rail.

If the trend in the increase of U.S. and Canadian rail traffic for petroleum and petroleum products maintains its current pace for the rest of 2013, it would result in an estimated additional 468,000 rail carloads of petroleum products in 2013 compared to 2011.

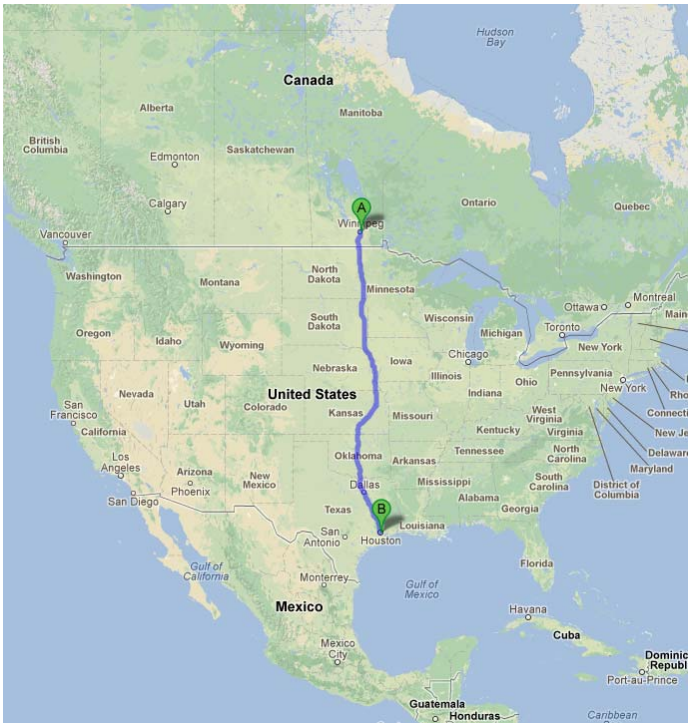
Factoring an average rail tanker length, these 468,000 rail cars would create a train of petroleum products stretching from Winnipeg in the north to Houston in the south. For the first quarter of 2013 compared to 2011, an additional 1,284 extra rail cars were required each day to transport petroleum products in the United States and Canada (See Appendix E – Rail Traffic Estimates for Petroleum and Petroleum Products).

The conclusion is that, factoring market demand for petroleum products and the state of current energy transportation infrastructure, an increasing volume of petroleum products are being moved by rail.

On the one hand, it could be argued that rejecting the Keystone XL Pipeline will not have a major impact on the movement of oil between the United States and Canada because of market demand and the ability to move oil by rail. On the other hand, one could also argue that the pipeline only enables greater access to the U.S. market and that the Oil Sands bitumen will still have to compete in the marketplace. The approval or rejection of the Keystone XL Pipeline may not necessarily deliver the outcomes hoped for by both its advocates and detractors.

Exhibit 19

Estimated Length of Train Required to Carry Additional Petroleum Products in 2013 compared to 2011
(One year supply)



10.0 RENEWABLES, SHALE GAS AND DIGGING INTO THE PROJECTIONS

The experts in the elite consultation, by a small margin, had confidence in the International Energy Agency in the 2013 World Energy Outlook projections[7]. According to the IEA projections the United States could, in the future, become the world's top producer of oil and natural gas, and possibly become a net natural gas exporter by 2022 and a net oil exporter by 2030. However, a number expressed concern about the reliability of estimates once factors were taken into consideration, such as possible future regulation, yet to be developed technology and the strength of the U.S. economy.

The twin pillars of growing renewable energy sources and newly discovered shale gas have altered the energy landscape from one of ingrained perceptions of energy dependence to one of energy opportunity.

A central part of the energy transformation narrative has also included the embrace of renewable energy such as wind, solar and geothermal. Much of the appetite for renewable energy projects has been fueled by the desire for what some call a 'low carbon economy.'

The discovery of significant amounts of shale gas in the United States and around the world is one of the key triggers in the landscape of change. Many factors – including the abundant supply of shale gas and its proximity to markets in the United States – all propel a narrative of energy transformation in the United States.

Sources: NBC News (September 26, 2012), CNBC (March 9, 2013)

Although renewable energy sources and natural gas have been touted as positive moves toward energy independence, both have also incited some controversy. For shale gas development, concerns related to the fracking process, including its impact on water and the speculation that the process may be linked to earthquakes, have been a part of the emerging public shale gas narrative. Likewise, even for renewable energy sources such as wind, claims about the possible negative health impacts on residents who live near wind farms have also dampened the generally positive narrative on renewable energy.

Setting aside the issues related to the energy creation process, an examination of the estimates related to the long-term energy outlook suggest that there are a series of uncertainties in the projections that merit greater attention.

10.1 Projections at a Glance

Listed below are projections from the U.S. Energy Information Administration (EIA) over the past decade. Exhibits 20 and 22 are the projections from the 2003 EIA Energy Outlook Report and Exhibits 19 and 21 are the projections from the 2013 EIA Energy Outlook Report. There are a series of key observations with policy implications, which are outlined below.

Exhibit 20

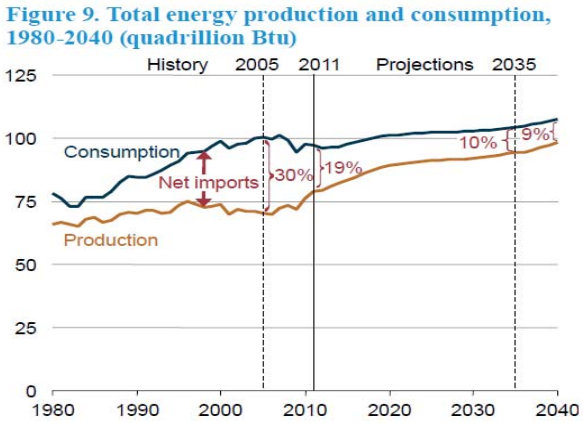


Exhibit 21

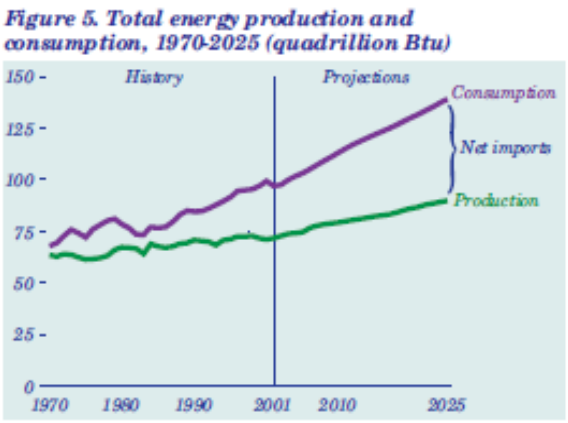


Exhibit 22

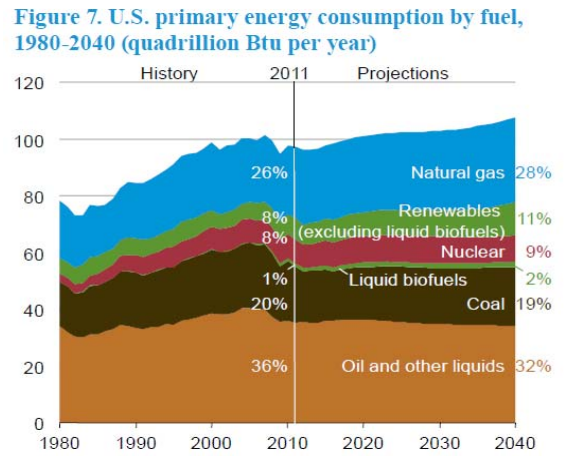
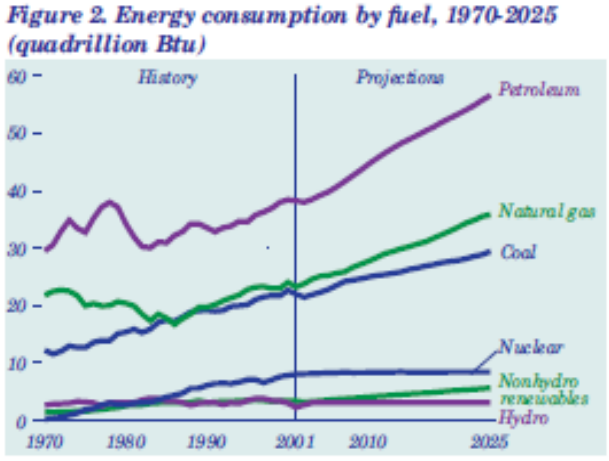


Exhibit 23



10.2 Observations Related to Growth

- **Consumption Growth Projections Adjusted –** Projections on U.S. annual energy consumption growth has been adjusted downward from 1.5 percent in 2003[8] to 0.3 percent in 2013[9] by the U.S. Energy Information Administration.

