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Canada-U.S. Energy Interdependence and the Keystone Project

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Abstract

Most Canadians recognize energy security and energy policy as important topics for discussion. Beginning with the discovery of oil at Leduc Alberta in 1947, Canadian national energy policy formulation has run the gamut from laissez-faire continentalism, to a free-market based deregulated framework. Canada is a major trading nation. Moreover, for the past 75 years, the United States has been Canada's largest trading partner and in terms of oil trade, 99 percent of Canadian oil exports go to the United States. Canada - U.S. interdependence is central to any discussion of Canadian foreign trade. This thesis examines the current and future state of Canadian crude oil exports, using the Keystone XL project as a case study. By referencing the Keystone XL pipeline, this research will attempt to determine whether interdependence in Canada – U.S. oil trade is actually a dependence which places Canada's largest natural resource in a perilous position.

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Dedication

For my Mother, Joan Elizabeth Ogle
1931-2008

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Introduction

As a result of the preoccupation with access to the American market, Canadians face an 'autonomy/prosperity trade-off' that is both latent in their economic dependence on the US and is now more starkly apparent than ever before.[1]

John N. MacDougall, *Drifting Together: The Political Economy of Canada-US Integration*

In 1986, deregulation created a seemingly unlimited market for North American natural gas. The thought at the time was that Canadian supply would make up the bulk of new reserve and production additions, greatly enhancing exports and providing demand side energy security for Canada. However in 2008, rapid growth in U.S. gas production satisfied not only U.S. domestic demand, but also a growing portion of eastern Canadian demand. Horizontal drilling and hydraulic fracturing technologies, coupled with subsequent increases in domestic U.S. production, largely eliminated the need for Canadian gas imports. There is the possibility that the same situation could happen with oil, an export commodity without readily available transportation outlets and surety of demand, effectively land-locking the Alberta oil sands. In addition, the aforementioned technological breakthroughs have substantially increased U.S. domestic oil production and lowered imports. This parallel demand destruction has serious potential consequences for Canadian energy security.

Both economically and politically, oil is the most important raw material in the world and will remain a key source of energy for the next several decades. For Canada, an oil-exporting nation, the centrality of oil within the national interest is a fundamental tenet of Canada's ability to act internationally and therefore a key to Canadian foreign policy and economic power. Moreover, Canada - U.S. interdependence is central to discussions of Canadian foreign trade. This thesis examines the current and future state of Canadian crude oil exports, using the Keystone XL project as a case study. The Keystone XL pipeline demonstrates that what is

perceived as interdependence in Canada – U.S. trade is actually a dependence which places Canada's largest natural resource in a perilous position.

A Security Lens

Energy security and energy policy are important topics for Canadians. Strategy begets policy and this thesis defines energy security for Canada while tracing Canadian energy policy from the discovery of oil at Leduc, Alberta in 1947 to the present. After Leduc, the 1950s were dominated by industry expansion, new pipelines to move oil and gas to markets in Canada and the United States, and regulations and institutions to deal with longer-term energy issues. Throughout the 1960s, relatively calm global oil markets provided oil price stability and increasing Canadian domestic demand, from continued expansion of production and refining capacity was met by a combination of imports and domestic production. In the 1970s, market volatility and fears of future shortages fueled by political unrest in the Middle East led to a period of economic nationalism, government intervention, and focus on Canadian self-sufficiency. In the 1980s, both domestic and international policy initiatives changed, as the government of the day subscribed to the neo-conservative ideology that market forces, not governments, should direct the economy. Two North American trade agreements, the Canada-U.S. Free Trade Agreement (FTA) and the North American Free Trade Agreement (NAFTA), set the stage for economic relations over the next two decades as oil became the largest single component of Canadian exports.

Canada is a major trading nation and Canadians benefit from an increasingly positive international trade balance. An important part of this study is a discussion of trade as a sub-set of energy security. For the past 75 years the United States has been Canada's largest trading partner and this bilateral interdependent continuum is emphasized throughout. Energy security can be

broadly and variably defined and an energy security lens is a useful framework to analyze Canadian energy policy. The concepts of energy security and energy autarky (energy independence) are often confused with self-sufficiency, which is an unattainable chimera. Many energy security issues are part of the contemporary energy dialogue, including affordability, sustainability, safety, and economics. Therefore, the elusive and 'notional' goal of energy security entails a wide array of significant political, economic, social, environmental, and trade-related implications.

Interdependence

Interdependence weighs heavily in a discussion of energy security and inter- and trans-governmental relationships place interdependence at the centre of what defines energy security and energy policy today.[2] Interdependence connotes parallel access to markets, capital, technology, and labour, and has been the subject of debate, particularly in the field of energy policy. Growing interdependence also signifies the erasure of boundaries separating international and domestic politics.[3] Interdependence permeates Canada's relationship with the United States and will remain part of the fabric of energy policy far into the future. Canada and the United States differ greatly in terms of population, politics, economic considerations, and military power and the importance of interdependence is oftentimes site and actor specific.

In most cases, the interdependent relationship between Canada and the U.S. is distinctly asymmetric. This asymmetry is crucial when applied to U.S.-Canada energy policy and security, particularly to the trade in oil. Small changes in U.S. policy may have dramatic effects in Canada, whereas in the United States the consequential effect may be minimal. A good example is the current debate and lack of closure regarding the Keystone XL pipeline. The production, transport, and sale of bitumen from the oil sands is much more important to Canada than it is to

the U.S. because the U.S. will continue to buy oil, however, the oil may not come from Canada. Over the past 60 years, the actors have not changed, but for both nations, the relative importance of energy and energy security has experienced dramatic swings.

Gal Luft and Anne Korin suggest that at present, the United States and Canada have entered a new and more difficult period in their mutual relations, stating that: "The extremely high degree of societal interdependence between the United States and Canada ensures that Canada will be strongly affected by American policies."[4] Joseph S. Nye Jr. argues in *The Future of Power* that Canada – U.S. 'interdependence' involves short- and long-term sensitivities and vulnerabilities. More specifically, he asks, "how quickly does change in one part of the system bring about change in another part?"[5] The importance of interdependence in the Canada-U.S energy relationship will continue into the future, building on the growth of interdependence since World War II that created policy dilemmas and generated new forms of coordination and organization. For a long time security and realism were intertwined. Realism is about power, and oil is one of the most powerful global commodities. Moreover, any discussion of Canada-U.S. interdependence cannot ignore power. Like interdependence, the power of the oil trade has ebbed and flowed between the two nations for decades. In fact, the recent paradigm shift in oil supply and demand in the U.S. proves that any 'oil power' Canada may have had was illusory.

The Canada-U.S. relationship is also set within the broader context of oil as a strategic commodity. Barbara Shaeffer argues that "Energy use affects the structure of the international system itself: oil use creates an element of interdependency in the international system. Since oil is a global commodity, each country's demand affects the price and supply availability of oil for all consumers."[6] The location of most of the world's oil reserves also adds skepticism and fear to the debate, as

> In a world of jihad, terrorism, proliferation of weapons of mass destruction, and deepening divide between Islam and the West, realists cannot ignore the fact that more than three quarters of the world's proven conventional oil reserves and half of its gas reserves are concentrated in Muslim countries. Realists recognize the power and the threat of the oil cartel, and they sharply distinguish between nationalized resources used as tools of the state and resources owned and commercially handled by international companies that adhere to market rules. In light of all this, realists see a role for the state in a concerted effort to reduce the strategic value of oil and gas, in effect putting energy policy in the service of foreign policy as opposed to the current situation in which foreign policy is increasingly subjugated to energy policy concerns.[7]

Furthermore, each nation-state's interests may not align with efficient global oil markets: "Energy security realists' skepticism of the ability of energy markets to deliver energy security also stems from their view of energy markets as anything but free."[8] Governments control nearly 80 percent of the world's oil reserves through national oil companies (NOCs), which are agents of the state, as opposed to multi-national companies (MNCs) which are owned and governed by shareholders.

Key Literature

The modern history of the oil industry began when Winston Churchill, First Lord of the Admiralty, declared that Great Britain would power her ships with oil instead of coal.[9] There are a number of very good historical studies that place the global oil industry in the proper context. One of the most notable is Daniel Yergin's Pulitzer Prize-winning *The Prize: The Epic Quest for Oil, Power and Money* (1992). Leonardo Maugeri's *The Age of Oil: The Mythology, History and Future of the World's Most Controversial Resource* (2006) and Francisco Parra's *Oil Politics: A Modern History of Petroleum* (2010) are also valuable. Yergin's *The Quest: Energy, Security and the Remaking of the Modern World* (2011) is an excellent contemporary update to his earlier

tome. For Canadian historical perspectives, the 1970s produced an abundance of material, but more recent studies are lacking. Peter Foster provides interesting reading in several books including *The Blue Eyed Sheiks: The Canadian Oil Establishment* (1979)*; The Sorcerer's Apprentice: Canada's Super-Bureaucrats and the Energy Mess* (1982); *Other People's Money: The Banks, the Government and Dome* (1983) and; *Self-Serve: How Petro-Canada Pumped Canadians Dry* (1992). Earle Gray also produced two worthwhile volumes, *The Great Canadian Oil Patch* (1970), and *Forty Years in the Public Interest: A History of the National Energy Board* (2000). Paul Chastko's *Developing Alberta's Oil Sands: From Karl Clark to Kyoto* (2004) provides an excellent, in-depth study of this most important resource from a contemporary perspective.

For Canadian energy policy formulation, see G. Bruce Doern and Glen Toner's thorough overview in *The Politics of Energy: The Development and Implementation of the NEP* (1985). Energy scholar Tammy Nemeth argues that the book's main strength is the authors' in-depth discussion of public policy formulation and how the policy-making process intersects with politics.[10] John N. McDougall argues in *Fuels and the National Policy* (1982) that the primary goal of energy self-sufficiency was not new, that since Confederation the promotion and provision of self-sufficiency has been part of the energy security and policy dialogue. McDougall also argues that for most of the 20th century a fundamental tension existed within the Canadian public, and among certain policymakers and politicians, that Canada should have a national fuels policy for the benefit of all Canadians.[11] This tension exists today, as the country is witness to the Keystone XL and Gateway pipeline debates. Another good policy volume is David Breen's *Alberta's Petroleum Industry and the Conservation Board* (1993). For scholarship on trade, McDougall's recent volume, *Drifting Together: The Political Economy of Canada-US*

Integration (2006), provides an outstanding analysis of the current Canada-U.S trading relationship. McDougall's view of the interdependence that exists between the two nations is influential in this thesis' main argument.

Michael Hart's *Decision at Midnight: Inside the Canada-US Free Trade Negotiations* (1994), provides a very good summary of the run up and subsequent signing of the FTA, but his key argument is in *A Trading Nation: Canadian Trade Policy from Colonialism to Globalization* (2002), in which he states that Canadians have come to believe that a country that derives an increasing share of its wealth from international commerce has much to gain from an open, well-ordered international economy.[12] For much of Canada's history, trade policy has served as the major building block of industrial development. Industrial development also meant that large sums of foreign capital, primarily from the United States, made their way into Canada, enlarging the ever-increasing bifurcated, interdependent trading relationship. In the 1970s, this relationship soured and led to attempts by the economic nationalist Pierre Elliot Trudeau government to foster other trading arrangements. As Hart suggests, these efforts were meagre at best.[13] Bilateral oil and gas trade was not exempt and proved contentious. The implementation of the Foreign Investment Review Act (FIRA), the establishment of Petro-Canada, and the National Energy Program (NEP) were attempts to cauterize and reduce American involvement in Canada and the oil and gas industry. All of these initiatives were ultimately unsuccessful and in the case of the NEP, an abject failure.

Only a small percentage of the research published in mainstream political science and international relations journals deals with energy security and politics. Brenda Shaeffer suggests that these professional journals have paid scant attention to publishing research on those topics. Only in periods of tight energy market conditions, has there been an increase in scholarly

publications dealing with energy.[14] Michael Levi of the Washington D.C.-based *Council on Foreign Relations* suggests that U.S. policymakers today talk more about energy security than they have at any time since the energy crises of the 1970s. Yet scholarly understanding of the challenges that the intersection of energy and national security pose, and of the various policy tools available to address them, is surprisingly weak.[15] However, several Canadian and American public policy, economics, political science, and international relations journals contain studies of relevance to this thesis. Some examples relevant to this thesis are: *Energy Policy, Canadian - American Public Policy, Foreign Affairs, The Brookings Institution, International Journal, The American Review of Canadian Studies, The Canadian Journal of Economics and Political Science, Canadian Public Administration, and The Canadian Journal of Economics.* Finally, web-based information was used extensively, especially regarding statistical energy data from institutions such as the International Energy Agency (IEA), and the United States Energy Information Administration (EIA).

Primary Sources and Oral Interviews

Oil trade, energy security, and Canada's interdependent relationship with the U.S. are contemporary issues and as a result, the use of historical primary sources was limited. However, an interview with Gord Ritchie, Vice Chairman of Capital Markets at the Royal Bank of Canada was informative. In the 1970s, Mr. Ritchie was employed by the province of Alberta at the Department of Economic and Financial Planning, a division of the Department of Energy and Natural Resources. Mr. Ritchie had extensive dealings with Ottawa during the tumultuous period which preceded the implementation of the NEP. Jackie Forrest, the former Director of Global Oil at IHS CERA in Calgary, was also interviewed. For more than fifty years, IHS CERA has helped its customers harness information and the Calgary office of IHS CERA specializes in energy

research and provides products and strategic insights to the energy industry. Ms. Forrest is an expert on the Canadian oil sands, U.S. oil sands, tight oil, oil shale, and Canadian heavy oil. I also interviewed Jesse Beaudry, Vice-President Marketing and Transportation Logistics at Connacher Oil and Gas Limited.[16] Mr. Beaudry's experience and acumen regarding the use of rail for the transportation of crude oil, as well as his overall working knowledge of the current oil sands environmental sustainability equation was invaluable.

In addition to these first-hand accounts, several daily newspapers were used extensively as sources, including the *Calgary Herald*, *National Post*, *Globe and Mail*, *New York Times*, and *Wall Street Journal* as well as news services such as *Bloomberg.* Many of the politicians, industry leaders, and environmental activists, such as Prime Minister Harper, President Obama, Energy Minister Oliver, Alex Pourbaix of TransCanada Corporation, Al Monaco of Enbridge Inc, Danielle Droitsch of the National Resources Defense Council (NRDC), and others are quoted directly from these and other news sources. Two outstanding public affairs documentaries, produced by the Canadian Parliamentary Affairs Channel (cpac), were also used: *The Free Trade Election of 1988* (2013) and *Pipeline Politics* (2014). Countless government publications were also referenced, including *Hansard*, *The Borden Commission* (1959), *The MacDonald Commission* (1985) and the *Final Supplemental Environmental Impact Statement for the Keystone XL Project* (January 2014).

Current Conditions

In November 1966, then United States Undersecretary of the Interior J. Cordell Moore spoke about United States energy policy. His almost half century-old words speak volumes about the meaning of the term 'policy' and its importance to the nation-state: "Few words so innocently incorporate into their basic meaning as much simplifying illusion as does the word 'policy'. It

means a settled, definite course of action, and yet by its very nature, policy needs to be formulated when there are complex, uncertain alternatives so difficult to analyze and resolve that it is almost impossible to settle on a single, definite course."[17] Energy security is as much a part of nation-states' policy initiatives as any other element.

Doern and Toner argue that energy security in Canada is not a simple construct. The last decade has seen an extraordinary shift in expectations for the world energy market. Oil and gas infrastructures are truly global in scope. Furthermore, modern trading facilities and information technologies allow for 'just in time' delivery of crude oil, smoothing out market volatility. After a long era of excess capacity, at the end of the 20th century oil prices rose gradually and found relative stability in 2004. However, in 2008 the price of oil rose sharply, declined dramatically, and then rose again, reaching a level of about $100 USD, a price that has since endured. The supply-demand equation will remain volatile and this volatility will continue to put pressure on policymakers as oil is now a completely fungible commodity.

There are a number of material, physical, and economic factors to consider when discussing the dynamics of energy for Canada and Canadians:

1. Canada shares the continent with the world's most powerful capitalist nation
2. The bulk of Canada's trade occurs with the United States
3. Energy resources of all types are not distributed evenly across Canada
4. Distance, geography, and topography separate producing and consuming regions
5. Population centres and transportation systems challenge economic efficiency

Doern and Toner also point out how often past energy policies have been criticized or evaluated without reference to these realities.[18] Energy is an essential element of economic development and social progress in all countries. Without adequate, secure supplies of energy at reasonable prices, the objectives of economic and social development are unlikely to be met thus straining political cohesiveness. As the energy trade relationship between Canada and the United States

has ebbed and flowed, so has the impact of the above factors. Although largely beyond the scope of this research, corporate social responsibility, sustainability, and the environment have become important parts of the energy dialogue. Therefore, the importance of environmental issues surrounding the development of North American infrastructure systems such as the Keystone XL pipeline cannot be ignored.

The world's easy-to-tap oil supplies have virtually disappeared while demand has continued to increase and will further increase in the coming decades. This situation has forced major energy consumers to depend on longer and seemingly more fragile supply chains to fulfill their needs. According to the IEA, fossil fuels usage will account for 77% of the increase in world primary energy demand from 2007 to 2030, and oil demand will rise from 85 million barrels per day (mb/d) in 2008 to 88 mb/d in 2015 and 105 mb/d in 2030. The *BP Energy Outlook 2030* confirms this ever-increasing demand trajectory, albeit at a slower rate per annum.[19]

By 2001, production of raw bitumen and synthetic crude oil from the Alberta oil sands reached 650,000 b/d and the IEA stated in its *World Energy Outlook 2002* that in the coming decades, unconventional production[20] such as the oil sands would play a growing role in global oil supply. On the other hand, at that time the IEA did not recognize the oil sands reserves as more than "undiscovered resources."[21] Then, in 2006 and the next *World Energy Outlook*, the IEA recognized the oil sands reserves and moved Canada into second place behind Saudi Arabia. With Proven Oil Reserves[22] of 179 billion barrels and an annual production-to-reserve life ratio of 213 years, Canada became a recognized power in world oil markets.[23] The IEA also projected that Canadian oil sands production would triple to 3 million b/d by 2015 and climb further to almost 5 million b/d by 2030.[24] Evident was that Canadian oil reserves would play a significant

role in the United States' future energy security and provide peace of mind about impending supply side issues for the American leadership.