- **Importance of Consumption –** Promoting less consumption of energy is a key factor in the future energy landscape, especially when one considers the policy objectives of reducing GHG emissions and achieving energy self-sufficiency.

- **Renewable Energy Growth –** Renewable energy sources have undergone significant growth since 1980. In 2010, renewables represented 8 percent of U.S. primary energy consumption, but even by 2040, it is estimated that they will comprise only 11 percent of primary energy consumption in the United States.

- **Renewable Energy Impact –** Category growth for renewable energy is strong, but a significant absolute share of renewable energy sources would require major policy, market, or technological changes to have a meaningful impact on the energy mix.

10.3 The Uncertainty of Long-Term Projections

Projecting energy consumption and production 20 or 30 years into the future is a challenging endeavor under any circumstance. Although data are usually publicly presented in the media as a fixed number in terms of the projections, the U.S. Energy Information Administration presents figures in terms of low- and high-economic growth estimates with a reference number[10]. Likewise, the National Energy Modeling System is a market-based approach subject to regulations and standards[11] and is limited in its ability factor the future potential impacts of technological changes on resource extraction production, or yet to be enabled federal or state legislation. There are a series of anticipated uncertainties related to many of the long-term projections in the public domain.

- **Economic Uncertainties** – Adjustments to assumptions related to economic growth have a significant compounding effect on long-term projections. Likewise, modeling for unforeseeable events, such as the recession of 2008 or a potential economic recovery, is difficult.

- **Policy Uncertainties** – One can assume, all things being equal, that the policy landscape related to energy and the environment may only change incrementally for the purposes of the long-term modeling. Policy changes, however, can have an impact on consumption and production. For example, the introduction of tougher vehicle emissions standards in the United States has been a significant factor in influencing consumption. Likewise, future federal and state policies that encourage changes to

either energy generation or vehicle emissions could have a material impact on projections.

- **Exploration and Technological Uncertainties** – The discovery or ability to recover significant shale gas and oil through new technology has an impact on the energy market. As recently as a decade ago, the scope of the shale gas recoverable was unknown. These technological discoveries can have a significant impact on projections.

Together these uncertainties underscore that long-term projections are subject to a significant number of external variables that are difficult to manage.

10.4 Measurement Uncertainty

The methodology for projections presents another significant uncertainty in projecting future energy production. Whereas more mature sources of energy have fairly robust measurement, the variation in measurement of shale and conventional gas, for example, points to a key issue related to the focus of an average estimate.

The U.S. Geological Survey (USGS) in its regular National Assessment of Oil and Gas Resources reports estimates for individual assessment units such as Southern Alaska, San Juan Basin, and the Montana Thrust Belt. Of note, the USGS reports projections for individual assessment units between a 95- and 5- percent probability range as well as the mean (average) value. An examination of USGS individual assessment units for conventional gas suggests that there is likely a greater variance of estimates in many of the more recent gas discoveries.

Exhibit 24
Examination of Range of Estimates for Conventional Gas of
U.S. Geological Survey Assessment Units

Province Number and Name		Vintage	Conventional Gas* (trillions of cubic feet)			Potential Range for Conventional Gas (trillions of cubic feet)	Potential Range for Conventional Gas in Multiples (F05 ÷ F95)	Uncertainty Factoring Multiples
			F95**	F05**	Mean ***			
28	Central Montana	1995	0.40	1.37	0.84	0.97	3.4	Low
47-49	Gulf Coast	2012	40.7	309.3	153.28	268.6	7.5	Medium
1b	North Slope, NPRA	2010	6.75	114.36	52.84	107.6	16.9	High

*Conventional gas includes non-associated and associated-dissolved gas resources.

**95- and 5- percent probability range.

***Mean/average calculations by the USGS are not based on a perfectly normal distribution and have been adjusted based on the historical experience of the USGS.

Exhibit 24 illustrates the potential range of resources in individual USGS assessment units. For example, the North Slope NRPA assessment unit in Alaska has an estimated mean of conventional gas of approximately 52.84 trillion cubic feet, but the range could be as low as 6.75 trillion cubic feet or as high as 114.36 trillion cubic feet (a total range of 107.6 trillion cubic feet of conventional gas), a multiple where the high estimate is almost 17 times that of the low estimate. The North Slope NPRA is a younger vintage (2010) than the Central Montana USGS assessment unit (1995). One can see that the potential range is tighter and the potential variance based in multiples is much lower in the 1995 vintage Central Montana assessment unit (only 3.4 times that of the high estimate).

A look at the undiscovered gas in the East Coast Mesozoic Basin also illustrates the range of estimates. For example, according to the USGS Assessment of Undiscovered Oil and Gas Resources of the East Coast Mesozoic Basins of the Piedmont, Blue Ridge Thrust Belt, Atlantic Coast Plain, and New England Provinces (2011), the South Newark Basin reports a mean estimate of 876 billion cubic feet of gas; however, the range is between 363 billion cubic feet and 1,698 billion cubic feet – a range of 1,335 billion cubic feet or a multiple 4.6 times between the low and high estimates.

Exhibit 25
US Geological Survey Estimates for East Coast Mesozoic Basin (2011)

Table 1. East Coast Mesozoic basin assessment results.

[MMBO, million barrels of oil; BCFG, billion cubic feet of gas; MMBNGL, million barrels of natural gas liquids; TPS, total petroleum system; AU, assessment unit. Results shown are fully risked estimates. For gas accumulations, all liquids are included as NGL (natural gas liquids). F95 represents a 95-percent chance of at least the amount tabulated; other fractiles are defined similarly. Fractiles are additive under the assumption of perfect positive correlation. Gray shading indicates not applicable]

Total Petroleum System (TPS) and Assessment Unit (AU)	Field type	Total undiscovered resources											
		Oil (MMBO)				Gas (BCFG)				NGL (MMBNGL)			
		F95	F50	F5	Mean	F95	F50	F5	Mean	F95	F50	F5	Mean
Taylorsville Basin Composite TPS													
Taylorsville Basin Continuous Gas AU	Gas					516	985	1,880	1,064	16	34	71	37
Richmond Basin Composite TPS													
Richmond Basin Continuous Gas AU	Gas					99	194	382	211	4	10	20	11
Newark Basin Composite TPS													
South Newark Basin Continuous Gas AU	Gas					363	785	1,698	876	1	4	10	4
Deep River Basin Composite TPS													
Deep River Basin Continuous Gas AU	Gas					779	1,527	2,990	1,660	35	75	158	83
Dan River-Danville Basin Composite TPS													
Dan River-Danville Basin Continuous Gas AU	Gas					17	42	106	49	0	0	1	0
Total continuous resources						**1,774**	**3,533**	**7,056**	**3,860**	**56**	**123**	**260**	**135**

The uncertainty related to measurement issues for the newer vintage assessment areas for gas will be settled over time. Caution should be exercised in terms of policy making concerning assumptions on conventional and unconventional gas estimates that are based on mean calculations, which, in effect, is a range of varying magnitudes.

Although the USGS focuses on individual assessment units, these estimates are the building blocks for the long-term energy forecasts created by other agencies and organizations that tend

to report on variances related to high and low economic growth variances, as opposed to the probability ranges. The limits of modeling for long-term horizons, as they relate to yet to be designed or enabled environmental legislation or changes in public opinion, underlie the uncertainty in terms of the long-term projections. It should be recognized that the modeling is still the best alternative in an imperfect world; however, limitations should be recognized. A focus on a shorter term outlook can better manage these non-measurement uncertainties.

One could ask, what is the policy impact of measurement limitations? The modeling and estimates for energy by their design are incremental in nature based on current “knowns” (federal and state policy, the health of the economy, discoveries, and today’s technologies) because it is difficult to factor “unknowns”. One does not know whether longer term incremental projections influence policy makers to lean toward incremental policy decisions. It is known, however, that new environmental policy decisions at the federal and state level can have a significant impact on the long-term projections and behavior related to consumption and production.

11.0 Path Forward

This paper has three central conclusions drawn from the input of the elite consultations, the U.S. and Canadian public opinion, and a review of the data in the public domain.

- **Decentralized policy making for energy and the environment.** The challenge for energy and environmental policy making is that issues do not respect borders, and the current level of partisanship can be an obstacle to moving forward. In this policy environment, governments increasingly adopt or adapt the policies of others building policy coalitions rather than looking to centralised nation-to-nation solutions.

- **Energy sources should compete to environmental targets.**

  There is risk in picking winners and losers on 20 and 30 year projections that cannot factor for technological change or yet to be introduced environmental legislation. However, government can play a role in encouraging and investing in technological innovation for a diversity of energy sources. With this approach, different energy sources would compete to yield the best market and environmental outcomes.

- **Begin a dialogue to support a United States-Canada National Carbon Policy.**

  Building a framework for a carbon policy is a key opportunity for energy and environmental policy making. This is especially true because of the policy interests and jurisdictional roles of states/provinces and federal governments on energy and the environment.

  Even with the limitations of the current political atmosphere in Congress and increasingly active at the state and provincial levels of government, a National Carbon Policy dialogue between the United States and Canada will need to take place.

Appendix A

Project Methodology

Project Methodology

A multifaceted research strategy was administered for this paper. It included examining research in the public domain in the field of energy from sources ranging from the U.S. Geological Survey and the U.S. Energy Information Administration to the International Energy Agency.

The research was not sponsored or funded by any organization or company, but should be considered part of an independent scholar-in-residence program with the Woodrow Wilson International Center for Scholars. The costs for the quantitative studies were donated by Nanos America and the Nanos Research Corporation in Canada.

There were three main tracks for the research:

- Public opinion in Canada and the United States;
- Media analysis in the United States.; and,
- Key informant opinion in the United States.

U.S. Public Opinion Survey

A national random telephone survey was completed between March 28 and April 7, 2013, of 1,007 American adults. The RDD (random digit dialled) sample included a combination of land-line and cell-line numbers in order to ensure the highest level of sample coverage for the study. The research was completed in accordance with the Standards of the American Association for Public Opinion Research and the Marketing Research and Intelligence Association of Canada. Nik Nanos is a member of both organizations.

A random survey of 1,007 Americans is accurate 3.1 percentage points, plus or minus, 19 times out of 20.

Within the sampling universe, potential respondents were randomly selected to participate in the study. All selected members of the sampling universe who were not available were called back five (5) times. Percentages may not add up to 100 due to rounding.

Ten percent of the fieldwork was monitored as part of the project's quality and data integrity procedures. Validation and testing of key demographic cohorts indicate that the sample profiles were representative of the populations within acceptable margins of statistical accuracy. The data were weighted by age and education using the latest available census data to ensure they were representative of the U.S. population.

The same questionnaire (see Appendix C) was administered to both Americans and Canadians to allow for a level of comparability in the data, although adjusted for each audience.

Canadian Public Opinion Survey

A national random survey was completed between April 6 and 9, 2013, of 1,013 Canadian adults. Respondents were recruited by live telephone agents using an RDD (random digit

dialled) sample, which included a combination of land-line and cell-line numbers in order to ensure the highest level of sample coverage for the study. Once recruited, they were added to the Nanos RDD Crowdsource sample and completed an online questionnaire in English or French. The research was completed in accordance with the Standards of the American Association for Public Opinion Research and the Marketing Research and Intelligence Association of Canada. Nik Nanos is a member of both organizations.

A random survey of 1,013 Canadians is accurate 3.1 percentage points, plus or minus, 19 times out of 20.

Ten percent of the fieldwork was validated by telephone as part of the firm's quality and data integrity procedures. Validation and testing of key demographic cohorts indicate that the sample profiles were representative of the populations within acceptable margins of statistical accuracy. The data were weighted by age and education using the latest available census data to ensure they were representative of the Canadian population.

The same questionnaire (see Appendix C) was administered to both Americans and Canadians to allow for a level of comparability in the data.

Media Analysis

A media analysis of 1,046 items in America's 50 major newspapers including news articles, editorials, and letters to the editor, was conducted as part of this study. Readers should note that the 1,046 articles do not represent a sample, but a compilation of all newspaper items in the Nexis archive related to the Keystone XL Pipeline from the beginning of the first Obama mandate to April 1, 2013. The source for the articles was the Nexis database and the search term parameters included "Keystone" and "pipeline."

Each item was read and assessed in terms of relevance to the Keystone XL Pipeline and whether it left a positive or negative impression of the Keystone XL Pipeline. In both cases, a five-point scale was used by an intern analyst to assess the individual item. For purposes of the analysis, the impressions were given a score of 1 and 2 for a negative or somewhat negative impression and a 4 or 5 for a positive or somewhat positive impression. A 3 on the 5-point impression scale was considered neutral.

In addition to the assessment, circulation numbers were collected for all of the top 50 newspaper organizations from the Alliance for Audited Media for the period starting at the commencement of the first Obama administration and ending September 30, 2012 using an average weekday paid circulation for the newspaper organization in order to gauge the media reach of an item. For the estimation model, 2012 was used as the base year for the media impressions assuming the impressions by a media outlet was regularly stable for the period. Once each of the 1,046 were coded and linked to circulation figures, the results were statistically organized and calculations were prepared to estimate the media impressions. Media impressions were calculated as follows: if an item was deemed negative, the media impressions for that newspaper organization would be added to the negative column as part of the total number of negative media impressions. Net impact is the difference between positive and negative media impressions.

Elite Stakeholder Interviews

A series of one-on-one elite stakeholder interviews was administered by the senior researcher and the intern either in person or by telephone, subject to the availability of the target. All of the elite interviews were among individuals based in the United States who were primarily either experts in their field or part of an advocacy group or association. The 13 elite interviews included experts and both energy and environmental groups or associations to ensure a representation of a diversity of perspectives (seven experts, four advocacy groups, and two individuals in the media).

The findings of the elite interviews should be considered qualitative in nature and cannot be projected to elite audiences in the United States. Their purpose is to help provide context for the quantitative surveys and media analysis and also to help support the examination of possible research lines of inquiry from the perspective of the researcher.

Individuals in the elite interviews were told that their views and identity would remain confidential in accordance with generally accepted best practices for research and also to ensure that forthright and detailed opinions would be shared as part of this study. Please refer to Appendix D for the discussion guide that was administered for the elite interviews.