Although directional drilling has existed since the 1930s, until the 1990s the process was not deemed economic in the larger context.[25] As the technology was perfected, the ability to drill a straight well-bore *horizontally*[26] improved dramatically. Increased efficiency allowed producers to more easily access the chosen hydrocarbon reservoir by staying in the producing zone for long distances. Furthermore, horizontal drilling allows more wellheads to be grouped together on one surface location, fewer and shorter rig moves, less surface area disturbance, and easier and cheaper completion procedures and operations. These factors proved crucial, from a macroeconomic perspective, as they dramatically reduced the intensity and capital velocity of economic activity relative to reserve and production gains. Moreover, new play types in North American shale reservoirs exponentially changed reserve calculations and may provide a quantum change in U.S. oil and gas production, according to the IEA:

> Energy developments in the United States are profound and their effect will be felt well beyond North America – and the energy sector. The recent rebound in US oil and gas production, driven by upstream technologies that are unlocking light tight oil and shale gas resources, is spurring economic activity…. By around 2020, the United States is projected to become the largest global oil producer (overtaking Saudi Arabia until the mid-2020s) and starts to see the impact of new fuel-efficiency measures in transport. The result is a continued fall in US oil imports, to the extent that North America becomes a net oil exporter around 2030.[27]

The effectiveness of horizontal drilling and multi-stage fracturing has fundamentally changed the global energy landscape, but perhaps most importantly and to the largest extent in the United States. Access to people and services, the presence of jurisdictional, environmental and regulatory controls, and distribution networks and refining – not to mention a very large market –

may present unimaginable growth and efficiency. Most importantly, what does this mean for Canada-U.S. oil trade and interdependence?

The financial crisis of 2008 and 2009 slowed the rise in global fossil-energy use, but its long-term upward trend resumed largely due to increased demand in the developing world. Sustained investment is needed to combat the decline in output at existing oil fields, which are projected to drop by almost two-thirds by 2030: "[T]he major industrial powers are becoming more desperate in their drive to gain control over what remains of the planet's untapped reserves."[28] A critical concern is the replacement of current reserves, an integral element of energy security and energy geopolitics.

Existing supplies are depleting at approximately 1000 barrels per second.[29] The problem is not geology, as advances in extraction technology---coupled with attractive oil prices--- have more than offset the depletion of conventional reserves. Rather, the "problem lies in the massive economic and political risks inherent in new projects, particularly those that supply energy across national borders and thus face a multitude of political uncertainties."[30] However, the elasticity of the global supply-demand paradigm, coupled with technological breakthroughs, will continue to create new production and reserves.

For most of the 20th century, the developed world provided the economic engine for oil consumption. That is no longer the case, as demand has shifted in the past decade as "Non-OECD countries [will] account for 93% of the increase in global demand between 2007 & 2030, driven largely by China & India."[31] Moreover, the transition to a knowledge-based economy, plus the increasing industrialization of the developing world will likely shift energy balances. The Asia-Pacific Region has become the lynchpin for oil demand, with the region already importing 69% of its oil needs, or 14.88 mb/d, three-quarters of which come from the Middle

East and Asia's dependence on this volatile region is sharply increasing.[32] Developing technologies are creating new reserves of 'unconventional' oil, as they previously did for gas. Oil and gas reserves have more than doubled since 1980 – faster than the increase in production. These technologies have more places to go: many outside the existing oil-exporting countries. These factors suggest that there should be no long-term escalator for oil prices, with supply growing from 'unconventional' sources and new areas.

As demand for fossil fuels continues to climb, a realistic outlook for the next decade suggests a decline in the use of carbon-based energy sources is unlikely. Moreover, the 2008 global downturn and subsequent recession highlighted the increased economic costs of energy diversification and renewable forms of energy. Without a revolutionary new energy source, there is no way of separating better living standards in the developing world from increased use of fossil fuels. Success is dependent on conservation, technology, and ultimately a new source of mainstream energy.

Chapter Outlines

In order to understand energy security in a Canadian context, this thesis will examine the course of Canadian oil policy development in four chapters and a conclusion.

The first chapter introduces and defines key terms and broadly defines security and more specifically 'energy security.' The goal is to define the latter by explaining how energy and security relate to one another. The following questions are addressed: What is security? What is 'insecurity' and how does it fit into the narrative? Moreover, energy security is an elusive and 'notional' goal and in simple terms, energy security can be defined as assurance of adequate, reliable supplies of energy at reasonable prices – but does this define Canadian energy security?

Chapters Two and Three establish the historical context of energy policy development in Canada, from after World War II to the present. Issues covered include the questions of how to best manage the boom in oil and gas exploration that occurred in the wake of the discovery of oil at Leduc; the need for infrastructure, specifically pipelines to transport both oil and gas to new and existing markets in Canada and the United States; what institutions were established to manage development of the resource base and protect and promote the national interest; and finally, Canada as a trading nation with oil a major export commodity. The development of trade agreements, mainly the FTA and NAFTA, were important with respect to oil development in Canada. The centrality of historic Canada-U.S. relations, interdependence and trade remain in the forefront, as the relationship is unique globally and oil is the largest single component of this trading relationship.

Chapter Four is an in-depth look at the Keystone XL pipeline and its importance to energy security for both Canada and the United States. More than five years after the initial application, the project has neither been approved nor denied. Moreover, the current debate surrounding the Keystone XL Pipeline project shows that Canadian energy security is threatened by the ever-present dependency on the United States as the sole market for Canadian crude oil, greatly influencing Canada-U.S. 'interdependence'. The growing influence of environmental factors is discussed as well.

The conclusion provides an overview and summary of the study, as well as an assessment of aspects of future Canadian energy policy necessary to participate fully in the global oil market. Therefore, where does Canadian energy security go from here? Canadian oil policy, strategy, and security exist in a North American context. Furthermore, oil trade is a very

contentious, contemporary issue and this study provides insight into an ever-increasingly important aspect of Canada-U.S. relations now and for the future.

Chapter 1: Energy Security

Oil is a finite global commodity and its demand and supply affects all nations, firms, households, and the environment.

Introduction

One way of understanding the modern world is to view it as segmented into rival political and economic blocs that compete for resources and markets through political, economic, and military power.[33] Currently, globalization has placed an increasing emphasis on resource and market competition, especially with regard to crude oil, suggesting that the topic of energy security is more prevalent today than at any time since the oil crises of the 1970s. In addition, an abundance of real-time information has made issues such as sustainability, infrastructure, the environment, and cyber-space, factors in the global energy dialogue. Energy and energy security create an ever expanding, complex web of regional, national, and global interactive and interdependent relationships and issues, making the topic of energy security problematic. Therefore, there is a need to define 'energy security' and how energy and security relate to one another. Prior to the recent economic expansion of the developing world, Canadian energy security was largely continental and concerned Canada's relationship with the United States. This interdependent relationship remains central, but in the last several years globalization and market access have gained importance in the national energy security dialogue.

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Until the massive industrialization of the western world in the mid-19th century, the conservation of energy was never an overarching concern. Up to that time, wood was the primary source of energy and wood is a renewable resource, albeit marginalized by arable land and supply versus time. Over the 100 years that followed industrialization, mechanization rapidly

increased and it became apparent that natural resources could 'run out' (albeit re-distributed as emissions). This created an awareness of the need for alternative energy types and conservation of the remaining stockpiles of the most prevalent energy sources, such as coal and oil. The spectrum of energy types is very broad, from solar power to uranium, and providing empirical data describing how each energy type is used is beyond the scope of this thesis. Conversely, crude oil has a wide and varied number of applications and is cheaply and easily transported. Moreover, oil comprises one-third of the world's total primary energy supply and 95% of its transportation energy.[34] Therefore, crude oil, and Canada's abundant supply of crude oil, is the fulcrum of this research.

Security

A clear definition of security is also important. This process is elusive however. Like peace, honour, or justice, security resists a quantifiable definition. Contemporarily, security suggests a picture of something solid, like an alarm, a lock, a defensive weapon, or investment in properties, shares, or pensions. When all is well, people are secure in their homes, with their family "defended against the indeterminate actions of others."[35] Etymologically, therefore, security may relate to the possession of knowledge, confidence in the predictability of things, and in knowing the objective order.[36]

Security studies theorists define security in a multitude of ways. According to deterrence theorist Patrick Morgan, security is "physical safety from deliberate physical harm inflicted internationally, i.e., across national borders,"[37] while most liberal theorists claim that security is fundamentally about people. Environmental security theorist Simon Dalby clarifies the human factor, explaining that "Security needs to encompass the interests of the people rather than just states, in gaining access to food, shelter, basic human rights, health care, and the environmental

conditions that allow these things to be provided into the long term future."[38] Others argue that security is more about 'insecurity': what a situation is without security and equated with fear and the outlook for the future.[39] According to former U.S. Secretary of State Condoleezza Rice, security is about state and inter-state interaction:

> What has changed is…how we view the relationship between the dynamics within states and the distribution of power among them. As globalization strengthens some states, it exposes and exacerbates the failings of many others-those too weak or poorly governed to address challenges within their borders and prevent them from spilling out and destabilizing the international order.[40]

Scholars attempt to broaden security's definition through loose interpretations of concepts such as collective, common, comprehensive, and cooperative security. This situation is problematic as "deployment of concepts in this manner may have utility as a political project, [but] the conceptual stretching that ensues reduces the analytical utility of the concept of... security."[41] Keith Krause states that "Security is a particular type of politics applicable to a wide range of issues…understanding who can securitize what and under what conditions;"[42] while Barbara Keremonos suggests that "Risk-averse actors prefer a certain outcome to a chancy one when each has the same expected value."[43] Herein lies the bedrock of modern realism, that the preservation of sovereignty is the overarching premise underpinning nation states' strategies and subsequent policies; this tenet must be set within a larger discussion of realism and interdependence and nation-state perceptions, realities, and interactions.

According to Nye, resources are a source of power: "a country is powerful if it has a relatively large population, territory, natural resources, economic strength, military force, and social stability."[44] But, as Nye also explains, there is a paradox with resources: "When people define power as synonymous with the resources that [may] produce outcomes, they often encounter the paradox that those best endowed with power do not always get the outcomes they

want."[45] For Nye, resources and their usage are tools to achieve outcomes, means to ends. Moreover, "In the end, because it is outcomes, not resources, that we care about, we must pay more attention to contexts and strategies."[46] Some theorists contend that commodities like oil possess a strategic value above their market price and over time become tools of foreign policy. Furthermore, the presence of situational interdependence can prove problematic:

> If realists are 'less sophisticated' in their thinking it is primarily because they assume that most countries…are still motivated by nationalistic sentiments and that market forces and economic interdependence do not guarantee peace and stability. Unfortunately, interdependence may lead to conflict as states struggle to escape the vulnerability that interdependence creates, in order to bolster their national security. States that depend on others for critical economic supplies will fear cutoff or blackmail … [and] may try to extend political control to the source of supply.[47]

Readily apparent is that interdependence is not without pitfalls and can lead to greater competition, not cooperation. In a world of increasing globalization, energy security depends on how countries manage their relations with one another, within bilateral or multilateral frameworks, whether interdependent or not. In a perfect world, interdependence is a wonderful idea, as Gal Luft and Anne Korin note, "There is no doubt that in the era of globalization countries become increasingly interdependent in a number of fields."[48] However, is the search for interdependence unattainable? World War I and World War II proved that interdependence as a means to reduce the risk of conflict does not pass the test of historical scrutiny. National self-interest generally prevails. Although he never mentions the words energy or security, Hans J. Morgenthau's position in 1952 is prescient today:

> No nation has the resources to promote all desirable objectives with equal vigor; all nations must therefore allocate their scarce resources as rationally as possible. The indispensable precondition of such rational allocation is a clear understanding of the distinction between the necessary and variable elements of the national interest. Given the contentious manner in which in

> democracies the variable elements of the national interest are generally determined, the advocates of an extensive conception of the national interest will inevitably present certain variable elements of the national interest as though their attainment were necessary for the nation's survival. In other words, the necessary elements of the national interest have a tendency to swallow up the variable elements so that in the end all kinds of objectives, actual or potential, are justified in terms of national survival.[49]

Although interdependence may help to define security, security is fundamentally an understanding of state-centricity and depends on geographical location, resource endowment, level of economic development, and system of governance. Nation-states are also predisposed to pursue their self-interest using every aspect of their national power and tend to view energy as a subset of global power politics and a powerful tool of foreign policy.[50] In Canada's case, the overarching relationship with the United States suggests that the theory of interdependence is valuable for understanding each country's perception of energy security. The United States is still the most powerful nation in the world. Furthermore, Canada's hydra-like connections to the United States make interdependence mandatory---at least from the Canadian side of the border. Whether or not the same is true for the United States is addressed below.

Energy Security

Security is multi-definitional and energy security continues to rank high on national agendas worldwide. A nation's perception of energy security has a significant bearing on its interaction with neighbours. The elusive and 'notional' goal of energy security entails a wide array of significant political, economic, social, environmental, and trade-related implications. Furthermore, how each nation-state defines its own energy security depends to a large degree on that nation's position in the energy supply chain – on whether it is a producing or consuming country or a developed or developing country. Or as Carlos Pascual and Jonathan Elkind observed, "the notion of energy security hinges on perspective."[51] In energy terms, there are two

population types: with and without energy. For instance, one-quarter of sub-Sahara Africa and 600 million Indians suffer from acute energy poverty with no access to electricity. Luft and Korin contend that

> [For] half of humanity the meaning of energy security is different from that of the developed world. It means first and foremost access to energy to supply basic needs like clean water, cooking, lighting and public transportation. … The reality is that planet earth still holds enough energy resources for centuries to come … Yet there are economic, security, health, environmental and, in some cases, technological barriers … to surmount.[52]

In the developed world, human needs add layers of complexity. The basic tenets of energy security are more about reliability, access, affordability, and protection from supply interruptions and threats. According to Daniel Yergin, the objective of energy security "is to assure adequate, reliable supplies of energy at reasonable prices and in ways that do not jeopardize major national values and objectives."[53] Broadly, energy security is the maintenance and sustainability of a political order conducive to access to supplies, markets, and transportation routes.

Yet energy security also exists in a larger context and remains a significant challenge for policymakers. This situation requires a clear vision of the reality of an ever more complex and integrated global energy system and the relations among its participants. For some countries, energy security means conservation, producing more energy at home, and less dependence on foreign suppliers. However, for many others energy security also includes the creation and maintenance of supplier relationships with countries that can present other global complexities.

In Canada, as oil prices steadily increased in the early and mid-part of the last decade, energy security gained ground as a major national security issue, much like that which had occurred previously in the 1970s. In the intervening period this was not the case, as the real price of oil remained relatively low. In such periods of low oil prices, states do not view energy

security as much of a policy concern and tend to reduce the attention and resources expended on security. As Schaeffer notes, "Countries tend to undertake energy security-enhancing measures under conditions of urgency, and only when prices are highest do they begin to acquire additional supplies and infrastructure."[54] Early in his U.S. presidency, Barack Obama stated that "Year after year, decade after decade, we've chosen delay over decisive action. Rigid ideology has overruled sound science. Special interests have overshadowed common sense… Our leaders raise their voices each time there is a spike in gas prices, only to grow quiet when the prices fall at the pump."[55] According to James R. Schlesinger, a keen observer on the topics of energy and security, evident are "various degrees of insecurity."[56] Luft reinforces this energy security paradox, stating that "energy security can only be achieved through a common sense of insecurity."[57] Globalization and an integrated world oil market have increased insecurity in the world's economic and political system. Clearly, energy security is a concern for nation-states, but political will and the huge investment necessary to embark on major energy reforms are not self-evident without the context of near-crisis situations.

How do Canada's policy-makers define energy security? As a major oil producer, with excess capacity, Canada's needs are different, meaning it requires security of demand or customers. Presently, security of demand is only satisfied by one customer---the United States. This study will show that this is a precarious position for Canada. Net exporters of energy are concerned about security of demand, while nation-states that are net importers of energy are concerned with security of supply. For both, inadequate demand or lack of supply can create an 'insecurity' problem. The concept of 'insecurity' versus 'security' warrants a discussion of supply and demand.

Supply and Demand

Energy security relates to supply and demand in an open global system. Oil is a finite global commodity and its demand and supply affects all nations, firms, households, and the environment. Pipelines, shipping, hydroelectric dams, and the electrical grid are also components of the complex mechanisms upon which oil supply and demand depend. In the event of a disruption in supply, the substitution of other energy sources is often extremely difficult because of the large, fixed nature of this infrastructure.[58] Furthermore, although an extrapolation of present oil production and consumption trends points to an unsustainable situation for the future, oil remains the key commodity in the global energy supply chain. Yergin's observations in 1988 are remarkably relevant today:

> Oil continues to be pivotal to these concerns for two reasons. The first is that oil is still, by far, the most important source of energy for the industrial world and the one for which, in transportation there is no significant ready substitute. The second is the basic asymmetry of trade in oil --- the fact that most of the world's proven reserves are located far from the world's major consumers. Oil crosses borders and makes long voyages by sea. Oil, more than any other commodity, is intimately intertwined with nationalism and national power, and is subject to political and military struggles for its control.[59]

Changes in a state's oil consumption affect the price for all consumers and small changes in production or instability in oil exporting capability affect the global oil market for all.[60] If a state has regular, non-interrupted access to energy in the quantity and form required, logically, the state should have security of supply. However, NOCs control 75 percent of the world's proven oil reserves and many of these state owned enterprises (SOEs) do not operate on a commercial basis. Oftentimes, they are obliged to use a significant portion of their revenues to carry out other state functions rather than investing in ensuring continued or increased production.[61]

Furthermore, the large supplier nations, specifically those of the Organization of Petroleum Exporting Countries (OPEC), and large consuming nations make adjustments to supply dynamics in an effort to alleviate economic shocks. Historically, there is usually substantial slack in oil supplies, which allows the absorption of moderate disruptions with relative ease.[62] However, the 2008 price shock provided an important understanding of whether or not this is illusory. For many years, OPEC's spare capacity could offset disruptions in supply. In 2002, OPEC's spare capacity amounted to nearly 10 percent of the 76 mb/d global oil market.[63] However, in 2003 demand climbed to 78 mb/d and spare capacity dropped to five percent leaving only one mechanism for market equilibrium---rapid and uncontrolled price increases. Consequently, increased demand in the rapidly growing global economy caused substantial increases in the world price of oil.