Appendix B

Statistical Tables
United States and Canada
Public Opinion Surveys

2013-04 – STAT SHEET – DRAFT

For each of the challenges, please rate their importance to you on a scale of 1 to 10, where 1 is not at all important and 10 is very important in terms of America's/Canada's future.
[Randomize]

Question 1 – Managing the pressures of an aging population

		Total		Not at all important	2	3	4	5	6	7	8	9	Very important	Unsure
		Responses	Mean	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	8.63	.2	.4	1.1	1.0	3.9	2.8	8.3	20.3	18.9	40.9	2.1
	USA	1007	8.00	2.1	1.2	1.2	1.1	7.4	6.2	11.9	21.3	10.6	34.2	2.8

Question 2 – Further protecting our environment

		Total		Not at all important	2	3	4	5	6	7	8	9	Very important	Unsure
		Responses	Mean	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	7.96	1.4	1.1	2.7	3.3	6.8	6.5	13.4	13.7	14.4	35.9	.8
	USA	1007	7.76	2.8	2.7	1.9	2.1	12.3	5.2	8.6	16.6	9.3	38.1	.5

Question 3 – Having trade policies that encourage investment

		Total		Not at all important	2	3	4	5	6	7	8	9	Very important	Unsure
		Responses	Mean	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	8.25	.3	1.3	.9	.7	4.7	5.4	11.2	24.5	19.0	29.4	2.7
	USA	1007	7.25	3.1	1.8	2.1	2.7	14.5	6.9	13.8	19.4	6.9	23.3	5.5

Question 4 – Encouraging American/Canadian culture

		Total	Mean	Not at all important	2	3	4	5	6	7	8	9	Very important	Unsure
		Responses		Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	7.25	4.9	2.3	3.7	2.9	7.9	10.2	13.9	14.8	11.6	25.6	2.2
	USA	1007	7.21	4.1	2.8	3.0	2.4	14.8	6.7	11.2	16.6	5.7	28.6	4.1

Question 5 – Being energy self sufficient

		Total	Mean	Not at all important	2	3	4	5	6	7	8	9	Very important	Unsure
		Responses		Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	8.55	.8	.3	.7	.8	3.2	6.1	9.8	18.1	17.0	41.7	1.4
	USA	1007	8.31	1.8	1.6	.8	1.3	6.2	4.8	9.4	18.2	10.3	44.6	.8

Question 6 – Ensuring Americans/Canadians have a high standard of living

		Total	Mean	Not at all important	2	3	4	5	6	7	8	9	Very important	Unsure
		Responses		Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	8.25	.6	.4	.9	.9	3.9	6.4	15.2	21.3	19.6	29.6	1.2
	USA	1007	7.55	2.9	1.9	3.1	2.6	11.0	6.5	11.6	19.2	8.6	31.1	1.5

Question 7 – Investing in our education system

		Total	Mean	Not at all important	2	3	4	5	6	7	8	9	Very important	Unsure
		Responses		Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	8.67	1.4	.4	.3	.1	2.3	5.4	8.8	16.3	20.6	43.0	1.4
	USA	1007	8.40	4.0	1.2	1.4	1.4	5.5	3.7	6.1	12.2	10.2	53.6	.8

Question 8 – Keeping our healthcare system strong

		Total	Mean	Not at all important	2	3	4	5	6	7	8	9	Very important	Unsure
		Responses		Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	9.10	.2	.4	.2	.3	1.5	3.9	5.0	13.0	15.4	58.2	1.8
	USA	1007	8.35	3.3	1.3	1.3	2.3	5.5	2.2	7.5	14.6	10.5	49.4	2.2

Question 9 – Creating jobs

		Total	Mean	Not at all important	2	3	4	5	6	7	8	9	Very important	Unsure
		Responses		Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	8.74	1.0	.3	.4	1.2	2.6	4.6	7.4	13.7	22.0	45.7	1.1
	USA	1007	8.70	3.1	1.0	1.1	1.2	3.4	2.8	4.9	12.1	11.0	58.7	.6

Question 10 – Preserving social programs

		Total	Mean	Not at all important	2	3	4	5	6	7	8	9	Very important	Unsure
		Responses		Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	7.77	2.0	1.2	3.8	2.9	7.6	6.4	15.3	13.4	13.4	33.0	1.0
	USA	1007	6.85	5.7	2.8	3.1	4.7	14.2	8.3	11.4	18.2	6.6	21.9	2.9

Question 11 – Balancing government budgets

		Total	Mean	Not at all important	2	3	4	5	6	7	8	9	Very important	Unsure
		Responses		Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	8.41	1.0	.6	1.7	1.6	3.0	7.5	11.4	14.7	12.6	44.2	1.7
	USA	1007	8.40	3.4	1.1	1.3	1.5	6.7	3.2	6.0	12.7	9.3	52.8	2.0

Question 12 – Investing in infrastructure such as roads and bridges

		Total	Mean	Not at all important	2	3	4	5	6	7	8	9	Very important	Unsure
		Responses		Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	8.57	.5	.5	1.0	.3	2.1	4.5	10.6	24.0	16.1	39.2	1.3
	USA	1007	7.76	2.1	1.1	1.8	2.0	10.4	6.9	12.3	21.6	9.5	31.2	1.0

Question 13 – Ensuring safe communities

		Total	Mean	Not at all important	2	3	4	5	6	7	8	9	Very important	Unsure
		Responses		Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	8.37	.3	.7	1.0	1.7	3.9	6.3	15.0	14.2	17.1	38.6	1.1
	USA	1007	8.49	2.1	.4	1.5	1.5	5.9	3.4	7.2	15.5	11.3	49.9	1.2

Question 14 – Asserting America's/Canada's role in international affairs

		Total	Mean	Not at all important	2	3	4	5	6	7	8	9	Very important	Unsure
		Responses		Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	7.47	2.2	1.5	1.7	2.5	7.8	13.4	14.3	18.4	13.1	21.8	3.2
	USA	1007	6.39	6.1	3.1	5.4	4.6	18.0	8.8	13.0	15.8	6.9	14.6	3.5

Question 15 – Protecting our borders

		Total	Mean	Not at all important	2	3	4	5	6	7	8	9	Very important	Unsure
		Responses		Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	7.78	1.0	2.0	2.8	2.7	8.8	9.2	11.9	14.8	12.3	33.0	1.5
	USA	1007	8.04	3.0	2.3	2.8	2.6	6.9	5.8	8.5	11.0	8.5	47.5	1.1

For each of the challenges, are you confident, somewhat confident, somewhat not confident or not confident in our ability as a nation to find solutions? [Randomize]

Question 16 – Managing the pressures of an aging population

		Total	Confident	Somewhat confident	Somewhat not confident	Not confident	Unsure
		Responses	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	4.5	33.4	39.9	18.8	3.4
	USA	1007	22.9	37.4	12.8	24.7	2.3

Question 17 – Further protecting our environment

		Total	Confident	Somewhat confident	Somewhat not confident	Not confident	Unsure
		Responses	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	8.2	35.4	28.3	22.2	5.9
	USA	1007	35.4	35.4	10.0	16.9	2.3

Question 18 – Having trade policies that encourage investment

		Total	Confident	Somewhat confident	Somewhat not confident	Not confident	Unsure
		Responses	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	11.2	48.3	26.1	8.9	5.5
	USA	1007	22.5	38.6	11.5	22.7	4.7

Question 19 – Encouraging American/Canadian culture

		Total	Confident	Somewhat confident	Somewhat not confident	Not confident	Unsure
		Responses	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	10.9	33.6	26.7	21.5	7.2

	USA	1007	29.2	33.8	9.2	22.0	5.8

Question 20 – Being energy self sufficient

		Total	Confident	Somewhat confident	Somewhat not confident	Not confident	Unsure
		Responses	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	35.8	38.1	13.6	8.7	3.9
	USA	1007	31.2	32.2	10.6	24.8	1.2

Question 21 – Ensuring Americans/Canadians have a high standard of living

		Total	Confident	Somewhat confident	Somewhat not confident	Not confident	Unsure
		Responses	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	9.4	37.6	32.3	16.0	4.8
	USA	1007	25.0	33.2	12.7	27.4	1.7

Question 22 – Investing in our education system

		Total	Confident	Somewhat confident	Somewhat not confident	Not confident	Unsure
		Responses	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	11.2	42.4	30.3	12.3	3.8
	USA	1007	34.5	31.2	10.9	21.5	1.9

Question 23 – Keeping our healthcare system strong

		Total	Confident	Somewhat confident	Somewhat not confident	Not confident	Unsure
		Responses	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	8.2	37.0	32.0	19.2	3.6

	USA	1007	25.0	27.0	13.0	33.1	1.9

Question 24 – Creating jobs

		Total	Confident	Somewhat confident	Somewhat not confident	Not confident	Unsure
		Responses	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	8.5	39.0	32.8	15.3	4.3
	USA	1007	25.7	32.1	11.6	29.1	1.5

Question 25 – Preserving social programs

		Total	Confident	Somewhat confident	Somewhat not confident	Not confident	Unsure
		Responses	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	6.9	36.1	33.6	18.2	5.1
	USA	1007	27.9	40.1	9.3	19.4	3.3

Question 26 – Balancing government budgets

		Total	Confident	Somewhat confident	Somewhat not confident	Not confident	Unsure
		Responses	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	9.3	30.9	31.3	25.0	3.4
	USA	1007	14.5	19.2	14.3	49.9	2.0

Question 27 – Investing in infrastructure such as roads and bridges

		Total	Confident	Somewhat confident	Somewhat not confident	Not confident	Unsure

		Responses	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	12.9	37.5	32.6	14.2	2.8
	USA	1007	33.0	39.0	9.8	15.7	2.5

Question 28 – Ensuring safe communities

		Total	Confident	Somewhat confident	Somewhat not confident	Not confident	Unsure
		Responses	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	12.9	45.6	26.8	10.8	3.9
	USA	1007	31.5	39.7	7.7	19.2	1.9

Question 29 – Asserting America's/Canada's role in international affairs

		Total	Confident	Somewhat confident	Somewhat not confident	Not confident	Unsure
		Responses	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	12.6	38.5	25.8	18.2	4.9
	USA	1007	30.5	34.6	8.2	22.4	4.3

Question 30 – Protecting our borders

		Total	Confident	Somewhat confident	Somewhat not confident	Not confident	Unsure
		Responses	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	15.6	45.2	24.6	10.2	4.4
	USA	1007	28.0	28.9	10.2	30.6	2.3

Question 31 – Overall would you say the current national political environment leads to positive, somewhat positive, somewhat negative or negative policy outcomes?

		Total	Positive	Somewhat positive	Somewhat negative	Negative	Unsure
		Responses	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	13.1	29.1	24.7	27.4	5.7
	USA	1007	9.6	24.4	25.3	37.8	2.9

Would you say that the current national political environment leads to positive, somewhat positive, somewhat negative, or negative policy outcomes in the following policy areas [RANDOMIZE]?

Question 32 – Energy policy

		Total	Positive	Somewhat positive	Somewhat negative	Negative	Unsure
		Responses	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	13.2	31.3	28.2	19.7	7.6
	USA	1007	17.0	35.1	19.2	25.1	3.5

Question 33 – Health policy

		Total	Positive	Somewhat positive	Somewhat negative	Negative	Unsure
		Responses	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	7.2	32.8	39.6	14.5	5.9
	USA	1007	15.1	28.0	19.7	33.7	3.4

Question 34 – Trade policy

		Total	Positive	Somewhat positive	Somewhat negative	Negative	Unsure
		Responses	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	14.2	38.1	27.1	12.0	8.6
	USA	1007	14.0	34.1	18.2	25.4	8.3

Question 35 – Foreign policy

		Total	Positive	Somewhat positive	Somewhat negative	Negative	Unsure
		Responses	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	12.1	33.4	24.2	18.9	11.4
	USA	1007	14.6	33.2	19.6	28.0	4.5

Question 36 – Defense policy

		Total	Positive	Somewhat positive	Somewhat negative	Negative	Unsure
		Responses	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	10.7	34.3	27.1	18.3	9.6
	USA	1007	22.3	31.1	17.5	25.2	3.9

Question 37 – Environmental policy

		Total	Positive	Somewhat positive	Somewhat negative	Negative	Unsure
		Responses	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	5.1	31.8	24.0	32.9	6.2
	USA	1007	17.1	37.7	18.7	22.6	4.0

Question 38 – Tax policy

		Total	Positive	Somewhat positive	Somewhat negative	Negative	Unsure
		Responses	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	11.2	29.2	32.9	20.6	6.1
	USA	1007	9.3	19.8	24.8	41.9	4.2

		Question 39 – Government spending policy					
		Total	Positive	Somewhat positive	Somewhat negative	Negative	Unsure
		Responses	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	7.5	21.3	33.4	31.1	6.6
	USA	1007	8.2	14.6	20.6	53.5	3.1

Our next few questions are about energy issues.

Question 40 – Thinking about the future direction of energy policy, do you think the best course of action is [ROTATE] to develop a continental energy strategy which ensures the supply of energy for Canada and the US or a strategy which focuses on exporting energy?

		Total	A continental energy strategy which ensure the supply of energy for Canada and the US	A strategy which focuses on exporting energy	Unsure
		Responses	Percentage	Percentage	Percentage
Country	Canada	1013	66.3	15.7	18.0
	USA	1007	76.2	13.1	10.7

Question 41 – Have you heard or not heard of the Keystone Pipeline project which is a pipeline system to transport synthetic crude oil and diluted bitumen from the Alberta oil sands in Canada to the United States?

		Total	Heard	Not heard	Unsure
		Responses	Percentage	Percentage	Percentage
Country	Canada	1013	91.6	5.5	2.9
	USA	1007	74.8	24.5	.7

Question 42 – Do you have a positive, somewhat positive, somewhat negative or negative view of the Keystone Pipeline project?

		Total	Positive	Somewhat positive	Somewhat negative	Negative	Unsure
		Responses	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	928	32.1	28.0	18.8	14.9	6.2
	USA	754	44.1	25.9	9.5	14.2	6.2

Question 43 – Based on what you have heard about the proposed Keystone XL pipeline between Canada and the US, do you support, somewhat support, somewhat oppose or oppose the US government approving the project?

		Total	Support	Somewhat support	Somewhat oppose	Oppose	Unsure
		Responses	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	928	44.8	22.7	14.5	12.6	5.3
	USA	754	52.3	22.1	7.3	13.7	4.7

Are the following important, somewhat important, somewhat unimportant or unimportant to you:

Question 44 – Ensuring a stable supply of energy

		Total	Important	Somewhat important	Somewhat unimportant	Unimportant	Unsure
		Responses	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	60.4	26.5	6.2	3.1	3.9
	USA	1007	88.0	9.5	.2	1.1	1.2

Question 45 – Having the lowest energy prices possible

		Total	Important	Somewhat important	Somewhat unimportant	Unimportant	Unsure
		Responses	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	49.9	27.4	13.6	7.0	2.1
	USA	1007	70.4	18.3	5.4	4.2	1.8

Question 46 – Reducing green house gases

		Total	Important	Somewhat important	Somewhat unimportant	Unimportant	Unsure
		Responses	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	47.1	26.5	9.0	13.9	3.5
	USA	1007	56.3	22.1	5.1	11.3	5.2

Question 47 – Trying to eliminate reliance on oil from outside North America

		Total	Important	Somewhat important	Somewhat unimportant	Unimportant	Unsure
		Responses	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	62.1	27.9	5.6	1.8	2.6
	USA	1007	73.2	16.3	1.6	5.7	3.2

Question 48 – Getting the people to reduce their use of fossil fuels such as gasoline, coal, oil and natural gas

		Total	Important	Somewhat important	Somewhat unimportant	Unimportant	Unsure
		Responses	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	37.1	35.7	15.8	9.4	1.9
	USA	1007	54.6	23.6	6.4	12.4	3.0

Question 49 – Getting businesses to reduce their use of fossil fuels such as gasoline, coal, oil and natural gas

		Total	Important	Somewhat important	Somewhat unimportant	Unimportant	Unsure
		Responses	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	39.9	36.4	11.5	10.3	2.0
	USA	1007	54.8	24.2	4.8	13.4	2.7

Question 50 – Using more natural gas rather than coal

		Total	Important	Somewhat important	Somewhat unimportant	Unimportant	Unsure
		Responses	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	50.0	31.3	8.5	5.5	4.7
	USA	1007	57.7	25.2	4.1	6.9	6.1