The global financial crisis and ensuing recession which began in 2008, had a dramatic impact on energy markets. World energy demand in aggregate plunged and countries responded to the threat with prompt and coordinated fiscal and monetary stimuli on an unprecedented scale. Energy investment worldwide also contracted in the face of a tougher financing environment, weakening final demand for energy and lower cash flows. Fewer oil and gas wells were drilled and capital spending declined on refineries, pipelines, and power stations. Ongoing projects, including some in Canada's oil sands, were slowed, postponed, or cancelled. The IEA estimated that global upstream oil and gas investment budgets for 2009 were cut or delayed by around 19% compared with 2008 — a reduction of over $90 billion.[64]

From an oil market perspective, OPEC stated that the high oil prices in the middle of 2008 were not justified by physical supply and demand fundamentals. OPEC claims to have repeatedly called for better regulation and increased transparency in markets, for the benefit of

both producers and consumers alike. In its 2008 World Oil Outlook, OPEC stated that "Today, what is apparent is that oil supply and demand fundamentals are healthy. There is, and has been, more than enough supply to meet demand, and oil stocks in major consuming countries are at comfortable levels. This should point away from the direction of current price levels."[65] Why? According to OPEC there were a number of factors in play, including a move by many financial institutions into index trading and both regulated and unregulated commodity exchanges, the sharp slide in the value of the US dollar, ongoing geopolitical developments, and refining tightness.[66] Price movements were also exacerbated by massive direct and indirect investment inflows by non-commercial players looking to gain exposure to commodity markets facilitated by high leverage capabilities and the absence of a cap on speculation.[67] Some leaders grew conscious of a need for dialogue among consuming and producing nations. In fact, in 2006 and 2008 the IEA and OPEC co-sponsored international conferences in Oslo and Bali respectively, but further efforts to arrange talks between the IEA and OPEC stagnated.[68]

Nation-states face the ongoing security challenges of shocks and supply interruptions. As a result, for importing nations energy security requires diversity of energy sources (i.e. solar, hydro, wind, nuclear, coal, natural gas, oil), as well as multiple sources of supply to produce an energy mix not overly reliant on one or two types of fuel.[69] In the developing world, this is not realistic, as coal, oil, and natural gas remain the mainstays of the supply chain. No matter the perception, energy supply presents major domestic and international policy challenges. The dilemma of the ever-present risk of supply shocks fostered the creation of important international organizations, such as the IEA.

The IEA was formed after the 1973 Arab oil embargo and has evolved from a collectivist risk sharing system into a coordinated organizational structure that relies on members drawing

on strategic oil stocks, or reducing demand in times of disruption, thereby adding efficiency back into the market. The IEA also provides authoritative research and analysis on ways to ensure reliable, affordable, and clean energy for its 28 member countries and beyond.[70] Perhaps most importantly, each of its members is obliged to inventory oil stocks. This led to the creation of Strategic Petroleum Reserves (SPRs). According to a March 2001 agreement, all 28 IEA members must have a strategic petroleum reserve equal to 90 days of the prior year net oil imports for each respective country and only the Agency's net-exporter members, like Canada, are exempt from this reserve requirement.

The IEA and SPRs provide an effective balance to much of the developed world's supply of crude oil, but OPEC's large producing nations are not IEA members. Historically, individual OPEC states have exploited their market power to raise oil prices to levels not consistent with a fully competitive market.[71] Furthermore, OPEC countries rely heavily on energy revenues and are inclined to keep prices high. The International Monetary Fund (IMF) estimates that Saudi Arabia must earn at least $49 per barrel to avoid going into deficit, while Iran and Venezuela need $90 and $110 per barrel, respectively.[72] The view of energy markets as anything but free has led to consumers and producers being skeptical about energy markets' ability to deliver energy security.[73] For decades to come, the Persian Gulf will remain the main supplier of the world's crude oil, especially for the developing world, where future increases on the Indian sub-continent and in Asia will generate increased demand. The IEA estimates that by 2035 global energy demand will grow by more than one-third, with China, India, and the Middle East accounting for 60% of the increase.[74] This growth does not lead to an effective global economic system, given the presence of oil as the most important global commodity required for increased economic prosperity and sustainability.

This rebalancing of oil trade affects global energy security, as European and North American imports fall due to conservation, decreasing demand, and increased production. Conversely, guaranteed demand is important. As oil and gas fields pass their production peaks, the development of new fields requires advanced technology and enormous investment of capital and labour. Furthermore, prices need to be high enough that reinvestment provides an adequate rate of return. Capital is mobile and fungible and can move globally. Notwithstanding the above, recent developments in North American exploration and development of unconventional resources and production are creating a new supply nexus. The IEA projects that, by 2020, the United States will become the largest global oil producer, resulting in a continued fall in U.S. oil imports.[75] Substantial increases in US domestic oil and gas reserves and production from unconventional oil and gas shale reservoirs is overturning America's decades-long thirst for imported crude oil and decreasing crude oil imports.

Energy Security and Militarism

In 1945, US President Franklin D. Roosevelt and Saudi King Abdul Aziz ibn Saud met aboard the warship USS *Quincy* in Egypt's Great Bitter Lake. Ever since, the United States has provided security and stability in the Persian Gulf. In fact, U.S. national security strategy has continually been a tenet of the use of military power to ensure the free flow of oil from the Persian Gulf region.[76] Moreover, the United States, as the largest participant in the global energy system, has a stake in strengthening global energy security. Unfortunately, militarization often delivers the opposite result and feeds the world's perception of the U.S. as an imperialistic power out to seize oilfields by force.[77] Nevertheless, the U.S. military plays an important role in maintaining stable markets for oil and gas, most notably by providing security for critical sea-

lanes. The United States is currently the ultimate military guarantor of major shipping lanes and choke points such as the Strait of Hormuz, the Strait of Malacca, and the Bosporous Strait.

The Strait of Hormuz is the most critical passageway for oil and gas transport, with one-fifth of global energy supply exported through it annually. Most of the oil produced and sold for export by Saudi Arabia, Kuwait, Iran, Iraq, Qatar, and the United Arab Emirates (UAE) passes through the Strait of Hormuz. The Strait of Malacca enables almost all oil trade between the Middle East and China and Japan, as the shortest link between the Indian and Pacific Oceans and consequently, the Persian Gulf and Asian markets. National security expert Michael O'Hanlon estimates that the US spends $50 billion a year protecting oil shipments while a recent RAND Corporation report estimated the costs at between $67.5 and $83 billion per year.[78] At present, no other major power can handle this role and the United States' ability and willingness to protect international sea-lanes is of benefit to all exporters and importers who depend on international oil trade.

Other Facets of Energy Security: Infrastructure, Terrorism, and Cyber-Security

Energy infrastructure has become an attractive target to those active in the promotion of civilian strife, as terrorist groups are more than willing to use military and terror activities to promote their zealotry. In any country, energy pipelines and especially their pumping stations, LNG terminals, electricity transmission grids, and power plants represent attractive, and at times, easy targets for terrorists.[79] Generally, attacks on energy infrastructure only marginally impair production and transport, yet may significantly impact world oil prices. For example, anti-regime terrorists attacked Saudi Arabia's Abqaiq oil-processing plant in February 2006. This caused a spike of about $2.50 per barrel in world prices even though the terrorists did not breach the first fence around the facility. However, there were three deaths and the terrorists succeeded in

creating a global economic impact.[80] Unfortunately, the consequences of militant terrorist attacks can be much more devastating. In early 2013, 30 heavily armed militants crossed the Algerian border from Mali and infiltrated a gas plant near the town of Amenas, an action that resulted in more than 70 dead, including 27 of the militants.

This attack has had far-reaching global security impacts. The proximity of the attack to civilian strife in Mali may signify deeper issues of energy security and subsequent terrorist activity, especially in the Middle East and North African (MENA) region. Aaron Zellin, a Fellow at the Washington Institute for Near East Policy, suggests that the two aforementioned incidents could produce a tipping point by goading undecided citizens into action: "A lot of these people are more like online cheerleaders. But this could lead individuals to put away the keyboard and pick up an AK47 instead."[81] Resolving the conflicting interests of different peoples and governments and determining a fair share of the benefits of energy exploitation for these groups, along with the participating oil companies, poses enormous challenges and underscores terrorist operations as an important facet of the energy security paradigm.

Public discussions of energy security often point to a direct connection between oil revenues and international terrorism, but this is a very complex issue. Michael Levi argues that "Individual terrorist operations tend to be inexpensive (even when accounting for the cost of failed operations), suggesting that large revenue sources are not necessary for funding individual operations."[82] At the same time, some terrorist organizations are extremely expensive to fund and hence can benefit substantially from high oil revenues to state supporters. Hezbollah's operations, for example, cost hundreds of millions of dollars per year and the organization's activities include an extensive political and social apparatus in addition to carrying out terrorism.[83] Iran's financial support of Hezbollah is easier when oil revenues are high. Revenues

from oil sales empower adversaries in two ways. Not only do they finance spending on hostile activities, they lessen the value to states of participating responsibly in the international economic system, blunting the tools of economic statecraft.[84]

These facts suggest that the important relationship between oil revenues and terrorism is through the funding of social and political environments in which terrorist groups can operate effectively. From this vantage point, operating al-Qaeda is not actually cheap; despite the low cost of individual attacks, the organization depends on extremist-friendly environments in countries like Pakistan and Saudi Arabia, which can be expensive to support.[85] Fortunately, MNCs and the states in which they operate do not roll up their assets and retreat. Oil companies, and the states where they work, tend to react to attacks by improving security rather than scaling back operations. Saudi Arabia responded to terrorist threats by establishing a special force of 35,000 to defend oil installations.[86] International producers also use private security contractors to protect people and plants in dangerous countries.

In the summer of 2012, a massive cyber-attack on Saudi Aramco, the Saudi Arabian national oil company, devastated more than 30,000 of the company's computers. U.S. Secretary of Defense Leon Panetta called the attack "probably the most destructive…that the business sector has seen to date."[87] According to Khalid Al-Falih, the President and CEO of Saudi Aramco, the separation of administration from operations was crucial as only administrative functions were hit and no operational disruptions occurred. However, he suggests that companies must spend heavily now and in the future on better and stronger hardware and software and continue to rank scenario risk at the top of strategic planning processes.[88]

At a recent cyber-security forum in Houston, security experts attempted to define the future of cyber-security in the energy industry, citing several issues of consequence. Firstly,

people matter. The most sophisticated cyber-security technology in the world is ineffective if people do not know how to use it. Panelists also agreed that in order to move forward with protection against cyber threats, companies need to spend time educating their employees about utilizing company computer systems. Secondly, supply chains are a crucial cyber-security link. One bad computer chip installed on a supplier device can destroy crucial systems.[89] Individuals, corporations, institutions, and governments must be constantly diligent in order to protect their interests.

According to former Director of the Central Intelligence Agency (CIA) General Michael Hayden, cyber space is a domain, like the land, the sea and the air. It is free, ubiquitous, ruthlessly democratic, universal, maneuverable, egalitarian, ungoverned and in military parlance, offensive: "Unfortunately it is more like Somalia than the global digital commons and inherently impossible to defend."[90] The oil and gas industry, as much or more than any other industry, has mastered the leveraging of information. While this capability has created great efficiencies and enabled technology to broaden the scope of development and resource exploitation, it also exposes great vulnerability.

Conclusions

Security is composed of a variety of issues. Generically, security is access to the basic conditions that allow for a safe and sustainable future for humanity. Security is also state-centric and depends on geographical location, resource endowment, level of economic development, and governance. Moreover, several well-known scholars in the field of energy security, such as Daniel Yergin, Michael T. Klare and Erica Downs, add that energy is an integral part of a nation's external trade, foreign relations, and security policy.[91] The nation-state then is a good reference point for debate. Interdependence and power also provide a lens for viewing the

juxtaposition of energy and security. As Nye states, power is a resource, producing means to ends. More specifically, economic power is a substantial component of a nation-state's growth and sustainability. Access to abundant, affordable sources of energy is also arguably the most important economic driver, for many reasons.

Although there are many broad and varied sources of energy, fossil fuels are a finite resource. Moreover, oil remains the key energy commodity in the world today and will remain so for decades to come. When nation-states are added to the discussion, Nye elaborates that "oil is the exception, not the rule, in judgments about economic power derived from natural resources … Oil is the most important raw material in the world, in both economic and political terms, and it is likely to remain a key source of energy well into this century."[92] Michael Levi adds to the importance of oil in energy security terms, in that "Oil has consequences for national security not only through its effects on the states that consume it, but through its effects on the states that produce it, too. Oil revenues can either strengthen or weaken oil producers."[93] Canada is no exception to this paradox.

Canada has abundant sources of all types of energy and Prime Minister Stephen Harper has declared Canada an emerging energy superpower.[94] The discussion of the importance of energy security from a Canadian perspective is for the most part economic and with respect to oil, differs from other commodities. Oil is Canada's single most important source of energy and a huge component of Canadian exports. Moreover, virtually 100 percent of these oil exports go to the United States. This economic monopsony creates tension on many fronts.

This tension began in the early years of Confederation with the implementation of Sir John A. MacDonald's National Policy and continues today.[95] As Tammy Nemeth argued in 2007, "there continues to be a fundamental tension within the Canadian public, and among

policymakers, between the pull of continentalism and the push of nationalist impulses."[96] To say the least, sound, long-term Canadian energy policy development has proved problematic. Additionally, the recent rebound in U.S. oil and gas production is steadily changing North American and global energy trade. Therefore, further discussion of Canadian energy security and strategy is not complete without discussion of the historical relevance of Canadian energy policy development.

Chapter 2: Canadian Oil and Gas Policy: From Leduc #1 to Petro-Canada

Canada is both an oil-producing and oil-consuming nation. The consuming regions of Eastern Canada want the cheapest oil available, even if it means obtaining supplies via imports. At the same time, Canadian oil producers, primarily in the west, are looking for ways to stimulate investment, enhance market reach, and receive favourable pricing, thereby increasing exploration, production, and reserves. Vast distances and formidable geographic barriers separate consumers from producers. Following the Second World War, federal policymakers faced distinct challenges with this producer-consumer dynamic, not the least of which was the absence of one overriding imperative to satisfy.

During the 1950s, three general themes emerged to define the regulation of the oil and gas industry: the approval and regulation of pipelines to move oil and gas to markets in Canada and the United States, policies associated with domestic use and the import and export of crude oil, and government legislation and institutions to deal with longer-term energy issues. Two policy instruments, the National Energy Board (NEB) and the National Oil Policy (NOP), also emerged. By the 1960s, Alberta produced the bulk of Canada's oil, but Eastern Canada had the bulk of Canadian consumers, demand, and refining facilities. Relatively calm global oil markets provided stability and a combination of imports and domestic production provided for increasing Canadian demand. The 1970s was a period of economic nationalism---specifically the creation of Petro-Canada and a 'Made in Canada' energy policy. How did Canadian oil and gas policy develop to this end? What were the key factors in oil and gas development in Canada that created this type of policy outlook and legislation? Oil and gas are commodities that affect this country's trade balance and almost from the inception of the Canadian oil and gas industry,

cross-border commerce, interdependence, and intergovernmental dialogue were the relevant factors in oil and gas policy development.

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Demand for oil both in Canada and internationally increased rapidly following the Second World War. Beginning with the Leduc Discovery in 1947,[97] Canada became a major oil and gas producer and the overarching objective of Canadian energy policy for the next 20 years was to stimulate growth of proven reserves, establish markets for Alberta crude, and maintain fair prices for consumers. According to Doern and Toner, "industry and government fundamentally and consciously agreed on the need to ensure the growth and expansion of the industry."[98] The process was not without challenges from the outset. Production and reserves grew rapidly during the period and governments and the industry struggled to keep regulatory and institutional pace. Furthermore, the ever-present conflict between provincial and federal authorities regarding resource ownership and development remained a significant influence.

Although the oil and gas industry discovers, develops, and markets oil and gas, these resources do not belong to the developers *per se.* In most cases, the Crown owns reserves under a combination of federal and provincial jurisdiction. In general, the federal government controls federal and aboriginal lands, as well as the domestic and international transport and trade of natural resources. The provinces own the resources and control extraction, revenue collection, and conservation. This situation was not always the case and prior to 1930, jurisdiction was complicated, as "Seldom have measures applied within or across jurisdictional boundaries functioned in harmony."[99]

The 1867 *British North America Act* established a regime that mixed parliamentary supremacy with provincial rights. The Act reserved all lands, mines, minerals, and royalties

within a province's borders to provincial control. The four original provinces of Quebec, Ontario, Nova Scotia, and New Brunswick, and later British Columbia and Prince Edward Island, controlled their resources from the outset, while Ottawa maintained control over resources in the newer provinces of Manitoba, Saskatchewan, and Alberta.[100] This federal control of resources left westerners embittered.[101]

Prior to Alberta becoming a province in 1905, the federal Minister of the Interior governed petroleum exploration and the federal government *sold* exploration reservations for $1.00 per acre, subject to a royalty of 2½ per cent of sales. This order-in-council was rescinded in 1910 and thereafter petroleum and natural gas rights were *leased* for defined periods.[102] Federal authority and legislation focused on three elements: rapid and orderly development of the resource; a desire for the resources to remain in federal hands because of their strategic value; and development of the resources in a manner that did not create inappropriate waste.[103] For the next two decades, most oil and gas exploration and development occurred in southern Alberta, in the vicinity of Turner Valley and 'waste' became a legitimate concern. Abundant supplies of oil and natural gas were discovered and due to a lack of transport capability, substantial gas was atmospherically flared while oil was being produced. Not only is this practice wasteful, excessive production of gas from an oil reservoir damages the reservoir and reduces maximum recovery.

In 1926 the provincial government of Alberta, under the leadership of John Brownlee, enacted the *Oil and Gas Wells Act*, proclaiming that "waste was unacceptable to the public and operator alike, [and] the new legislation gave the government power by order-in-council to establish regulations governing every phase of oil and gas development."[104] The legislation was underpinned by consultative interaction with industry, setting precedent for future legislative

development, a trend that, although not perfect, has generally been proved successful to the present day. Unfortunately, Ottawa still controlled resource development, but after almost three decades of political wrangling, the western provinces were granted ownership of natural resources when the British Parliament approved the *Constitution Act* in 1930.[105] From that date forward, the interest of the Crown in all lands, mines, minerals (precious and base), and royalties, and all sums due or payable for such lands, mines, minerals, or royalties, belonged to the province. The transition from federal to provincial administrative control was smooth as "almost all of the professional staff at the Calgary office of the federal Department of Mines transferred to provincial service, and Alberta took over the supervision of all oil and gas operations."[106]

The *British North America Act* also gave the federal government authority to regulate international and interprovincial trade.[107] When any commodity crosses a provincial or international border, the federal government regulates the approval or denial of such transactions. This combination of federal and provincial interests and authority has been a source of conflict from the outset. As production capability continued to grow during the late 1940s and the early 1950s, the most prevalent federal-provincial issue was the transportation of crude oil and natural gas. This issue resulted in the implementation of the *Pipeline Act* in the spring of 1949.[108]

The *Pipeline Act* caused several pipeline applications, including one from Interprovincial Pipelines Limited (IPL) to build a line from Alberta to the Great Lakes.[109] Construction began in Edmonton in the spring of 1950 and 150 days later the line reached Regina. In 1951, construction continued to Gretna, Manitoba, then headed across the U.S. border to the city of Superior, Wisconsin. From there, Great Lakes tankers shipped oil to Sarnia, Ontario refineries. In 1953, construction resumed and the line returned to Canada, ending in Sarnia.

The routing pattern through the United States caused mild political backlash. Making reference to the success of the all-Canadian route of the transcontinental railway, Progressive Conservative leader George Drew demanded an all-Canadian route: "Surely it is in the national interest, regardless of cost, that the main pipeline carrying Canadian oil should be laid on Canadian soil."[110] The Louis St. Laurent government - in particular Minister of Trade and Commerce C.D. Howe - vehemently supported the chosen route as the most efficient one. This decision was the beginning of Howe's undoing. This conflict between economics and what constituted the national interest set in motion several years of fierce political debate, culminating in the great pipeline debate of 1956 and the ultimate defeat of the St. Laurent Liberals the following year.

According to Patrick Nicholson, "C.D. Howe was an engineer, not a humanitarian, not even a true politician; efficiency was his watchword."[111] Howe was a transplanted New Englander, an able, astute and powerful politician and one of the last federal cabinet ministers to build a personal empire within government. The major justification for the American route was the necessity of post-build export sales to U.S. buyers. John N. McDougall argues that this type of joint-service agreement became a *de-facto* policy commandment and had endured for decades.[112] Plentiful U.S. markets ensured that exploration and production in western Canada would continue.

During the 1950s, a lack of market access was an unintended consequence of the rapid and successful development of crude oil and natural gas production. In order for surplus Alberta crude to compete for new and expanding markets in eastern Canada and the U.S., transmission systems like the initial inter-provincial oil pipeline were a necessary part of Canadian resource development. The hunt for oil had another unintended consequence. A multitude of the wells

drilled during the period encountered massive quantities of natural gas; but these large, newly established gas reserves were far from market. Industry's next task was getting this gas to market efficiently, and this responsibility fell to both federal and provincial governments. However, public and private discord, capital efficiency, political controversy and upheaval, would all result before, during, and after the next major Canadian pipeline project.

The IPL controversy was minor compared to the political firestorm that erupted over the routing, government loans, and construction costs of transporting natural gas from Alberta to Ontario.[113] The story of the construction of the Trans-Canada pipeline involved many of the classic issues of Canada's struggle as a nation – economic relations with the U.S.; energy security; dependence and interdependence; continentalism versus nationalism; energy transportation; federal-provincial relations; public versus private enterprise; a lack of regulatory control; and pressure from institutions and the opposition parties in Ottawa. As the issue came to a head in early summer of 1956, it dominated the press and popular opinion.[114]

In his seminal work, *Pipeline: TransCanada and the Great Debate,* William Kilbourn associated the building of an all-Canadian natural gas pipeline with the construction of the Canadian Pacific Railway. Kilbourn stated that "In some minds the line was to be as vital for the building up of this east-west continental nation in the twentieth century as the railroad had been in the nineteenth; and it was equally important that it be built entirely on Canadian soil."[115] The parallels between the pipeline and the railroad are remarkable. Pipelines, like railroads, were the nouveau mode of transportation linking eastern consumers with western producers. Moreover, at both times the consensus was that major construction projects which connected Canadian resources to Canadian consumers enhanced the national interest and economic security.

Conversely, in 1956 the construction of a transcontinental gas line provided several abject challenges distinct from the CPR's construction.

The construction of such a line is dependent on market certainty. Crude oil is transported to a refinery, turned into various products, and distributed to consumers via products pipelines, rail cars, or truck transport. A gas line is dependent on quantifiable reserves, long-term supply contracts for those reserves, tariffs to pay for the line, and guaranteed consumer markets and distribution systems. Eastern Canada provides this market and in 1952 Ontario Premier Leslie Frost was interested in bringing federal pressure and involvement to bear on any project that could move Alberta gas east as quickly as possible. In an effort to move federal-provincial relations forward, Frost used the occasion of the opening of a new oil refinery in Sarnia to introduce Premier Ernest Manning of Alberta to Howe, the federal Minister of Trade and Commerce.[116] The two had never previously met, but such was the state of federal-provincial relations at the time.

Due to the U.S. routing of the IPL line, the federal government was determined that any new gas line would have an all-Canadian routing. This routing meant crossing the rugged Canadian Shield of northern Ontario, dramatically adding to construction costs. In late 1952 Howe needed little persuading in favour of a pipeline to the east. Unfortunately, the Alberta government and its Conservation Board had yet to authorize the removal of any gas eastwards until reserves far exceeded Alberta's future needs,[117] signifying that "Local resistance to the export of gas, until there was certainty of sufficient supplies for home consumption, was to be an important factor in the history of pipelining in Canada."[118] Alberta producers were unhappy about tying themselves to the risks of crossing the Laurentian Shield when gas could be exported more efficiently and economically to the U.S. Unfortunately for producers, exports needed

Ottawa's permission. It appeared that the two governments held a veto over one another. However, this did not dissuade Howe as he was adamant that the project's importance stood on its own merit: "It was big---a matter of billions of dollars of new investment in Canada. It was daring---nothing quite like it had been done before [and] it would be the longest line in the world."[119] Political sentiment in favour of an all-Canadian line was growing. There was even support across the floor of the House, from Conservatives such as Douglas Harkness of Calgary and Howard Green of Vancouver, who were vocal critics of proposals for lines built through American territory.[120]

By the mid-1950s, rapid exploration and development had established gas reserves surplus to Alberta's future needs and two competing proposals for the transportation of excess gas emerged. Western Pipe Lines proposed a line as far east as Winnipeg, then south to Omaha, Nebraska, while Trans-Canada Pipe Lines sought an all-Canadian line as far east as Montreal. In 1954, the Government of Alberta and the St. Laurent government in Ottawa ordered the two companies to merge and build an all-Canadian line. The resulting entity became Trans-Canada Pipelines Ltd. (TransCanada or Trans-Canada).

Construction was scheduled to begin in the summer of 1956, two years behind schedule. From the outset, Trans-Canada needed financial assistance. In the 1950s, the federal government could not depend on the private sector to complete massive capital-intensive projects. Capital markets in Canada were simply not big enough, and TransCanada needed financial assistance which caused controversy on TransCanada's board of directors. "Certain of the financial people, notably Deane Nesbitt, favoured a strictly private enterprise, whereas Murchison and Alan Williamson were counting on some form of government aid or assistance in order to initiate what was national policy in the building of the all-Canadian line."[121]

For Howe, the national interest was paramount: "In my opinion the government is committed to the hilt to seeing that natural gas is brought to eastern Canada. I am convinced that a guarantee in any form will cost the government nothing, as my studies indicate that the line can be self-sustaining after the first year of operation."[122] With capital constraints threatening a kick-off to construction, the Ontario and federal governments agreed to form a Crown Corporation, Northern Ontario Pipeline Crown Corporation, to pay for the portion of the line traversing the most difficult part of the Canadian Shield**.** They would then lease that portion of the line back to TransCanada. In certain circumstances government can provide a catalyst for industry. This instance was such a time, as from the outset TransCanada was simply not big enough to complete a project of this magnitude. However, the Liberal government still needed parliamentary approval to proceed.

In May of 1956, Howe introduced a Bill whereby the Crown Corporation would loan TransCanada $80 million, repayable a year later, or the fledgling company would forfeit ownership of the project to the government.[123] In order for construction to begin by summer 1956, the Bill would need to move rapidly through Parliament, which it did. This overt action led by Howe caused uproar in the House of Commons. The Opposition claimed patronage, secrecy, abuse of power, and lack of due process. Nonetheless, the Liberals stifled debate at the committee level, rushed the Bill through first and second readings, and used closure to force third reading and approval.

The use of closure was very uncommon in Canada. Prior to 1956, closure was used sparingly and each time the government of the day was accused of dictatorship, tyranny, and worse.[124] Although this action was seemingly in defiance of parliamentary procedure and good governance, McDougall claims that the country owes a great debt to Howe's fortitude:

> Trans-Canada, bringing as it eventually did, an Alberta fuel source all the way to Montreal, thus serving both of the major fuel markets in the country, constituted the closest thing to a nation-wide fuel market the country had seen or would see until Alberta oil arrived in Montreal in 1974. The official justification for this project was to guarantee central Canada reliable access to a premium fuel. The opposition had little quarrel with this. What seems to have been at issue was the necessity of the extent of public assistance Howe seemed determined to provide the (American) promoters of the venture and the use of closure to settle the question.[125]

The reasons behind the foreign ownership of TransCanada at the time of the line's construction are complicated. The situation speaks volumes to the state of capital and corporate structures in Canada at the time. At its inception, TransCanada had no physical assets. In order to secure a contract with U.S. Steel to manufacture the pipe necessary for the construction of the line, U.S. Steel required a guarantee of delivery, which TransCanada was unable to provide. For an order of this size, a corporation required a substantial balance sheet and/or other financial and fixed assets. Additionally, the national investment community needed to be confident of the success of the venture and therefore be prepared to underwrite such a purchase. Unfortunately, the investment community in Canada was undersized and therby not prepared to assume the risk of the project.[126]

TransCanada and Howe approached Tennessee Gas Transmission (TGT) to see if this organization would buy the pipe if TransCanada did not begin construction. TGT agreed, but for such a guarantee its management demanded an option on 50 percent of the shares of TransCanada, resulting in *de facto* control of corporation.[127] The president of TGT, Gardiner Symonds,[128] also succeeded in soliciting support from two of the Alberta gas producers (Canadian Gulf and Continental Oil, the latter through its Canadian subsidiary Hudson's Bay Oil and Gas), who would supply gas for the line. This consortium of three insisted that they each

have 17% of the shares of TransCanada, for a total of 51 percent and voting control.[129] Howe unilaterally agreed on behalf of the corporation and the two Canadian entities, TransCanada and Western, lost voting control of the company. Howe's involvement in the intricacies and minutiae of the project was interesting, and reflects a microcosm of the government's tentacle-like involvement with industry during this period. The TransCanada situation also spoke to the asymmetric and 'dependent relationship' between a fledgling Canadian corporation in the growing but young Canadian energy industry and a massive U.S. corporation that could underwrite a project of this size as only a small part of its core business.

This made good copy, as traditionally Liberal papers like the *Toronto Star* and the *Winnipeg Free Press* even accused the government of tyranny.[130] In the government's defence, the issue was complex and proved unwieldy due to its scope. According to Doern, "The pipeline decision involved interagency, federal-provincial, inter-corporate, and international sequences of events and timing. Any attempt to develop generalizations about the policy process in Canada must begin with a real appreciation of the reality of that complexity."[131] Kilbourn elaborates:

> One point which emerges from any study of what has actually happened in the recent history of gas transmission is that the distinction between a public and a private enterprise is apt to be blurred. Whatever the ownership of the pipeline corporation, it is still required to make its case to regulatory bodies and governments before getting clearance to sign gas contracts, build, alter or remove pipelines or earn a different rate of return on its investment. In that sense there is no such thing as a purely private enterprise in transportation or in resource utilities.[132]

There is no doubt that the line between public and private enterprise was blurred. The lack of regulatory institutions forced the government into 'hands-on' participation in projects. Nonetheless, the great pipeline debate of 1956 clearly contributed to the demise of the St. Laurent government in the 1957 federal election. Furthermore, the TransCanada issue caused

the new Progressive Conservative government of John Diefenbaker to take a hard look at energy policy.

With the completion of the two major pipelines, oil and gas production was connected to markets in both Canada and the U.S., encouraging investment and promoting exports. Furthermore, although both the federal and provincial governments favoured the use of private enterprise to build the oil and gas industry in Canada, the TransCanada pipeline issue marked the beginning of three enduring debates about energy policy: the use of public enterprise to ensure government objectives; the choice of a national rather than a continental solution to energy problems; and intergovernmental relations in energy policy, economic rents, and project development. Furthermore, American involvement in Canada's oil and gas industry was central to the pipeline issue.

From the beginning, the United States played a major role in the development of Canada's oil and gas sector, largely because of pre-existing ties. Throughout the 1930s and during the Second World War, the Prairie Provinces were mired in debt, did not have access to capital, and subsequently had difficulty exploiting their resources. Quebec, Ontario, and British investors were conservative and reluctant to put money into exploration. Alberta's Manning finally turned to American oil companies, "which were not only willing to invest in Alberta but also promised to bring their expertise … something the central Canadian and British investors could not do."[133]

Therefore, from the outset, American multinational corporations (MNCs) largely controlled the oil and gas industry. As Tammy Nemeth points out, "the American companies were familiar with the geography, leasehold and pro-rationing system, and had the expertise, and access to capital that Canadian companies lacked."[134] Additionally, American and international

MNCs dominated the global energy industry and could create the necessary infrastructure to transport, refine, and distribute crude and refined products worldwide --- including to Eastern Canada. Integrating Alberta's petroleum discoveries into this network seemed logical and rational. However, the Canadian oil industry's rapid growth in the 1950s caused the federal government to realize that it lacked information concerning energy matters. The Diefenbaker government therefore appointed the *Borden Royal Commission on Energy.*[135]

There were actually two commissions, one in October 1958 that dealt primarily with the transportation, export, and regulation of natural gas, and a second in August 1959 dealing primarily with oil. The first report recommended the establishment of a national energy agency to study and recommend policies to deal with Canadian sources of energy and the regulation of petroleum imports. Once established, the proposed agency would govern licensing and regulation of crude oil imports and exports, and consider, if deemed necessary, restricting foreign crude imports. The report also recommended that Canadian crude oil supply the Ontario and Western Canadian markets, with a view to future supplies of Canadian crude to the Montreal market. The findings of the two reports resulted in the creation of the NEB in late 1959 and establishment of the NOP in 1961.[136]

The Royal Commission reviewed two options representing the views of two distinct corporate groups: large multi-national Canadian subsidiaries and smaller Canadian independent oil producers. Foreign oil companies making presentations to the Borden Commission included Shell Oil of Canada, Imperial Oil, Texaco Exploration Company, Mobil Oil of Canada, California Standard Company, and British Petroleum Canada.[137] The foreign majors argued that since Alberta's oil was more distant and more expensive than the foreign oil readily available –

from their own foreign operations – it would decrease their sales margins, resulting in lower profits.

During the early 1950s, American domestic producers were concerned that cheap oil imported from the Middle East was flooding the American market, depressing prices, and reducing domestic exploration and development. In 1954, as the Cold War deepened, U.S. President Dwight Eisenhower struck an Advisory Committee on Energy Supplies and Resources Policy. The committee was tasked with assessing whether or not changes to the domestic fuels situation endangered orderly industrial growth and the military and civilian supplies and reserves necessary for national defence. The committee recommended that oil importers voluntarily enact import restraints as the appropriate means of keeping oil imports in balance.

In 1955, President Eisenhower created the Voluntary Oil Import Program (VOIP) but voluntary controls proved ineffective as imports continued to grow, increasing gradually from 850,000 bbl/d in 1950 to 1,248,000 in 1955 and to 1,815,000 in 1960.[138] In March 1959, Eisenhower instituted the Mandatory Oil Import Program (MOIP), which imposed both quotas and import licenses in order to stimulate domestic oil exploration and increase the United States' refining capacity. America's petroleum suppliers did not react favourably. Canada and Venezuela vigorously protested the MOIP legislation. Much to Venezuelans' dismay and ire, Canada succeeded in securing an exemption to the MOIP while Venezuela did not. The exemption immediately became a fundamental component of Canadian oil export policy and in 1961 the Diefenbaker government designed the NOP around it.[139] The relationship between Diefenbaker and Eisenhower enabled this exemption, but there was a tradeoff. Diefenbaker agreed to not build a pipeline from Sarnia to Montreal, thereby ensuring that a continental energy policy existed throughout the 1960s, enshrined in the NOP.[140]

Like the Maritimes, crude oil in the Montreal area was imported. The major refiners in Canada were subsidiaries of larger, mainly U.S., companies with major refining and marketing investments in Quebec who strongly opposed any oil pipeline from Alberta to Montreal.[141] At the time, an important source of friction emerged between Canadian independent producers and the foreign-owned majors. Foreign MNCs were stridently opposed to Alberta crude oil entering Quebec markets. They favoured cheaper foreign oil---acquired from their parent companies---as feedstock for their Montreal refineries. Additionally, the eastern provinces were reluctant to extend transmission of western Canadian crude oil into their markets because of the existence of cheaper imported oil.[142] The dialogue, debate, and requisite decisions pertaining to this supply paradox continue today. Due to the absence of an oil pipeline to the Maritimes, Canadian oil producers face deep discounts relative to world prices for their product. At the same time, eastern refiners, and by extension consumers, pay top dollar for imported crude oil. Important also to remember is that the large multi-national oil companies that owned the eastern Canadian refineries imparted great influence on the Eisenhower administration, thereby keeping their Montreal refineries full, usually with crude oil from Venezuela.