Question 51 – Having common environmental standards between Canada and the US

		Total	Important	Somewhat important	Somewhat unimportant	Unimportant	Unsure
		Responses	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	42.1	35.7	11.8	7.4	3.0
	USA	1007	63.8	21.6	2.9	8.6	3.2

Question 52 – Having common environmental standards between Canada, Mexico and the US

		Total	Important	Somewhat important	Somewhat unimportant	Unimportant	Unsure
		Responses	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	37.7	37.2	11.7	9.4	4.1
	USA	1007	57.0	23.8	5.0	10.5	3.7

Question 53 – Having new taxes on fossil fuels such as gasoline, heating oil and natural gas to reduce their use and green house gases

		Total	Important	Somewhat important	Somewhat unimportant	Unimportant	Unsure
		Responses	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	14.8	23.2	21.4	35.5	5.1
	USA	1007	27.2	20.8	9.2	38.1	4.7

		Question 54 – Introducing tougher emission controls for vehicles					
		Total	Important	Somewhat important	Somewhat unimportant	Unimportant	Unsure
		Responses	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	32.4	36.8	17.2	11.1	2.5
	USA	1007	48.8	21.3	6.4	19.8	3.8

		Question 55 – Encouraging the use of more renewable energy such as wind, solar and hydro power					
		Total	Important	Somewhat important	Somewhat unimportant	Unimportant	Unsure
		Responses	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	50.7	23.8	9.8	12.8	2.8
	USA	1007	69.6	13.3	3.5	11.8	1.8

		Question 56 – Encouraging the use of nuclear energy					
		Total	Important	Somewhat important	Somewhat unimportant	Unimportant	Unsure
		Responses	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	23.6	30.5	15.2	21.0	9.7
	USA	1007	35.5	25.8	9.4	21.7	7.6

		Question 57 – What is more important to you, reducing green house gases or having North America free from importing oil from outside of North America?			
		Total	Reducing green house gases	Having North America free from importing oil from outside of North America	Unsure
		Responses	Percentage	Percentage	Percentage
Country	Canada	1013	37.5	55.1	7.5
	USA	1007	30.0	63.3	6.8

Would you support, somewhat support, somewhat oppose or oppose the following:

		Question 58 – If oil met government targets for green house gas emissions, encouraging the use of oil					
		Total	Support	Somewhat support	Somewhat oppose	Oppose	Unsure
		Responses	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	32.6	33.5	13.1	9.3	11.5
	USA	1007	44.0	24.9	6.8	14.4	9.8

		Question 59 – If coal met government targets for green house gas emissions, encouraging the use of coal					
		Total	Support	Somewhat support	Somewhat oppose	Oppose	Unsure
		Responses	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	21.5	28.3	18.9	20.7	10.5
	USA	1007	42.1	20.9	9.5	20.0	7.6

		Question 60 – If natural gas met government targets for green house gas emissions, encouraging the use of natural gas					
		Total	Support	Somewhat support	Somewhat oppose	Oppose	Unsure
		Responses	Percentage	Percentage	Percentage	Percentage	Percentage
Country	Canada	1013	50.2	32.5	5.6	3.8	7.9
	USA	1007	60.7	22.6	3.2	6.1	7.4

		Question 61 – Thinking of the future direction of energy policy, would it be your preference for there to be closer cooperation or less cooperation with Canada/the US as an energy partner?			
		Total	Closer cooperation	Less cooperation	Unsure
		Responses	Percentage	Percentage	Percentage
Country	Canada	1013	69.1	18.6	12.3
	USA	1007	85.7	7.9	6.4

		Question 62 – Thinking of the future direction of energy policy, would it be your preference for there to be closer cooperation or less cooperation with Mexico as an energy partner?			
		Total	Closer cooperation	Less cooperation	Unsure
		Responses	Percentage	Percentage	Percentage
Country	Canada	1013	47.2	26.5	26.2
	USA	1007	59.8	31.2	9.0

Appendix C

Questionnaire
United States and Canada
Public Opinion Surveys

WW 2013-03

For each of the challenges, please rate their importance to you on a scale of 1 to 10, where 1 is not at all important and 10 is very important in terms of America's/Canada's future: [RANDOMIZE]

		Rating
1.	Managing the pressures of an aging population	_____
2.	Further protecting our environment	_____
3.	Having trade policies that encourage investment	_____
4.	Encouraging American/Canadian culture	_____
5.	Being energy self sufficient	_____
6.	Ensuring Americans/Canadians have a high standard of living	_____
7.	Investing in our education system	_____
8.	Keeping our healthcare system strong	_____
9.	Creating jobs	_____
10.	Preserving social programs	_____
11.	Balancing government budgets	_____
12.	Investing in infrastructure such as roads and bridges	_____
13.	Ensuring safe communities	_____
14.	Asserting America's/Canada's role in international affairs	_____
15.	Protecting our borders	_____

For each of the challenges, are you confident, somewhat confident, somewhat not confident, or not confident in our ability as a nation to find solutions: [RANDOMIZE]

16. Managing the pressures of an aging population
    - Confident.....1
    - Somewhat confident.....2
    - Somewhat not confident.....3
    - Not confident.....4
    - Don't know.....77 [Unprompted]
17. Further protecting our environment
    - Confident.....1
    - Somewhat confident.....2
    - Somewhat not confident.....3
    - Not confident.....4
    - Don't know.....77 [Unprompted]
18. Having trade policies that encourage investment
    - Confident.....1
    - Somewhat confident.....2
    - Somewhat not confident.....3
    - Not confident.....4
    - Don't know.....77 [Unprompted]
19. Encouraging American/Canadian culture
    - Confident.....1
    - Somewhat confident.....2
    - Somewhat not confident.....3
    - Not confident.....4
    - Don't know.....77 [Unprompted]

20. Being energy self sufficient
    - Confident....1
    - Somewhat confident....2
    - Somewhat not confident....3
    - Not confident....4
    - Don't know....77 [Unprompted]
21. Ensuring Americans/Canadians have a high standard of living
    - Confident....1
    - Somewhat confident....2
    - Somewhat not confident....3
    - Not confident....4
    - Don't know....77 [Unprompted]
22. Investing in our education system
    - Confident....1
    - Somewhat confident....2
    - Somewhat not confident....3
    - Not confident....4
    - Don't know....77 [Unprompted]
23. Keeping our healthcare system strong
    - Confident....1
    - Somewhat confident....2
    - Somewhat not confident....3
    - Not confident....4
    - Don't know....77 [Unprompted]
24. Creating jobs
    - Confident....1
    - Somewhat confident....2
    - Somewhat not confident....3
    - Not confident....4
    - Don't know....77 [Unprompted]
25. Preserving social programs
    - Confident....1
    - Somewhat confident....2
    - Somewhat not confident....3
    - Not confident....4
    - Don't know....77 [Unprompted]
26. Balancing government budgets
    - Confident....1
    - Somewhat confident....2
    - Somewhat not confident....3
    - Not confident....4
    - Don't know....77 [Unprompted]
27. Investing in infrastructure such as roads and bridges
    - Confident....1
    - Somewhat confident....2
    - Somewhat not confident....3
    - Not confident....4
    - Don't know....77 [Unprompted]
28. Ensuring safe communities
    - Confident....1
    - Somewhat confident....2
    - Somewhat not confident....3
    - Not confident....4
    - Don't know....77 [Unprompted]

29. Asserting America's/Canada's role in international affairs
    - Confident....1
    - Somewhat confident....2
    - Somewhat not confident....3
    - Not confident....4
    - Don't know....77 [Unprompted]
30. Protecting our borders
    - Confident....1
    - Somewhat confident....2
    - Somewhat not confident....3
    - Not confident....4
    - Don't know....77 [Unprompted]

31. Overall would you say the current national political environment leads to positive, somewhat positive, somewhat negative, or negative policy outcomes?
    - Positive....1
    - Somewhat positive....2
    - Somewhat negative....3
    - Negative....4
    - Don't know....77 [Unprompted]

Would you say that the current national political environment leads to positive, somewhat positive, somewhat negative, or negative policy outcomes in the following policy areas: [RANDOMIZE]

	Positive	Somewhat Positive	Somewhat Negative	Negative	Don't know
32. Energy policy	1	2	3	4	77
33. Health policy	1	2	3	4	77
34. Trade policy	1	2	3	4	77
35. Foreign policy	1	2	3	4	77
36. Defense policy	1	2	3	4	77
37. Environmental policy	1	2	3	4	77
38. Tax policy	1	2	3	4	77
39. Government spending policy	1	2	3	4	77

Our next few questions are about energy issues.