The establishment of the NEB was the other major regulatory action during the 1950s. The NEB's primary objectives were the creation of studies relating to the sources, exploration, production, transportation, and disposal of energy in Canada; recommending measures for resource control, conservation, and development; and regulating construction and operation of pipelines and potential export prices for gas and electric power. The NEB also had the power to grant export permits for gas to a maximum of 25 years and could regulate and approve oil exports and advise the federal government on energy matters of importance. As required by the

NEB Act, the Board makes recommendations to Cabinet and as such it is both a regulatory and advisory body.

The NEB's establishment created an institution to coordinate and implement comprehensive energy policy on a national level. In 1961, the Diefenbaker government adopted additional recommendations by the Borden Commission and introduced the NOP, which divided Canada into two consuming regions---separated by the Ottawa Valley. From the government's perspective, the NOP's major objective was to assist the oil industry in overcoming excessive supply by ensuring a sufficient market.[143] The NOP established a protected market for domestic oil west of the Ottawa Valley, freeing the industry from foreign competition while the five eastern provinces continued to rely on imports.[144] The NOP was characterized by a two-tiered price for oil. The prices for crude oil (and related downstream consumer products) in the western region were higher than consumer prices in the eastern region.

The NOP received all-party consensus in the House of Commons because of the need to increase exports and boost exploration and development. Even the Co-operative Commonwealth Federation (CCF) supported the NOP as a way to help independent Alberta oil and gas operators grow production and find markets. Another highlight was that increased refinery development would positively affect labour.[145] In fact, from 1961 to 1973 oil exports rose from 185,000 barrels a day to 1,175,000 barrels a day and in 1969 crude oil exports exceeded imports for the first time.[146]

During the early 1960s, U.S. President John F. Kennedy, concerned about relations with other oil exporting countries, particularly Venezuela, insisted on an informal understanding with Canada that prevented oil exports from becoming unreasonable. In 1962, President Kennedy attempted to increase international trade and implement certain tariff-cutting authority through

the *Trade Expansion Act*, which was broad in scope and focused on the future.[147] The Act's Section 232 is known as the national security clause and was developed in response to the growing U.S. reliance on cheap oil imports. Section 232 afforded the president the necessary authority to impose mandatory import restrictions in order to prevent over-dependence on imports of oil and other strategic resources, thereby ensuring that adequate domestic energy exploration and production became a legal mechanism for evaluating, and responding to, energy security concerns.[148] From a national security standpoint, the statute allowed policymakers to focus on several appropriate considerations such as an oil shortfall in a conventional war or full military mobilization, economic vulnerability due to supply disruptions and/or price increases, and the implications for U.S. foreign policy due to potential constriction of oil imports.[149]

For Canada, continentalism suffered as the relations between Diefenbaker and Kennedy soured, jeopardizing the MOIP exemption. The two men were different in age, temperament, and worldview. "Kennedy was keen to draw Canada deeper into the American sphere. Diefenbaker, who held the more traditional attachment to Britain, balked at the invitation to join the Organization of American States."[150] Consequently, oil trade did not fare as well and until Pearson became Prime Minister in 1963, was somewhat imperiled when Kennedy threatened to impose MOIP on Canadian oil. In fact, Kennedy was set to revoke Canada's exemption but Pearson talked him out of it, something Diefenbaker could never have done.[151] A more amicable relationship between Kennedy and Prime Minister Lester B. Pearson saved the situation.

Unfortunately, following Kennedy's assassination, President Lyndon B. Johnson removed oil policy from the White House, handing responsibility to senior government officials, and greater continentalism suffered for the time being.[152] Nonetheless, during the remainder of the 1960s strong bureaucratic links between the two countries fostered cooperative oil and gas

policy and increased trade, adding to greater interdependence. Between 1963 and 1968, officials in Ottawa and Washington regularly negotiated on agreed levels of Canadian exports.[153] Strategically, Canadians looked to maintain the exemptions secured from American trade and tariff policies normally applied to foreign countries. Furthermore, when these exemptions were threatened, more formal sectoral or commodity agreement were negotiated and continentalism was maintained.

The NOP remained the cornerstone of Canadian energy policy during the 1960s, a period characterized by stable prices and steady if not spectacular expansion. In fact, due to surplus world supply, world oil prices actually decreased in the 1960s. Between 1959 and 1969, the price for Arabian Light oil fell from $1.60 USD per barrel to $1.30 USD per barrel.[154] Apparently, "despite Walter Gordon and the economic nationalists, the prevailing view seemed to be that what was good for Imperial Oil was good for Canada."[155] Stable prices, a strong economy, and increasing demand suggested that all was well with the industry, notwithstanding its prodigious power in Canadian energy politics and domination by the multinationals.[156] In fact, by 1973 four multi-national subsidiaries, Imperial Oil, Gulf Canada, Mobil Oil of Canada, and Texaco Exploration Company produced more than 40 percent of Canadian oil.[157]

Provincial authorities were content as well, as Quebec and the Maritimes continued to receive cheaper imported oil, Ontario paid more for Western Canadian oil but also kept its refineries full - insuring that Canadian crude did not go to the Montreal refineries - and Alberta and Saskatchewan had market assurance in Ontario and the United States. However, there was change in the offing as Pierre Elliot Trudeau's vision for the future of oil and gas policy formulation was radically different than what had transpired in the 1960s.

Immediately after becoming prime minister in 1968, Trudeau set about restructuring the bureaucracy and initiating extensive policy reviews for every department. Trudeau believed that Canada needed policies based less on political instinct and more on systematic analysis and deliberation, joint ministerial decision-making, and collective responsibility.[158] According to Nemeth, "During Trudeau's sixteen years in power, consistent with his personal philosophy of challenging conventional wisdom and accepted practices, the policy-making process and structure of the bureaucracy were considerably modified."[159] As Trudeau himself said, "the only constant factor to be found in my thinking over the years has been opposition to accepted opinions."[160] As Trudeau articulated a new vision of Canada's national interest, a desire to challenge conventional thinking about Canadian energy policies emerged.

In 1970, the NEB was the only federal energy policy arm, which often came to its findings based on submissions from the oil industry. According to Japanese scholar Takamichi Mito, in the 1960s this caused the oil policy process in Canada to be close to a penetrated or vulnerable state.[161] Furthermore, "the government did not have independent information gathering capacity which was a prerequisite for any comprehensive consideration of the national interest in oil policymaking."[162] Doern and Toner explain further:

> The oil industry for a variety of reasons, enjoyed prodigious power in Canadian energy politics…And within the industry the multinationals were much stronger than the Canadian owned firms. A key factor in the power of the multinationals…was their control over a pivotal political resource, namely information. Because of their control of geological, technical, economic, and financial information and knowledge and their skillful way of presenting it to the [Borden] commission and to governments, the industry enjoyed great success in winning---support for its positions.[163]

The NEB also relied on the Alberta Energy Resources Conservation Board (ERCB) for information. Historically, the ERCB remained a non-political body. Although David Breen

suggests that the ERCB is one of the regulatory agencies co-opted by the very industries they are trying to regulate, over the past half century the ERCB became the pre-eminent energy regulatory body in North America and perhaps worldwide.[164]

As early as 1970, the Department of Energy, Mines and Resources (EMR) began to develop plans to enhance Canadian participation in the oil industry. EMR emerged in 1966 by grafting responsibility for energy onto the mining-and-water-oriented Ministry of Natural Resources. To suggest that the department was ineffectual is an understatement as "EMR was very far from being a policy-oriented department. It was packed with scientists and technical Ph.D.s."[165] According to John Erik Fossum, in the early 1970s the main problem at EMR was not a lack of data or expertise. The problem was that "the data was neither policy-oriented nor collected with a specific policy-making purpose in mind."[166] This situation was about to change. In 1970, Trudeau appointed Jack Austin as Deputy Minister of EMR. Austin relates at length what Trudeau had in mind:

> In 1970, when the Rt. Hon. Pierre Elliot Trudeau, asked me to consider becoming the Deputy Minister of Energy, Mines and Resources, I asked him what he thought the job entailed. What were the tasks and objectives? He said he wanted to know how the oil and gas industry in this country operated, and how the national energy system worked. He felt that no one in Canada at the government level had a coherent view of the key issues affecting the role of energy in our society, and outside of the policy departments of one or two multi-national oil companies in Canada, he thought very few Canadians understood the system, either.[167]

From a policy perspective, the availability of cheap oil throughout the 1960s had caused complacency. Moreover, in general terms, previous Prime Ministers Diefenbaker and Lester B. Pearson believed in the efficiency of free markets.

Shortly after the presidential election of Richard Nixon in 1968, Canadian officials worked toward a more formal continental arrangement to ensure continued access to the burgeoning U.S. market. Nixon's policies, however, stymied these efforts as "Both administrations initially approached the idea of increased continental interdependence with great vigour, but almost as quickly, the goal of a sectoral continental agreement in energy was beyond reach."[168] Nixon took great interest in energy policy and he created several committees, working groups, and appointments to deal with policy shifts. However, there was no clear direction for U.S. energy policy and the "lack of presidential direction and sustained interest exasperated and amplified personality and power struggles among those who dealt…with energy policy."[169]

Nixon was deferential and oftentimes acted singularly. In August 1971, he shocked world markets by enacting a 10 percent surcharge on most imports. This seemingly draconian measure was an attempt to reduce inflation and correct a substantial balance of payments deficit that existed at the time.[170] The unilateral action compelled Trudeau's Cabinet to request an external study on Canada's economic policy with the United States. The study resulted in the 'Third Option' White Paper in 1972 that suggested greater diversification of Canada's trade relations and a reduction in trade dependence with the Americans. Trudeau had a much stronger, interventionist view of the role of government in society and the economy. This view led to dramatic changes in policy formulation, accelerated by the 1973 Arab oil crisis.

In 1973, the face of global energy politics changed forever. The catalyst for change was the Organization of Arab Petroleum Exporting Countries (OAPEC), following the outbreak of the Yom Kippur War in October of 1973. The OAPEC consisted of several states within OPEC.[171] On 6 October 1973, Egypt and Syria launched an attack on Israel. Within a few days, the major oil-producing nations announced their support for the attack and implemented a

boycott of supplies to countries sympathetic to Israel, followed by the unilateral declaration of a steep rise in the price of oil. These actions caused international panic as crude oil prices quadrupled. A monumental shift occurred in traditional thinking as 'oil shocks' suddenly threw the industrialized world into a situation where it could no longer take access to cheap oil for granted. Furthermore, the boycott and the price hikes tilted an already fragile global economy toward recession.

Up to 1970, the OPEC cartel operated in the context of concession agreements, primarily with multinational oil companies. The concession system allowed for the rapid and orderly development of the world petroleum industry at prices that were higher than they needed to be, but by no means excessive, thereby ensuring that exploration would continue.[172] However, by 1973, the concession system was in turmoil as the producing nations of the Middle East, as well as Venezuela, moved to nationalize their energy resources.

While the timing and extent of nationalization differed, most OPEC nations effectively nationalized their oil industries during the 1970s. By 1981, the equity participation of international oil companies in OPEC production fell from approximately 94 percent to approximately 12 percent and the OPEC share of world oil production dropped from 27 million barrels per day to 23 million barrels per day. In fact, in 1982 non-OPEC production exceeded OPEC production for the first time.[173] Although the MNCs lost control of production and the ability to set prices, they received generous compensation. Importantly, in most cases the companies maintained access to the oil through long-term contracts and continued to manage the newly nationalized industries, as the exporting countries did not possess the necessary technical and operational expertise. Moreover, higher oil prices provided windfall profits, easing the pain of losing formal control of the concessions.

The 1973-declared embargo did not lead to the actual suspension of supplies to any states, but, on the eve of the declaration, the world market's already tight conditions triggered a 400 percent increase in world oil prices. The rapid increase in prices was caused in part by a decline in spare U.S. oil production.[174] During the 1960s, domestic consumption, coupled with underinvestment due to low prices, caused U.S. production capacity to shrink. Until the 1970s, the U.S. government and the governments of other large consuming countries, in collusion with MNCs, regularly set oil prices. However, by 1971, even at full capacity, U.S. production could not satisfy demand.[175] Increasing imports caused the U.S. to become a price-taker, not a price-maker, and Saudi Arabia became the world's 'swing' producer.[176]

The oil crisis also caused a dramatic shift in energy policy in many countries including Canada. Trudeau's inner circle viewed energy issues as an opportunity to set the national agenda. If Canada could achieve oil supply self-sufficiency---at a controlled price well below the world price---Canada's industrial base in Quebec and Ontario would gain a significant competitive advantage. According to Nemeth, in order to carry out these changes, officials had to be trusted to develop and implement the appropriate policies.[177] Due to a number of issues, not the least being the minority Liberal government's tenuous control of Parliament through an *ad hoc* alliance with the NDP,[178] the government dismantled the NOP and expanded central government control of the energy sector. For the rest of the decade, the Trudeau government pursued energy policies underpinned by economic nationalism.

Economic Nationalism

In 1973, as energy price dynamics rapidly changed, EMR published a study entitled, *An Energy Strategy for Canada: Phase I Volume I,* which succinctly stated the government's intent:

> The timing is shortening for government to decide whether there are reasons of public policy for either some additional

> participation, or quantum change in participation, in the development of the energy sectors of Canada. It is clear that enormous growth will take place in all aspects of the energy sector. Are additional public funds required to assist in the channeling of this growth, in its stimulation, in its sensitivity to the environment and social issues, to counteract foreign investment, for international relations purposes and for many other issues of public concern? Must any decision by government to participate be based solely on economic criteria, or should government become involved for reasons relating to the development of the Canadian political community, accepting commercial returns of a lower scale? [179]

In 1971, EMR commissioned Wilbert Hopper[180] to review the role and effectiveness of national oil companies (NOCs). Hopper had reviewed many NOCs and at the time was "skeptical of the idea of marrying public policy objectives and commercial interests within a single organization."[181] Hopper surmised that in general it was unlikely that a state oil company could achieve the efficiency of a profit-maximizing firm. Prior to the 1973 oil crisis, government officials feared that private sector companies would view a national oil company as unfair competition and withdraw or at least reduce investment.[182] Resource companies, whether domestic or foreign-owned, seek to maximize profits by producing the resource as quickly and expeditiously as possible. By contrast, government-controlled firms ideally maximize social welfare, rather than profitability.

The emergence in the 1970s of SOEs was a rising global trend and reflected a transition in the way nation-states attempted to manage oil supply and protect their economies.[183] The Canadian government felt that the feasibility of an NOC mirrored the successful petroleum activities of other countries like Italy, France, and Norway, as well as developing countries like Mexico and Brazil. The Trudeau government also felt that an NOC could contribute better information and technology to guide policy, collect economic rents, and stimulate exploration in areas deemed inordinately risky.

The Trudeau government also felt an alternative structure would not inflame federal-provincial relations over resource rights. Such an alternative could also resolve the threat of a NDP-forced election while complementing the newly formulated strategy to deal with oil shortages, excessive exports, and increasing foreign ownership.[184] The government also feared that escalating oil prices would continue indefinitely. This supposed eventuality, coupled with provincial control of energy economic rents, made wealth redistribution mandatory and an NOC was the chosen policy option.

The question then was how to implement this policy? According to then Energy Minister Donald S. Macdonald, "I think the real question to be decided in our mind is whether we need to put the national corporation to work at all levels of the highly vertically integrated industry, or whether there are some levels…in which a national corporation could operate effectively."[185] According to Larry Pratt, Canadian energy planners had decided on a decidedly autarkic energy policy underpinned by self-sufficiency in oil supply and that Canadian energy requirements would come from the exploitation of indigenous resources.[186] Interesting to note is that this situation has never happened. Although imports decreased from approximately 300 million barrels in 1973 to 65 million barrels in 1984,[187] substantially all oil consumed in Quebec and the Maritimes today continues to be imported.

On 6 December 1973, Trudeau rose in the House of Commons and announced the creation of Petro-Canada, a continuation of the oil export tax, and support for the immediate construction of an oil pipeline from Sarnia to Montreal. The overriding principle behind the new policy suggested that Canadian oil was reserved for Canadians, marking a decided departure from the NOP.[188] According to Richard Phidd and Doern, "The justification for pursuing such long-range policy strategy also underscored the legitimacy of government, that is, the ultimate

right or authority to exercise control over industry and the legal power to intervene in resource mobilization through any means deemed appropriate."[189] The Trudeau government understood that energy dynamics were undergoing dramatic change. Although economic nationalism coincided with the establishment of Petro-Canada, the government felt that its creation would benefit the Canadian industry as a whole by facilitating the exploration of the frontier, provide added research for oil sands technical challenges, allow for the acquisition of production capacity, and enable entry into the downstream portion of the business.[190] All of these objectives were noble but misguided, as the passage of time has shown. The dynamics, time lines, and risks associated with the oil and gas industry do not bode well for partnering with governments.

MacDonald called for direct government involvement in key ventures through a corporate entity which would develop necessary operational expertise, stating that, "Our national petroleum company would then be in a position to act as a catalyst for succeeding projects, assisting in their planning and financing as well as participating ultimately in their revenues."[191] Therefore, Petro-Canada's initial mandate was to pursue self-sufficiency by accelerating the timing of high-risk exploration and development, supplementing the market-generated rate of frontier exploration, and encouraging joint ventures with private capital. In effect, the national oil company would attempt to redress the problem of underinvestment caused by the excessive discount rates of the petroleum industry.[192] This economic principle is very evident today as the need for capital to develop mega-projects like the oil sands is massive. Furthermore, the time from concept to production is long. Thus, capital becomes stranded and may not generate returns for years, a situation not suitable to capital attraction.

In a seemingly benevolent editorial, oil industry magazine *Oilweek* stated that the new Canadian NOC would accelerate expansion in high-risk areas, integrate research with provincial

resource management schemes, and finance projects like the oil sands and development of offshore projects.[193] Originally, the oil industry was open-minded, as J.S. Poyen, Chairman of the Canadian Petroleum Association (CPA), said at the time, "If Petro-Canada is an additive influence and an additive positive contributor in the search for, finding and then developing oil and gas reserves in Canada, then we welcome them with open arms."[194] However, private companies criticized the competitive advantage enjoyed by the Crown Corporation which could explore at will in any area under federal jurisdiction, whereas private industry had to acquire federal lands at auction.[195]

Petro-Canada was a direct attempt to 'Canadianize' Canada's oil and gas industry at a time when the current belief was volatile energy prices threatened the country's economy. The federal government used the Crown Corporation as a favoured instrument to continue the nationalization of the Canadian industry and change the energy industry landscape. Petro-Canada was also much more; the company enabled the government to be interventionist, dictating and implementing certain policies. The decision to create Petro-Canada provided a mechanism for redistributing resources to Canadian society.[196] According to Peter Foster, "The new entity [had] an imposing array of discretionary powers, giving it a sweeping mandate for public intervention in the Canadian energy industries…..nobody but those directly involved had any idea of the size to which Petrocan would become…[and] few believed Petrocan had any place in the business."[197] Paul Chastko further states that, "in Calgary's boardrooms, the creation of a state-owned oil company implied that Ottawa did not, and could not, trust the industry."[198] The feeling was certainly mutual from the industry's perspective. Moreover, as A.C. Irvine points out, degrees of liability, financial responsibility, and accountability differ radically in a Crown Corporation. The government is the major shareholder and it can choose to limit or increase

liabilities at will.[199] These interventionist policies also continued in other economic sectors and did not end until Brian Mulroney's election as prime minister in September 1984. By then, Petro-Canada was one of Canada's largest energy companies with extensive upstream production and reserves and a large and growing network of downstream assets, including refining capacity and gas stations**.**

Parallel to the creation of Petro-Canada, the government implemented a policy of supply management to protect Canadians from the volatility of the world oil market and provide producers with sufficient incentives to develop new energy sources, with the oft-stated goal of energy security through self-sufficiency. In 1976, EMR published an adjunct to *An Energy Strategy for Canada: Phase I.* Entitled *An Energy Strategy for Canada: Policies for Self-Reliance*, the report suggested that "energy supply projects are now so big and expensive that one requires a much more precise recognition of the inter-relationships between energy-policy planning and other social and economic goals than was required in the past."[200] This strategy was directed at minimizing supply risk by decreasing the need for imported oil. Although domestic self-reliance was the primary goal, other policy initiatives included:

- Conservation and a decrease in the rate of growth of energy consumption
- Reducing net demand of imported oil to less than one-third of total demand
- Doubling exploration in the frontier regions over the next three years, under acceptable social and environmental conditions

The report also realistically described the limits of renewable energy, stating that "the development of such alternative sources can contribute relatively little in terms of total energy supply over the next fifteen years."[201]

The report was also clear that a new view of the Canada-United States relationship regarding energy policy had emerged, stating that, "In general, while the Government of Canada

has rejected the concept of a continental energy policy, constructive discussions with the government of the United States, directed at determining those areas where cooperation is to the advantage of both countries, are and will continue to be a feature of our bilateral energy relations."[202] An interesting point to note is the emergence of the terms 'social' and 'environmental' into the vernacular of resource policy, very prevalent terms in today's energy dialogue. The report also reinforced the government's position respecting the delineation of the frontier resource base and the government "is not expected to replace private corporations engaged in the search for Canadian oil and gas reserves but rather, to act as a catalyst."[203] In addition, "federal participation in the Syncrude oil sands project, in cooperation with the Governments of Alberta and Ontario and the private sector, was an important step in assuring that the realization of the vast potential of the Athabasca oil sands would not be unduly delayed."[204]

Until the 1970s, federal policy had been complementary to producer and consumer provinces, predicated on two points: sufficient domestic supply and acceptable domestic prices. The OPEC embargo and rising prices radically changed federal policy. Exports fell substantially[205] as the federal government undertook to protect Canada from the inflationary pressures of rising world energy costs. Moreover, the "quadrupling of the world oil price dramatically raised the stakes of energy politics in Canada, and crystallized for the producing provinces, the consuming provinces, the federal government, and the industry the recognition that they each had distinct and, to some degree, conflicting interests with respect to oil and gas pricing and revenue sharing."[206] The enormity of the potential economic rents caused both levels of government to interpret and defend their concerns.

In January 1974, domestic oil prices were $3.80/bbl while international oil prices were $9.60/bbl. Following more than a year of negotiations, the federal and provincial governments agreed on a set of tax measures and a domestic pricing package for oil. Domestic oil prices were to rise by $2 per barrel per year until they reached parity with world oil prices. Between 1973 and 1978, the domestic price of oil rose steadily, but because of these government-imposed ceilings, prices did not reach world levels. By mid-1979, and the second oil price shock caused by the Iranian revolution, world oil prices doubled, creating enormous additional economic rents, and potential macroeconomic disturbances. The federal government then renounced its intention of ensuring eventual parity between domestic and world prices.

Canadian prices remained far below international prices, creating difficult strains between the producing provinces, especially Alberta, and the federal government. Gordon Ritchie discusses his involvement in the process and the presence of Premier Lougheed:

> Peter Lougheed was a tremendous statesman and he understood the nature of the negotiations and the likelihood that they were going to be fractious. I can recall him coming into our department one day and pulling the team aside that was negotiating with their bureaucratic counterparts in Ottawa. We were to treat those negotiations with the utmost of civility, never use inappropriate language and always be on our best manners. I think Mr. Lougheed understood that if there were to be disputes, they should happen at the highest echelons and if there were to be battles, he wanted them waged between the respective ministers, or the Prime Minister and himself.[207]

Nevertheless, the federal government was resolute in its defence of pricing and revenue policy and attempted to clarify its position on pricing:

> [T]he government of Canada has been criticized by the governments of the producing provinces for its failure to include the revenues from the export charge on oil in its calculations of the federal government share. All of this money is paid out in the form of a subsidy, equivalent to the differential between the price of

> imported oil and the Canadian price, in order to allow the petroleum industry to sell imported oil to eastern Canadian consumers at the agreed Canadian price. [T]hus the subsidy arrangement is based on a mutually agreed policy, and the revenue from the export charge should be viewed not as a federal source of funds but rather as a transfer payment from exporters of Canadian oil to importers of oil to Canada.[208]

Federal interventionist oil pricing policy continued to cause discord in federal-provincial relations. According to Ritchie, "1974-1979 was a period of tumultuous negotiations between the provincial government and the federal government over the taxation of resource revenue. At that time, royalties were deductible from income tax. [However], as the Lougheed government increased royalties, it reduced the taxes being paid by the resource sector to the federal government."[209] For the federal government, this situation proved very contentious and was one of the major factors that influenced the formulation of the NEP.

Oftentimes, most of the blame surrounding the dramatic changes to oil and gas taxation is laid solely at the feet of the federal government. This was not the case. The Lougheed government in Alberta dramatically changed the revenue take from the provincial perspective as well. During the early 1970s, natural gas contracts were locked in at very low prices of $.10 to $.15 per mcf. In the middle of the decade, as commodity prices increased dramatically, not only were the producers hurt by lower-than-free market pricing, but the provincial coffers were affected as well. This did not sit well with the Lougheed government, as Ritchie explains: "the government had a lot of these contracts ripped up so that commodity prices would go at current levels and the province would thereby as the principal owner of the resource receive a royalty based on the market value rather than the contract value for natural gas."[210]

The rising price of oil was also a factor in a sluggish economy, as "real oil prices grew by 18 percent per annum and economic growth rates fell to 3.2 per cent annually."[211] Energy-

induced inflation also affected economic output by forcing marked changes in energy consumption patterns in Canada, as energy consumed per unit of output declined 2.5 percent per annum during this period.[212] At the same time there was a great deal of animosity in federal-provincial relations over revenue sharing: "It was a very emotional time and the dollars that were being talked about were extremely large." From 1972 until February of 1981, the price of oil increased from $2.00 per barrel to just slightly less than $40.00 per barrel, and "Governments were trying to capture a share of that increase and that was dependent on negotiations around appropriate tax policy. Each government wanted their share of that. Canada was running significant deficits at the time so all levels of government were looking for sources of revenue to manage these budget deficits."[213] Consumers and voters alike were aghast the price at the pump and the cost to heat homes. High energy prices coupled with significant budget deficits, high inflation, and high unemployment made Trudeau's Liberal government unpopular and on 22 May 1979, Joe Clark and the Progressive Conservative party won the right to govern, but with only a minority of seats in the House of Commons. This government was short-lived.

Clear in 1980 was that there was no serious oil supply shortage. In fact, outside the Communist bloc and OPEC, oil consumption was relatively the same in 1980 as in 1970----about 40 million barrels per day. Unfortunately for the Clark Conservatives, the price of crude oil began to skyrocket on the back of the Iranian revolutionary crisis. In 1979, conflicting energy interests that had developed during the preceding period were still present. The fact that the governments in Alberta and Ottawa had the same political stripe did little to allay regional and ideological strains. It was a jurisdictional dispute as much as anything else. Ownership of the resource rested with the province and "Therefore the province took the view, that as owners of the resource, they received a fair and economic rent for producing that resource." From a

revenue standpoint, Ritchie explains that the federal government had the same agenda. "The jurisdiction for taxation of profits in our country rests primarily with the federal government so both parties came to the table with a very strong argument that they should be in the lead for the share of wallet coming from the rising price of the commodities."[214] In effect, the policies of the Clark Conservatives did not differ greatly from those of the Liberal government that preceded them. While the producer provinces possessed apparent legislative criteria to insist upon their interests, the federal government made good use of its direct and indirect powers to set the agenda. Following the quick and brutish demise of the Clark Conservatives, the Trudeau government began a radical centralization of federal control of energy policy.

Chapter 3: Canadian Oil and Gas Policy: From the NEP to Keystone

The pendulum swung dramatically from interventionist government policy to belief in the efficiency of a free market strategy

Canada is unique among western countries in the degree to which the consumption and production of energy polarizes governments and regions. Following the second oil crisis in 1979, the Trudeau Liberal's 'Made in Canada' energy policy reached its culmination in 1980 with the implementation of the National Energy Program (NEP). The NEP appeared to represent a policy approach that reflected the imperatives of the energy crises of the 1970s and its implementation certainly marked the height of economic nationalism. Within a year of the NEP's implementation, though, many of the draconian fiscal measures were changed or eliminated. Then, following the September 1984 federal election, the new Conservative government moved quickly to establish better rapport with the provincial governments, the energy industry, and the United States. With the dismantling of the NEP, a new era of federal-provincial relations - and bargaining - began. Over the next several years, consultation rather than confrontation resulted in the Atlantic Accord, the Western Accord, deregulation of the oil and gas industry, and collaborative bilateral trade relations with the United States, resulting in the Canada/U.S. Free Trade Agreement (FTA) and ultimately, the North American Free Trade Agreement (NAFTA). The period 1984 to 1990 formed a watershed in Canadian oil and gas policy development and an era of compromise and renewed interdependence that provided the lynchpin for the development of the continental oil and gas industry as it exists today.

The Rise and Demise of the NEP

When the Trudeau Liberals returned to office in early 1980, they realized that if world oil prices continued to increase, the producing provinces - especially Alberta - would have the power to rearrange the distribution of economic power in Canada. By moving the price of Alberta oil more in line with the world price and thereby obtaining extraordinary income, the producing provinces could "challenge federal economic management power and, in the process, confound the intricate formulas for federal-provincial equalization payments."[215] The NEP signaled a major escalation in the internal political conflict between the federal and provincial governments over energy issues.

While the Trudeau Liberals were in Opposition, Liberal energy critic Marc Lalonde had the time to view energy policy in a more reflective light and devised the NEP.[216] Lalonde was at the centre of the Liberal policymaking process and he considered the NEP his brainchild. He captained a small group of ministers, assistant deputy ministers, and senior bureaucrats responsible for creating the NEP and "Lalonde's ambitious plan meshed closely with that of the seventy-odd economists…forged into an impressive analytical team at EMR."[217] A working group called ENFIN (energy finance) created the NEP, with Mickey Cohen, Deputy Minister of EMR, and Edmund Clark, Senior Assistant Deputy Minister for Policy at EMR, its architects. Doern and Toner characterized Clark as a bureaucratic entrepreneur, or perhaps more accurately "a socialist bureaucrat with a Ph.D."[218] Nonetheless, Clark's analytical and organizational skills formed a major impetus to putting the full NEP package together.[219] The NEP was shrouded in secrecy, with little or no input from outside of EMR,[220] as Lalonde and his senior bureaucrats

clandestinely set out to implement a radical policy instrument enabling the federal government to overhaul how future oil and gas development, taxation, and ownership occurred.

The NEP's federal point of view is revealed in its specific provisions: protection of consumers, the provision of more federal government revenue, and the expansion of federal government involvement in the oil and gas industry.[221] Other objectives included self-sufficiency, increased Canadian ownership, and more resource recovery from federal lands. The NEP aimed to protect consumers by priority access to subsidized domestic supplies and, in an effort to conserve these supplies, freeze exports of natural gas and reduce oil exports. While the program sought to break the bitter feud then existing between the Trudeau federal government and Alberta's Conservative government led by Peter Lougheed, the NEP also "represented the convergence of even broader political, economic, and geological forces and determinants"[222] than the federal dispute with Alberta. Meanwhile, Premier Lougheed denounced the program as "an outright attempt to take over the resources of this province" and claimed that the policy was arbitrary and discriminatory.[223] In retaliation, Alberta curtailed production by approximately 15 percent.

In essence, the NEP was evidence of the larger Liberal view of the national priorities of the day. The program was an assertion of federal intervention in energy matters, the constitution, economic management, the impact of ever-increasing energy prices, inter-regional transfers of wealth, and the supposed depletion of the Western Canadian Sedimentary Basin (WCSB).[224] At the program's core, the "NEP became in a sense, a summary of many of the major conflicts and ideas inherent in Canadian politics and in the governing of Canada."[225] As prescribed by Nye, the politics of energy is fundamentally about power and the Trudeau government's attempt to unleash political power was the NEP.

With the NEP set out as policy doctrine for several years, a number of the foreign MNCs with land holdings on the Canada Lands[226] decided to take advantage of one of the NEP incentive programs. They were able to reduce their exploration risk profile by farming out significant portions of their land-holdings to Canadian-controlled firms eligible for high-level Petroleum Incentive Program (PIP) grants.[227] The oil and gas industry requires enormous capital intensity and capital velocity. Dry holes (exploration failure) are inevitable and investment can only come from new capital, cash flow, or borrowings. While Canadianization was a valiant goal, industry insiders "expressed doubt that the Canadian firms favoured by the NEP had the necessary financial capacity to play a major role on the Canada Lands."[228] Unfortunately, most junior companies could not compete in the frontier areas far from the WCSB. Furthermore, by 1982, "the decreasing world oil price had cast a major shadow of doubt across most of Canada's frontier development because of the tremendous costs of exploration, production, and transmission in the harsh environment of the Arctic and East Coast."[229] Over thirty years later, following a six-fold increase in the price of oil, the frontier remains largely undeveloped.

In the spring of 1982 the industry began to falter. High interest rates and a deepening worldwide recession dampened oil demand, continuing to put downward pressure on oil prices and the rising glut of world oil supply looked more like a long-term than a short-term issue. Inevitably, falling world oil prices resulted in the renegotiation of the agreement between Alberta and the federal government. The decrease in crude prices, although an economic boon to the average Canadian, had a devastating effect on the growth profile of the Canadian energy industry. Indeed, the very projects that both the Alberta government and the federal government had looked to for self-sufficiency (and revenue collection) were in peril. Herein lay the fundamental flaw in oil policy progression: an unwavering belief on both sides of the negotiation

that the price of crude oil would increase indefinitely or as economist John Meynard Keynes pointed out, "long run expectations are often based on nothing sounder than a shared delusion that an existing state of affairs will continue indefinitely."[230] The industry was to blame as well. During the early 1980s, energy reserve evaluators projected that by 1990 the price of oil would be $90 USD per barrel and would continue to escalate thereafter.

In addition to revenue and tax collection being in peril, capital became constrained. In July 1981, Imperial Oil temporarily shelved the Cold Lake Oil Sands Project, resulting in an asset write down of $10 billion. In April 1982, Shell and Gulf shelved another oil sands megaproject, Alsands. Together, these two projects were designed to supply one-fifth of Canada's oil needs by the end of the decade.[231] According to Stephen McCall and Christina Clarkson, "Government-targeted investment in energy megaprojects had fallen victim to an uncooperative world commodities market where prices had failed to rise as predicted."[232] Executives of the companies involved in the two megaproject cancellations, Cold Lake and Alsands, rated falling oil prices as one of the most important considerations in the decision to pull out.[233] Peter Foster points out another contentious issue, in that "It was assumed at the time of the NEP…that the oil companies would undertake the megaprojects regardless; that the federal government's job was to fine tune the tax regime so that oil companies didn't earn too much money and the 'public purpose' was served."[234] Unfortunately, this was clearly a case of poor economic assumption making.