40. Thinking about the future direction of energy policy, do you think the best course of action is [ROTATE] to develop a continental energy strategy which ensures the supply of energy for Canada and the US or a strategy which focuses on exporting energy?
    - A continental energy strategy which ensures the supply of energy for Canada and the US....1
    - A strategy which focuses on exporting energy....2
    - Don't know....77 [Unprompted]

41. Have you heard or not heard of the Keystone Pipeline project which is a pipeline system to transport synthetic crude oil and diluted bitumen from the Alberta oil sands in Canada to the United States?
    - Heard....1
    - Not heard....2
    - Don't know....77 [Unprompted]

42. Do you have a positive, somewhat positive, somewhat negative, or negative view of the Keystone Pipeline project?
    - Positive 1
    - Somewhat positive 2
    - Somewhat negative 3
    - Negative 4
    - Don't know ..... 77 [Unprompted]

43. Based on what you have heard about the proposed Keystone XL pipeline between Canada and the US, do you support, somewhat support, somewhat oppose, or oppose the US government approving the project?
    - Support 1
    - Somewhat support 2
    - Somewhat oppose 3
    - Oppose 4
    - Don't know ..... 77 [Unprompted]

Are the following important, somewhat important, somewhat unimportant, or unimportant to you:

44. Ensuring a stable supply of energy
    - Important 1
    - Somewhat important 2
    - Somewhat unimportant 3
    - Unimportant 4
    - Don't know ..... 77 [Unprompted]
45. Having the lowest energy prices possible
    - Important 1
    - Somewhat important 2
    - Somewhat unimportant 3
    - Unimportant 4
    - Don't know ..... 77 [Unprompted]
46. Reducing greenhouse gases
    - Important 1
    - Somewhat important 2
    - Somewhat unimportant 3
    - Unimportant 4
    - Don't know ..... 77 [Unprompted]
47. Trying to eliminate reliance on oil from outside North America
    - Important 1
    - Somewhat important 2
    - Somewhat unimportant 3
    - Unimportant 4
    - Don't know ..... 77 [Unprompted]
48. Getting the people to reduce their use of fossil fuels such as gasoline, coal, oil, and natural gas
    - Important 1
    - Somewhat important 2
    - Somewhat unimportant 3
    - Unimportant 4
    - Don't know ..... 77 [Unprompted]

49. Getting businesses to reduce their use of fossil fuels such as gasoline, coal, oil, and natural gas
    - Important....1
    - Somewhat important....2
    - Somewhat unimportant....3
    - Unimportant....4
    - Don't know....77 [Unprompted]
50. Using more natural gas rather than coal
    - Important....1
    - Somewhat important....2
    - Somewhat unimportant....3
    - Unimportant....4
    - Don't know....77 [Unprompted]
51. Having common environmental standards between Canada and the US
    - Important....1
    - Somewhat important....2
    - Somewhat unimportant....3
    - Unimportant....4
    - Don't know....77 [Unprompted]
52. Having common environmental standards between Canada, Mexico, and the US
    - Important....1
    - Somewhat important....2
    - Somewhat unimportant....3
    - Unimportant....4
    - Don't know....77 [Unprompted]
53. Having new taxes on fossil fuels such as gasoline, heating oil, and natural gas to reduce their greenhouse gases
    - Important....1
    - Somewhat important....2
    - Somewhat unimportant....3
    - Unimportant....4
    - Don't know....77 [Unprompted]
54. Introducing tougher emission controls for vehicles
    - Important....1
    - Somewhat important....2
    - Somewhat unimportant....3
    - Unimportant....4
    - Don't know....77 [Unprompted]
55. Encouraging the use of more renewable energy such as wind, solar, and hydro power
    - Important....1
    - Somewhat important....2
    - Somewhat unimportant....3
    - Unimportant....4
    - Don't know....77 [Unprompted]
56. Encouraging the use of nuclear energy
    - Important....1
    - Somewhat important....2
    - Somewhat unimportant....3
    - Unimportant....4
    - Don't know....77 [Unprompted]

57. What is more important to you, reducing greenhouse gases or having North America free from important oil from outside of North America?
    Reducing greenhouse gases 1
    Having North America free from importing oil from outside of North America . 2
    Don't know ..... 77 [Unprompted]

Would you support, somewhat support, somewhat oppose, or oppose the following:

58. If oil met government targets for greenhouse gas emissions encouraging the use of oil
    Support 1
    Somewhat support 2
    Somewhat oppose 3
    Oppose 4
    Don't know ..... 77 [Unprompted]
59. If coal met government targets for greenhouse gas emissions encouraging the use of coal
    Support 1
    Somewhat support 2
    Somewhat oppose 3
    Oppose 4
    Don't know ..... 77 [Unprompted]
60. If natural gas met government targets for greenhouse gas emissions encouraging the use of natural gas
    Support 1
    Somewhat support 2
    Somewhat oppose 3
    Oppose 4
    Don't know ..... 77 [Unprompted]

61. Thinking of the future direction of energy policy would it be your preference for there to be closer cooperation or less cooperation with Canada/the US as an energy partner?
    Closer cooperation 1
    Less cooperation 2
    Don't know ..... 77 [Unprompted]

62. Thinking of the future direction of energy policy would it be your preference for there to be closer cooperation or less cooperation with Mexico as an energy partner?
    Closer cooperation 1
    Less cooperation 2
    Don't know ..... 77 [Unprompted]

Appendix D
Elite Interview Discussion Guide

Stakeholder Interviews

February 2013

This study is about the intersection of public opinion and public policy in terms of energy policy. The project includes an analysis of the public opinion environment, media reporting, and also the views of key stakeholders in energy policy in Canada and the United States.

This study is not commissioned by any stakeholder and is part of my scholar-in-residence project with the Woodrow Wilson International Center for Scholars.

The views you share will remain confidential and aggregated with other key stakeholders in order to conduct an analysis.

Nik Nanos
Public Policy Scholar, Wilson Center
Research Associate Professor, SUNY (Buffalo)
nik.nanos@wilsoncenter.org

Date: _____

Name: _____

Organization: _____

Our first few questions are about policy formation and public opinion.

Would you say that the current national political environment leads to positive, somewhat positive, somewhat negative, or negative policy outcomes in the United States in the following policy areas [RANDOMIZE]:

	Positive	Somewhat Positive	Somewhat Negative	Negative	DK
1. Energy policy	1	2	3	4	77
2. Health policy	1	2	3	4	77
3. Trade policy	1	2	3	4	77
4. Foreign policy	1	2	3	4	77
5. Defense policy	1	2	3	4	77
6. Environmental policy	1	2	3	4	77
7. Tax Policy	1	2	3	4	77
8. Government Spending Policy	1	2	3	4	77

Our next couple of questions relate to <u>what should</u> and <u>what does</u> influence energy public policy.

9. Let's think about the mix of influence between public opinion and policy experts on policy outcomes in general. If there were 100 points in total to assign to the influence of public opinion and the influence of policy experts, in the **<u>PERFECT WORLD</u>** what would the mix be?