This situation, where government involvement was considered essential, "became confused with the notion that government involvement was the most important feature of megaproject development."[235] This was another example of the overarching political and bureaucratic tone that had developed in the early 1980s:

> To the public, the dispute between Ottawa and Alberta might have seemed primarily a battle about federal and provincial aspirations, where agreement was held up by the conflicting visions of Peter Lougheed and Pierre Trudeau. But here was another massive barrier to agreement that was far from obvious, indeed incomprehensible, to the average citizen. It was the sheer complexity of the revenue-sharing scheme that already existed. Indeed, it had become increasingly clear in the wake of the NEP that the two sides had no common ground for their calculations. It was not simply that each side inevitably attempted to bend the figures to its own ends. It was that the system of royalties, taxes, grants and allowances had grown so enormously complex in the previous decade that few people understood them in their entirety.[236]

Much to the federal government's chagrin, the NEP was failing, and in its *Spring 1982 NEP Update,* the federal government backpedaled:

> The National Energy Program is not a single document….nor is it a set of policies….prices, taxes, or direct initiatives….The National Energy Program is a dynamic and comprehensive set of evolving responses to a changing world----whether through compromise with the provinces, or through necessary mid-course corrections in specific initiatives or the fiscal burden.[237]

Those most affected by the NEP were the producing provinces' governments, the petroleum industry, and oil and gas consumers. According to Edward Carmichael and James Stewart of the C.D. Howe Institute, the policy process that existed in 1982 excluded input from interested parties, other than the governments involved. Consequently, federal-provincial relations were characterized by conflict and delay, locking Canadians into an energy policy increasingly out of step with reality.[238] An essential element of policy development is fluid process and without consistent and frank dialogue among parties, potential bottlenecks in the conduct of both energy and economic policy emerge. The Trudeau period stands out as a time when 'silos' characterized energy policy development.

Complexity, coupled with deteriorating global prices, brought development to a halt and revealed the vagaries of international markets. As globalization increased, the nationalistic, inward-looking policy legislation of the period 1974 to 1982 was clearly not appropriate for the future.[239] Globalization of the oil and gas industry occurred whether Canadian provincial and federal government officials liked it or not. Canada could not disassociate itself from world oil markets in search of oil self-sufficiency at a reasonable cost. To achieve self-sufficiency, the federal government would have to offer a guaranteed rate of return to the companies that were developing high-cost oil. This situation would have led to inefficiency in development and consumption patterns.[240] The ever-present fact that crude oil and capital are mobile and fungible is a recurring theme. Therefore, nationalistic impulses such as those exhibited by the federal Liberals were less and less effective in the early 1980s.

Doern and Toner argue that in the end, "Despite what some in the industry argue, the NEP did not strip the industry of power, because it did not fundamentally dispossess the industry of the basis of its power, that is, its control over the production apparatus and the major pools of investment capital."[241] None of the governments also saw the NEP as a fundamental challenge to the capitalistic nature of the oil and gas industry. The program was not as much economic as it was political---enacted to enhance federal power vis-à-vis the provinces and the oil and gas industry. Carmichael and Stewart emphasize that Canadianization of the oil industry was a costly way of securing resource benefits for Canadians: "Large scale purchases of foreign-owned petroleum companies in 1981 destabilized the capital markets and played havoc with the exchange rate."[242] Company executives were also clear that although the NEP was a prominent factor in investment decisions, falling oil prices and decreased demand were also key reasons for the drop in investment.[243]

The NEP's economic and sociological effects were nevertheless far-reaching. Many operators in the service sector of the oil and gas industry – the drilling, service, completion, and construction contractors – moved to the U.S. Foreign-owned MNCs curtailed investment, other than to maintain production levels. Companies, such as Imperial Oil, Gulf Canada, British Petroleum, and Texaco Canada, were patient, as their executives knew that MNCs (and their internal business-based cultures) outlive governments and their policies. Moreover, as the small group of bureaucrats in charge of developing the NEP had not consulted anyone else in government, or among provincial authorities or industry professionals, they had completely overlooked the fact that energy companies need to generate profits in order to explore.

Washington's initial reaction to the NEP was negative, partly attributed to shock and a lack of communication beforehand about the policy. There had been no forewarning, no softening of the blow. From a diplomatic perspective, when the American response came, it was blistering. In his Washington diaries, former Canadian Ambassador to the U.S. Allan Gotlieb describes the judgment of President Reagan and his advisors: "They hate it. They regard it as confiscation." What concerned the United States most was that the energy program was "blatantly discriminatory with reference to the operations of American companies in Canada."[244]

Washington officials argued that if Canada wanted to preserve its resources for itself, the United States would be disappointed but not strenuously object. Discrimination against American companies was a whole other matter, as it set a dangerous precedent for American investments in other countries. Contrary to some popular Canadian accounts which charged American diplomats with heavy-handed and bullying tactics, the Reagan administration (at the president's behest) pursued a form of high-pressured but restrained 'quiet diplomacy' throughout 1981 and early 1982, in order to underline the program's unfair treatment of American

interests.[245] Fortunately, the draconian NEP was short-lived. In the spring of 1982 the oil industry began to falter. High interest rates and worldwide recession dampened oil demand, continuing to put downward pressure on oil prices. Furthermore, rising global oil supplies looked more like a long-term than a short-term issue.

The government's audacity about perceived rates of return was also evident in the formulation and implementation of the NEP: "The rate of return was to be determined by government. It was to be 'high enough', but obviously no higher, than that necessary to attract private investment."[246] As a result, MNCs simply employed their capital elsewhere. Additionally, Canadian independents, the supposed beneficiaries of the incentive programs, were not large enough to make a difference, coupled with the fact that many of these companies carried inordinate levels of debt. They could not create the operating income necessary for high-risk exploration in the frontier areas and therefore the incentives programs brought them little benefit.

The Trudeau government had pursued nationalistic energy policies and the NEP was the most evident result of this confrontational policy approach. Furthermore, the global recession accentuated the policy fallibility of the nationalistic NEP. An oil executive interviewed by Jenkins explained that "Nationalism has a one-to-one correlation with the economy. If you look at the economy over a 25 year period, you'll see nationalism going up and down with the economy."[247] The faltering world economy enabled the NEP's foes to portray it as a frivolous and inflammatory policy that had destroyed the industry. As a policy initiative it offended the principles of a new economic orthodoxy, enunciated as theory by many economists and embraced in policy by both Margaret Thatcher and Ronald Reagan.[248] While in Opposition and during the September 1984 election, the Conservatives formulated a new platform and a new

energy policy strategy that paralleled the economic policies of Thatcher and Reagan. Although energy policy was not the focus of the 1984 campaign, it was certainly a priority before, during, and after the election.

The Pendulum Swings

Brian Mulroney became the 18th Prime Minister of Canada on 17 September 1984, after winning the largest majority in Canadian history. The Conservatives moved quickly to change Canadian policy initiatives, both domestically and internationally. As far as the Conservatives were concerned, the economy needed drastic change. The business community agreed and as noted above, "A number of federal government policies adopted in the 1970s and directly attributable to the views of economic nationalists, had undermined Canadian business confidence in government economic policy-making."[249] While in Opposition, Mulroney appointed Patricia (Pat) Carney as energy critic and directed her to do two things the Liberals had never done: consult the provinces and the oil and gas industry. Like Lalonde, Carney laid the groundwork for her party's policy development initiatives while in Opposition. Industry study groups were created that provided most of the recommendations that later morphed into Conservative energy policy. As demonstrated, the Liberal policies of the 1970s and early 1980s were bureaucratic and confrontational. By contrast, the Mulroney government was consultative and looked to industry rather than the government bureaucracy for leadership.[250] Conservative policy sought to reduce government interference and allow market forces to prevail.

In the fall of 1983, the Opposition Priorities and Planning Committee provided members of the shadow Cabinet with a document entitled 'Steps in the Policy Process.' This document provided a timeframe for the various critics to assess each government department.[251] Nemeth points out that the Mulroney Conservatives were very organized and not about to repeat the

Clark government's fiasco of 1979, when it quickly became clear that they were not prepared to govern.[252] On 10 November 1983, several broad statements about future Conservative energy policies were delivered and a month later, a discussion paper clarified many of the key concepts: less government interference, fair treatment for consumers and producers, and most importantly, recognition of the oil and gas industry as an engine of growth for the Canadian economy.[253] The lynchpin of the policy process was the Conservative policy of less interference and more fairness. At the Ranchmen's Club in Calgary in 1983, Carney clearly expressed her design for energy policy to a group of oil and gas professionals: "ignore [the] political implications; just feed us policies, politics is our job."[254] Before the next federal election, the Conservatives made it clear that if given the opportunity to govern, they would create policy based on clarity and consultation.

Carney also attended several meetings with various industry representatives, special interest groups, and many of the provincial energy ministers.[255] Six industry task forces were created to assess five aspects of the NEP: Price/Taxation/Revenue Sharing, PIP grants, Canadian Oil Gas Lands Administration (COGLA) operations, Oil Sands and Heavy Oil Development, and Natural Gas Policy. Specific terms of reference were provided and the task force groups were asked to submit their findings by 15 March 1984. As electioneering gained momentum in the summer of 1984, the energy study groups' recommendations became part of the Tory platform and were revealed in Saskatchewan in July. In fact, "seven of the twelve specific policies outlined in the Prince Albert statement were recommendations of the study groups."[256] The Mulroney-led Conservatives had a simple philosophy: ownership of oil and gas resources belonged to the provinces.

After the Conservatives gained power, a broad-based policy document was presented to the Cabinet Priorities and Planning Committee entitled "Energy Discussion: An Overview."[257] The two most important sections of the report were entitled 'Energy Platform' and 'Fundamental Changes in Energy Policy.' The 'Energy Platform' section identified five of the goals disclosed at Prince Albert during the election: energy as an engine of growth and job creation; self-sufficiency and energy security; enhanced Canadian participation; fair treatment for consumers and producers; and cooperation between federal and provincial governments and industry.

One of the most important initiatives was the settlement of an ongoing dispute between the federal government and Newfoundland over ownership of offshore resources. The dispute had ended up in the Supreme Court, which then ruled in favour of the federal government. While still in Opposition, the Tories announced that if elected, they would ratify the agreement and grant control of the resources to Newfoundland, contravening the Supreme Court decision. The recommendation became a significant part of Conservative energy policy and in February 1985, the Atlantic Accord which had been previously outlined in June 1984 was ratified.[258] The Atlantic Accord was really a result of the long-term relationship Mr. Mulroney had with the Province of Newfoundland/Labrador, due in large part to his former tenure as the CEO of The Iron Ore Company of Canada. During that eight-year span, Mr. Mulroney interacted at length with Brian Peckford, the Premier of Newfoundland. Once elected PM, Mulroney moved quickly to ratify his promise to Peckford to overturn the Supreme Court and return control of resources to the province.

After reaching agreement with Newfoundland, the Conservatives turned their attention westward. The next significant oil and gas policy development was the Western Accord, signed on 28 March 1985 between Ottawa and the governments of the producing provinces. As far as

Canadian oil markets were concerned, the Western Accord accomplished two main objectives: deregulation of domestic oil prices and controls on short-term oil exports.[259] The Western Accord reflected in various forms` the directives presented in the study groups' recommendations. Significantly, the Western Accord purported to resolve controversies over issues of pricing and revenue sharing that had existed since the mid-1970s.

The Western Accord also phased out the Petroleum Gas Revenue Tax (PGRT),[260] removed all other oil and gas taxes, and eliminated the PIP grant program, replacing it with tax-based exploration incentives. Consequently, like most other industries, taxes would come from profits instead of taxing gross revenue. The Western Accord aimed to stimulate investment and job creation in the energy sector and marked the first time in more than two decades that the price of domestic crude oil was determined by market forces.[261] Although Ottawa maintained certain tax incentives and export licensing through the NEB, the remarkable federal withdrawal from virtually all areas of the oil and gas industry bears out the assertion that the Western Accord marked the end of an era in Canadian energy policy. Re-vamped frontier energy policy was also a function of the points outlined at Prince Albert. The key takeaway was the removal of discrimination against foreign investment and the abolition of the 25 percent back-in provision.[262]

The basic premise was the Conservatives' belief that natural resources belonged to the provinces. The prevalence of market forces and less government interference formed the recipe for efficiency and profitability. Conservative ideology mirrored the industry view. Notably, historian Denis Stairs argues that the demise of the NEP actually preceded the Mulroney government. He contends that the dismantling began before the Conservatives came into office with "the process having been manifested in a series of small steps that, for political and

economic reasons alike, had been forced on their Liberal predecessors almost from the beginning. The Conservatives simply administered a merciful, but enthusiastic coup de grace."[263] Nemeth disagrees: "the dismantling of the NEP was in fact not well advanced by the time the Conservatives took office. … [S]uggesting that the Conservatives merely administered changes that were already in motion overlooks the actual sequence of events, particularly in light of the extensive work done by the Conservatives while in opposition to develop a coherent vision and comprehensive policy that was implemented almost in total when they assumed office."[264] The latter argument is more persuasive. The NEP was the epitome of the bureaucratic creation and implementation of Liberal nationalistic policy. The complexity and confusion associated with the overt and multiple levels of taxation made efficiency in the industry-government interface impossible. The Mulroney Conservatives set out to decentralize government, encourage positive federal-provincial relations, and develop an energy policy outside the federal bureaucracy.

For the Mulroney government, all global relations were important, but Canada's relationship with the United States towered over all others. Mulroney focused single-mindedly on the deterioration of Canadian-American relations in the early 1980s and insisted from the very beginning that "one of his leading principles in foreign affairs was to repair the damage to the Canada-U.S. relationship that had been wrought by his Liberal predecessor."[265] A number of serious policy disputes between the Liberals and the Reagan administration had resulted in this deterioration and progressively soured Canadian-American relations.[266] In fact, by 1982, as the pressures of the recession continued to rise, the traditionally cautious and suspicious business community was convinced of the need for dramatic change in commercial relations with the

United States.[267] Business leaders' escalating apprehension about a nationalistic lurch in Canadian energy and investment policies had further eroded confidence within their community.

One of the reasons for alignment of interests between Canada's Conservatives and U.S. Republicans was a parallel subscription to the neo-conservative ideas about the economy that dominated the 1980s. Accordingly, "market forces, not governments, should direct the economy; less government control would allow business to operate more efficiently and profitably; and trade liberalization and deregulation were the most appropriate responses to a rising tide of protectionism."[268] Mulroney's game plan was relatively simple. He introduced a new era of civility in both the substance and the tenor of the Canadian-American relationship.[269] However, Mulroney did not immediately embrace free trade with the United States.

The free trade issue was so broad, far-reaching, and complicated that introspection and hesitancy were inevitable and understandable. Previously, in 1982 the Trudeau government had appointed the *Macdonald Commission*, chaired by former Liberal Natural Resources and Finance Minister Donald MacDonald. The commission's final report was entitled, "A New Direction for Canada," which was released in 1985 and concluded that "The success of the goal of economic renewal in Canada will thus depend, in no small way, on the nature of Canada's ties with the United States."[270] The commission's recommendations reflect three broad themes. First, the report suggested that Canada should foster a more flexible economy, capable of adjusting to international and technological changes. Toward this end, the commission recommended greater reliance on market mechanisms. Second, the commission recommended various reforms to the welfare state model, emphasizing social equity and economic efficiency. Third, the commission recommended the adoption of an elected Senate better representing Canada's diverse regions. Most importantly, the report called for a free trade agreement with the United States.

That the chair of the Royal Commission was an ex-senior Liberal Cabinet minister was not lost on Mulroney, especially with reference to the energy wars of the previous decade: "The lesson to be learned in the energy field from the 1970s and 1980s is that the price mechanism does not work…The designers of policies for the future would do well to build on this lesson."[271] In September 1985, Mulroney proposed to President Ronald Reagan that the two governments begin free trade negotiations. Reagan welcomed the overture, which furthered his long-held goal of closer North American cooperation.[272] Michael Kuzik points out the irony that MacDonald, who Trudeau had considered a very competent minister, had thoroughly denounced Trudeau's own policy of state intervention in the oil industry during the 1970s and early 1980s.[273]

The commission's recommendations directly affected trade policy by giving greater legitimacy and momentum to the debate surrounding free trade with the United States. In 1985, David Pollock and Grant Manuge published the article "The Mulroney Doctrine."[274] They contended that the seeds of the Mulroney Doctrine were three economic policies: closer Canada-U.S. economic ties, greater reliance on foreign investment, and reliance on the private sector in general.[275] By this time, several agencies advocated the benefits of free trade, including the Economic Council of Canada and the Senate Committee on Foreign Affairs, in addition to the *Macdonald Commission*. However, according to former Cabinet minister John Crosbie, the Mulroney Cabinet was not sure when Mulroney actually came to embrace free trade or support the concept:

> We'd been in office for six months by then, and there had been no discussion in cabinet or in the Conservative caucus about pursuing a free-trade deal with the Americans. As far as any of us knew, Mulroney was still opposed to free trade, as he was during the 1983 Tory leadership campaign. But the [Macdonald commission] embraced the notion of free trade, and I think helped to change Mulroney's thinking.[276]

Nevertheless, in May 1986 Canada and the U.S. began negotiating a bilateral free trade arrangement and the two governments committed to allowing the marketplace to allocate resources with a minimum of government intervention.

There was no doubting the importance of U.S. trade for Canada. In 1960, the percentage of Canadian exports to the U.S. was 55.8 percent. By 1984, it had increased to 75.6 percent.[277] From the outset of negotiations, the lynchpin for agreement was American assent to a 'dispute resolution clause,' without which the agreement would be 'fettered.' When the Americans agreed to this clause, the Canadian negotiating team was ecstatic. Late in 1987, the two sides reached consensus and an agreement was signed on 1 January 1988. From that point forward, the Canada-U.S. Free Trade Agreement was at the forefront of Canadian economic discussion and proved the major issue in the autumn 1988 federal election.

Mr. Mulroney reminisced that "It was a tough campaign, a brutal campaign. It was one of the great elections and one of the most difficult because it was about a matter of great importance, the future of Canada."[278] Mulroney hinged his political future on the massive trade deal executed with the Americans, which had stalled in the Senate. Both Opposition party leaders, John Turner of the Liberals and Ed Broadbent of the NDP, agreed that the deal was tremendously important. According to John Webster, the Liberal campaign director, the election experienced the highest voter turnout ever seen. Harry Near, former PC Program Director, maintains that the election was about leadership and Mulroney had the upper hand. Liberal messaging was in disarray, money was scarce, and Turner seemed inept.[279]

Early in the campaign Mulroney was on cruise control: "It was as if there hadn't been the engagement of the country yet."[280] According to Near, the objective of the Conservatives' campaign was "We will win, as long as we don't mess up."[281] During the television leadership

debates though, Turner started to right the Liberal ship, saying, "We built a country, east and west, built on an infrastructure that deliberately resisted the continental pull of the United States. With one stroke of the pen you have reversed this and I'm sure will turn us into a colony of the United States."[282] Mr. Mulroney then made a comment about the trade agreement that turned the election campaign around: "Mr. Turner, with a commercial document that's cancellable on six months notice, be serious."[283] This statement left a tone of insecurity in the Conservative message, leaving the inevitable Tory landslide in doubt. The campaign was on. Hugh Segal states that "We were in trouble, the campaign began to collapse and we had to regroup."[284] Turner had turned the campaign into a national vote for sovereignty.