   Influence of Policy Experts <u>in Ideal World</u> _____ for Energy Policy

   Influence of Public Opinion <u>in Ideal World</u> _____ for Energy Policy

   Total **1 0 0**

10. Thinking of politics and energy policy today in the US. How would you assign points in terms of **<u>THE REAL WORLD</u>** between the influence of policy experts and public opinion.

    Influence of Policy Experts <u>in Reality</u> _____ for Energy Policy

    Influence of Public Opinion <u>in Reality</u> _____ for Energy Policy

    Total **1 0 0**

Our next few questions relate to the relationship with Canada and/or Mexico

11. What are the key **<u>opportunities</u>** for energy policy making for the US in terms of **<u>Mexico.</u>**

_____

_____

_____

12. What are the key **<u>challenges</u>** for energy policy making for the US in terms of **<u>Mexico.</u>**

_____

_____

_____

13. What are the key **<u>opportunities</u>** for energy policy making for the US in terms of **<u>Canada</u>**.

_____

_____

_____

14. What are the key **<u>challenges</u>** for energy policy making for the US in terms of **<u>Canada.</u>**

_____

_____

_____

15. Thinking of the future direction of energy policy would it be your preference for there to be closer cooperation or less cooperation with Canada as an energy partner.
    - Closer co-operation 1
    - Less co-cooperation 2
    - Unsure 77

16. Why do you have that opinion?

_____

_____

_____

17. Thinking of the future direction of energy policy would it be your preference for there to be closer cooperation or less cooperation with Mexico as an energy partner.
    - Closer co-operation 1
    - Less co-cooperation 2
    - Unsure 77

18. Why do you have that opinion?

_____

_____

_____

19. If Canada started to send more of its oil and natural gas exports to Asia and other markets, do you think it would have an impact or no impact on energy policy in the US.
    - Impact 1
    - No impact 2
    - Unsure 77

20. Would that impact be positive, somewhat positive, somewhat negative, or negative on energy policy in the US.
    - Positive 1
    - Somewhat positive 2
    - Somewhat negative 3
    - Negative 4
    - Unsure 77

21. If Canada started to send more of its oil and natural gas exports to Asia and other markets, do you think it would have an impact or no impact on environmental policy in the US.
    - Impact 1
    - No impact 2
    - Unsure 77

22. Would that impact be positive, somewhat positive, somewhat negative, or negative on environmental policy in the US.

    Positive 1
    Somewhat positive 2
    Somewhat negative 3
    Negative 4
    Unsure 77

Our next few questions are about energy self sufficiency.

According to the International Energy Agency (IEA), the United States could in the future become the world's top producer of oil and natural gas. Increasing domestic production combined with domestic energy efficiency could leave the country "all but [energy] self-sufficient." The U.S. could even become a net natural gas exporter by 2022 and a net oil exporter by 2030.

23. Are you confident or not confident in those IEA projections?

    Confident in projections 1
    Not confident in projections 2
    Unsure 77

24. Why do you have that opinion?

_____
_____
_____

25. What are the key opportunities for energy self sufficiency in the US?

_____
_____
_____

26. What are the key challenges for energy self sufficiency in the US?

_____
_____
_____

27. What does the long term energy mix look like for the US in terms of sources of energy?

_____
_____
_____

Our last few questions is to understand the sources people use and key contacts in terms of energy policy.

28. What are the key websites you turn to for information on energy policy in the US?

    First mention: _____ Info: _____

    Second mention: _____ Info: _____

    Third mention: _____ Info: _____

    Fourth mention: _____ Info: _____

29. Who would be the key legislators and administration staff leading the dialogue on energy policy:

    First mention: _____ Info: _____

    Second mention: _____ Info: _____

    Third mention: _____ Info: _____

    Fourth mention: _____ Info: _____

30. Who would be the key reporters leading the news reporting on energy policy:

    First mention: _____ Info: _____

    Second mention: _____ Info: _____

    Third mention: _____ Info: _____

    Fourth mention: _____ Info: _____

31. Who are the most influential associations engaged in the dialogue on energy policy:

    First mention: _____ Info: _____

    Second mention: _____ Info: _____

    Third mention: _____ Info: _____

    Fourth mention: _____ Info: _____

Appendix E

Calculations on Petroleum Products Transported by Rail

How many more rail carloads are transporting petroleum products in 2013 compared to 2011?

Estimations on the length of the train required to transport additional petroleum products in 2013 used the Association of American Railroads (AAR) data for the United States and Canada for the first quarter ending March 23, 2013 and the first quarter ending March 24, 2011, respectively. The sources data tables for the increase in rail traffic for petroleum products were as follows and were drawn from the AAR website:

- 2013 Rail Stats – (https://www.aar.org/newsandevents/Freight-Rail-Traffic/Documents/2013-03-28-railtraffic.pdf)
- 2011 Rail Stats – https://www.aar.org/newsandevents/Freight-Rail-Traffic/Documents/2012-03-29-railtraffic.pdf

To follow are the assumptions for the calculations:

- actual additional U.S. rail petroleum products carload first 12 weeks compared to 2011 – 80,418 rail carloads (U.S. 2013, 160,358 less U.S. 2011, 79,940)
- actual additional CDN rail petroleum products carload first 12 weeks compared to 2011 – 27,469 rail carloads (CDN 2013, 82,394 less 2011, 54,925)
- actual additional U.S. and CDN rail petroleum products carload first 12 weeks compared to 2011 – 107,887 or 1,284 rail carloads a day (U.S. 2013, 80,418 plus CDN 27,469 = 107,887 more cars over 12 weeks or 1,284 rail carloads more a day)
- estimated additional rail petroleum products carload annually compared to 2011 – U.S. and CDN – 468,660 (1,284 rail carloads more a day x 365 days a year)
- standard size of a rail carload – 20 feet
- feet to a mile – 5280 feet
- miles of additional rail carloads transporting petroleum products in 2013 compared to 2011 – 1,775 miles (468,660 additional rail carloads for petroleum products x 20 feet per car load ÷ 5280 feet per mile)
- estimated distance in miles from Winnipeg, Canada to Houston, United States – 1553 miles
- the additional rail carloads in 2013 compared to 2011 transporting petroleum products could stretch from Winnipeg, Canada, to Houston, United States, with approximately 200 miles or rail carloads left over.

[1]US Environmental Protection Agency, *US-Canada Air Quality Agreement*, http://www.epa.gov/airmarkets/progsregs/usca/index.htm (accessed August 9, 2013).
[2] Kathryn Harrison, "Multilevel Governance and American Influence on Canadian Climate Policy", *Zeitschrift fur Kanada-Studien*, no. 32.2 (2012), 45-64.
[3] Gray Davis and Jean Charest, "Viewpoints: California, Quebec join to take lead on climate policy", *The Sacramento Bee*¸ April 26, 2013. http://www.sacbee.com/2013/04/26/5372736/california-quebec-join-to-take.html (accessed August 9, 2013).
[4] A forced choice model better factors possible "policy tradeoffs". Respondents may deem both the environment and energy important individually but introducing them as a choice also provides a better understanding of public opinion and the public policy tradeoffs.
[5] Government of Quebec, "Close-Up on Energy", http://www.mrn.gouv.qc.ca/english/energy/ (accessed August 9, 2013).
[6] International Energy Association, "North America leads shift in global energy balance, IEA says in latest World Energy Outlook." Press Release, November 12, 2013. http://www.iea.org/newsroomandevents/pressreleases/2012/november/name,33015,en.html (accessed August 9, 2013).
[7] International Energy Agency, *World Energy Outlook Executive Summary*, 2012. http://www.iea.org/publications/freepublications/publication/English.pdf (accessed August 9, 2013).
[8] United States Energy Information Administration. *Annual Energy Outlook 2013,* Washington, DC, 2013.
[9] United States Energy Information Administration. *Annual Energy Outlook 2003*, Washington, DC, 2003, 3.
[10] United States Energy Information Administration. *Annual Energy Outlook 2012*, Washington, DC, 2003, 173.
[11] United States Energy Information Administration. *Annual Energy Outlook 2012*, Washington, DC, 2003, 215.