Free trade was clearly the election's most important issue and Brian Mulroney almost singlehandedly bootstrapped the Conservative campaign, hitting the hustings in earnest and as Near stated, "God bless him, if he hadn't done that, we would have lost."[285] Over 10 days, Mulroney covered the country from Gatineau to Vancouver and back. Another political observer noted that "It was a remarkable performance that transcended the Big Blue machine. It was to his personal credit no doubt about it."[286] In effect, Mr. Mulroney knew the file and the agreement back to front. Large and sometimes brutal closed-fist ad campaigns supported by business groups, large and small, turned the tide, "The business council of Canada, Tom d'Aquino and that crowd, poured millions of dollars of negative ads against John Turner, you could feel the tide shifting dramatically."[287] On polling day, although bloodied, Mr. Mulroney won a handsome majority, and five years later, retired from politics.

Free trade stands as Brian Mulroney's legacy to Canada, as he observed: "This is not an insignificant event in the history of Canada. When a panel of experts got together at the turn of the century and agreed that this was the most important economic development in 100 years, I

felt pretty good about it."[288] To this day, John Turner does not see the agreement as truly free: "We have done fairly well with the United States despite the agreement. But, whenever there's a dispute, like the Keystone at the moment, that agreement has no effect at all!"[289] Martin Goldfarb, Liberal pollster disagrees: "It put us in the have countries, not afraid to compete."[290] After the Mulroney Conservatives won that election and preserved their mandate for at least four more years, they ratified the FTA into law on 2 January 1989.

The Canada-U.S. energy relationship is one of mutual interdependence due in large part to the geographic distribution of oil and gas reserves and challenges of efficient supply and demand distribution. However, a bilateral agreement that deregulated energy policy had never gained widespread political acceptance. In the past, periods of recession had triggered protectionist actions in the United States.[291] In this instance, however, the Mulroney government "sought to guarantee the access of oil and gas to the American market through the binding mechanism of the FTA, which would prevent future discriminatory import/export regulations being imposed on Canadian energy products."[292] To underpin the FTA, both countries were committed to deregulation, liberalization of trade, and market forces. Therefore, the FTA's energy provisions were an attempt to guarantee the long-term economic stability of oil and natural gas exports to the large American market.

Continental energy policy (under the FTA) was the joint planning of energy production and shipment without regard to borders. There was also an underlying implication that free trade in energy made the creation of a policy instrument like the NEP next to impossible, without renegotiating or terminating the agreement. The FTA was a profound alteration of traditional Canadian trade policy ensuring that discriminatory taxes and regulations could not be implemented by future governments.[293] One of the FTA's major energy provisions is pricing and

"[n]either country can export its energy products for a greater price than what it sells for domestically."[294] Additionally, Article 908 of the Agreement reaffirms both nations' obligations and commitments to the IEA, whereby members are obligated to share their resources in times of crisis.[295]

Much like the unwinding of the NEP, the oil and gas industry and the producing provinces participated in the policymaking process that led to the FTA.[296] The Western provinces were motivated by the advent of assured markets for crude oil and natural gas and the FTA "essentially guaranteed that market pricing and access would prevail for both countries."[297] During the run-up to the Agreement in 1987, an energy fact-finding group had considered the special problems in energy trade. The group concluded that Canada was prepared to enter into a broad agreement guaranteeing access to supply in return for secure access to the U.S. market.[298] Michael Hart discusses the FTA's energy provisions:

> Canada had long sought secure access for its energy products (oil, gas, uranium, and electricity) to the United States. The United States had long sought assurances that Canada would be a reliable supplier and not cut supplies arbitrarily. The agreement enshrined commitments that met both of those objectives. That was a victory for free trade and a defeat for nationalism and xenophobia. There is however, no obligation on either party to buy or sell any energy commodity. The agreement requires no more than the commitment that when an energy commodity is traded, neither government can arbitrarily cut off either country's access to its market or the supply of available energy; in times of short supply, the producing country agrees to make a proportion of its supply available for export at prevailing prices on the basis of the historical level of exports.[299]

Canadians had apparently learned that a country that derives an increasing share of its wealth from international commerce had much to gain from such an agreement. The citizenry bought into the Mulroney government's overarching theme, present since 1984, that the energy industry could provide an engine of growth for the rejuvenation of the economy, with increased activity

creating employment, the removal of regulation, increased efficiency, and exports free from American protectionism. Constructive dialogue and collaboration between federal and provincial governments and the oil and gas industry changed the way that oil and gas policy was implemented during the latter half of the 1980s.

Not all commentators on the FTA agreed that this was the best policy for Canadian trade. Political economist James Laxer contended at the time that "It is my submission that the free traders are essentially asking Canadians to adopt the American model as the best way to run their national economy, while the anti-free traders reject significant features of the American model."[300] As the millennium approached, Laxer contended that the American model was failing and that other alternatives for Canada were potentially better. Laxer cited the enormous U.S. trade deficit, the asymmetrical Canada-U.S. relationship, and the large Canadian trade surplus. The relative importance to the two governments was also clear. For Canada, the FTA was extremely important and any failure was potentially catastrophic. For the U.S., if the Agreement failed it would form no more than a footnote in the annals of American trade history.

According to Laxer, two goals made sense for Canada---stifling the effects of U.S. protectionism and the surety of the large American market for Canadian exports. However, Laxer hangs his argument on the merits of a so-called mixed economy and states that "The clear winner as the most successful economic model in the post-war decades is the mixed economy, combining private enterprise and competition with long term planning, government intervention and business, labour, state coordination."[301] Many leftist critics share this view. Their value systems include a preference for more governmental planning and less private enterprise, more national self-sufficiency and less international economic interdependence.[302] This argument is flawed. The growth of western economies from the implementation of the FTA in 1989 until the

2008 recession was massive. Furthermore, globalization continues unabated as other countries and trading zones, especially in the developing world, continue to look to freer trading relationships and lowered barriers to international commerce.

From The Gulf War to Keystone

As the 1980s came to a close, the price of oil remained soft, oil supplies were more diversified than they had been in the early 1970s, and oil as a percentage of total energy use in the developed world was down from 54 per cent in 1973 to 44 per cent in 1989.[303] Moreover, the information age gave energy markets the ability to react more quickly to diverse market forces. In effect, oil markets became much more resilient, lessening the possibility of shocks. Shortly after Iraq invaded Kuwait in August 1990, oil exports from the area stopped and a rapid and significant run-up in oil prices occurred. This "oil shock" was modest, narrow, and short-lived when compared to 1973 and 1979, albeit generating significant media attention and political posturing. According to Paul Joskow, "energy supply-siders saw this as an opportunity to promote their favorite policy initiatives."[304] This situation led to the then common political and media fervour about rising oil prices and dependence on the Middle East.

The 1990s began with an energy crisis, the first of two Gulf Wars involving U.S. involvement in the region, and ended with an energy crisis as world oil prices rose significantly, from about $10 a barrel in 1998 to more than $30 a barrel in late 2000.[305] Conversely, most of the 1990s was characterized by abundant supplies of energy, stable or falling real energy prices, and relatively little public or political interest in national energy policy issues. Energy demand continued to grow steadily throughout the decade, with supply meeting demand without major increases in prices until the decade's end. With energy prices stable or falling during most of the

decade, and because there were no serious supply disruptions, the Bush and Clinton administrations' energy policy issues or energy policy initiatives were limited.

The Clinton administration was the first that genuinely encouraged behavioural change while relying primarily on market forces to allocate energy resources: "The Clinton administration viewed the proper role of energy policy to be to respond to market imperfections, especially as they related to the environmental impacts of energy production and consumption."[306] At the same time, Bill Clinton felt that renewable and alternative fuels could play an important role in promoting U.S. national security interests by adding diversity to the supply chain. Geopolitical concerns were not left in the breech, with the United States' relationships with oil-exporting countries strengthened and significant military presence in the Middle East maintained.

The 1990s proved the efficacy of free market oil trade. Prices remained stable, actually decreasing in real terms, and energy policies focused on mitigating serious market imperfections, while pursuing competition policies that mitigated market power. During the decade, total U.S. energy production remained relatively constant and relations with Canada were more about natural gas than oil. Fuel switching, power generation and natural gas as a cleaner burning source of energy, helped foster increasing trade and infrastructure growth between the two countries. Imports of natural gas from Canada increased significantly, as demand for natural gas increased much more quickly than did domestic supplies.[307] By the late 1990s, U.S. demand for Canadian gas, primarily from the WCSB and new natural gas production in Nova Scotia's Sable Island gas fields, was growing 10 percent annually and Canadian gas exports met more than 13 percent of U.S. natural gas consumption.[308]

Prime Minister Jean Chrétien was a vocal supporter of increased natural gas development and trade, including large infrastructure additions such as a proposed pipeline under the Beaufort Sea to the Mackenzie Delta. Natural gas was only one of several pieces of the energy security puzzle that confronted North America at the end of the 20th century. During the early 1990s, Jean Chrétien frequently criticized Mulroney for his close links with the elder George Bush. Once in power though, he established excellent relations with Clinton but generally remained discreet on this point, as though he wanted to avoid a public admission of their friendship. Before 1995, he did not appear in public with Clinton except at multilateral summits.[309] As the new millennium began, although not perfect, energy supply for both Canada and the U.S. was stable. This certainly was not the case globally, as terror was about to turn the energy and security landscape upside down.

The September 2001 *Al Qaeda* terrorist attacks on New York and Washington elevated security to the top of the U.S. policy agenda. Concerns about energy security in the wake of the terror attacks amplified a theme that was already present in U.S. energy policy debates. In late 2000, oil prices had risen to over $30 per barrel and settled there until embarking on an unprecedented rise to over $140 per barrel in 2008.[310] Unfortunately, the United States still imported almost 60 percent of domestic consumption and OPEC imports made up 25 percent of that amount.

In addition, George W. Bush appeared to have his own North American agenda. Shortly after his inauguration in January 2001, he made Mexico his first foreign visit. Some Canadian officials viewed this move with consternation, but as Donald Barry noted, "the priority Bush accorded to Mexico should not have come as a surprise. As former state governors (Bush of Texas and Mexican President Vicente Fox of Guanajuato), the two leaders were well-acquainted

and they recognized that there were pressing border problems like immigration that needed to be addressed."[311] Indeed, during their meeting, both Bush and Fox emphasized a need for a consolidated North American economic community and a common approach to energy resources.[312] Also early in the younger Bush's administration, Vice President Dick Cheney chaired a White House task force that argued that America faced an "energy crisis," fuelling energy-related issues and adding importance to the Canada-U.S. relationship. At the Québec Summit of the Americas in the spring of 2001, Bush used the Cheney Report to argue the need for a North American energy policy. Following the Summit, Bush, Chrétien, and Fox established a trilateral North American Energy Working Group.[313] However, the attacks that followed in September, coupled with misinformation in the media, further tainted relations between the two countries.

Following the September 2001 attacks, Chrétien created an *ad hoc* Cabinet Committee on Public Security and Anti Terrorism, setting the tone for the Canadian government's response to the crisis by declaring that, although Ottawa would stand with Washington in the struggle against terrorism, "the laws of Canada will be passed by the Parliament of Canada.'[314] Canadian security policies were thereafter widely criticized by U.S. media outlets and politicians, fueled by false reports that the terrorists had entered the United States via Canada. On both sides of the border, politicians poisoned the atmosphere with sensational statements, including by Hillary Clinton, affirming that the terrorists came from Canada. The situation was exacerbated by Chrétien's cold and ambiguous reaction to the attacks on Washington and New York and Bush's omission of Canada in the list of allies loyal to the United States in his speech to the joint Houses in Washington immediately following the attacks.[315]

After the attacks, the Canadian business community called for the creation of a continental security perimeter to exclude potential terrorists. "We have to make North America secure from the outside," said the president of Canadian Pacific Ltd., "We're going to lose increasingly our sovereignty, but necessarily so."[316] At the same time, Tom d'Aquino of the Canadian Council of Chief Executives (CCCE) stated that the business community must take the lead in building support for a new paradigm, as it did in the 1980s when it campaigned for a Canada-U.S. free trade accord.[317] Foreign Affairs Minister John Manley rejected the security perimeter approach, saying that he preferred to deal with specific areas of concern rather than integrate Canada's policies with those of the United States. As he said, "Working closely with the United States does not mean turning over to them the keys to Canadian sovereignty."[318] Moreover, as scholar Wendy Dobson noted, "Small ideas or temporizing will get lost in the highly diffused (and highly focused) U.S. political system. Staying with the status quo will see our sovereignty eroded when we are forced to react to, rather than shape, our assertive neighbor's initiatives."[319] Underscoring the fact that relations between the two countries were operating effectively despite the perceived chill at the top, U.S. Ambassador to Canada Paul Cellucci returned to a central theme in the Bush administration's policy, reasserting interest in working with Canada and Mexico to establish a North American energy market.[320] Throughout the Bush/Clinton/Bush period, Canada-U.S. interdependence continued to ebb and flow.

Early in his administration, the younger Bush appeared interested in a build-out of the Canada-U.S. energy relationship. At their first meeting, Bush is said to have whispered in Chrétien's ear: "We have a market down here!"[321] Furthermore, in September 2002, Bush delivered *The National Security Strategy of the United States of America* pledging to "strengthen our own energy security…by working with our allies, trading partners, and energy

producers…especially in the Western Hemisphere," one of at least ten implicit references to Canada in the document.[322] According to Stéphane Roussel, energy relations in the Bush era were challenging, for a number of reasons. Following Canada's refusal to join the coalition against Iraq, an investigator at the Washington D.C. Center for Strategic and International Studies (CSIS) told Roussel that the Bush administration would have no time for Canada.[323] The coalition in Iraq, well documented as a sore point for the Bush administration, is well beyond the scope of this study, but Canada's refusal to participate in the coalition is important when discussing Canadian relations with Bush.

The more fundamental problem with all Canadian relations with the United States at the time and presently is the basic asymmetry of the relationship. In most cases, issues are related to cross-border trade and affect Canada far more than the U.S. A prime example is oil exports. The U.S. will readily buy Canadian oil at the clearing price, but access to and availability of Canadian oil will not stop (though may hinder somewhat) the U.S. from accessing crude oil from anywhere in the world. On the other hand, as the current hydra-like issues of market access for crude oil exports continue, Canada's limited access to the U.S. affects the former far more significantly than the latter.

The Bush administration faced a myriad of energy security issues, the most important being excess imports relative to domestic production and consumption. Unfortunately, at the time increased U.S. domestic petroleum output was limited and did relatively little to enhance energy security. A big increase in U.S. output could potentially heighten competition for OPEC in the short to medium term, thereby moderating oil prices somewhat. In 2006 though, U.S. oil production was high-cost and reserves additions were limited, having little or no impact on domestic output or other markets. However, global recognition of the oil sands as recoverable

reserves and other technological changes in the energy sector markedly changed the perception of North American oil and gas reserves and production capability.

During the final years of the younger Bush's administration, the first leg of the Keystone pipeline system was approved and various other extensions to existing transmission lines were completed. Oil price escalation and relative ease of access, coupled with a still large U.S. deficit in production versus consumption, was providing Canada with what seemed like an unlimited market for Canada's burgeoning oil exports. However, technological change and another new administration in Washington then dramatically changed the playing field.

Chapter 4: Energy Security and the Keystone XL Pipeline

The battle over the Keystone XL pipeline suggests that domestic politics can still complicate even the most natural trade relationship.[324]

Blake Clayton and Michael Levi, December 2012

Calgary-based TransCanada Corporation (TransCanada) first applied for approval of the Keystone XL pipeline project on 19 September 2008. More than five and a half years after the initial application, the project has neither been approved nor denied. The existing U.S. oil pipeline network consists of approximately 200,000 miles of pipe, performing a variety of different roles including the transport of crude and synthetic oil from production areas and marine terminals to refineries.[325] Keystone XL is designed primarily to transport oil sands bitumen from northeastern Alberta to the Gulf Coast of Texas and Louisiana. The U.S. has approved two other oil sands pipelines in the last decade: the first Keystone, which was proposed by TransCanada in 2006 and approved by George W. Bush in 2008 after 22 months of review, and the Alberta Clipper line, proposed by Enbridge in 2007 and after 27 months of review, approved in August 2009 by President Obama.[326] The current debate surrounding the Keystone XL Pipeline project shows that Canadian energy security is threatened by Canada's sole dependency on the United States market for the sale of crude oil. Pipeline infrastructure build-out has been slowed or halted by activism and politics – not by technology or economics.

Largely as a result of technological change, North America has become the fastest growing oil and gas region in the world and likely to remain so for the rest of the decade and into the 2020s.[327] Technological developments such as horizontal drilling and multi-stage fracturing, as well as the shale gas revolution and a renaissance in domestic U.S. oil development, are reshaping the continent's production capability and placing enormous pressure on existing transportation infrastructure. Trade flows in and out of North America are also transforming the

oil supply landscape, applying additional pressure on industry, both upstream and downstream, utilities such as the large pipelines, and governments. Reaction to changing energy dynamics by all parties has been circumspect and at times left at loose ends. Furthermore, environment lobbyists, landowners, and citizens are demanding a greater say in the development and implementation of future policy and legislation. From an industry perspective, increasing domestic oil production in North Dakota and Texas now competes for refining capacity with foreign crude supplies from Canada, Mexico, and Venezuela. A lack of new pipeline capacity is straining existing rail transportation capacity, as more and more crude oil is moved by rail in both Canada and the U.S.

For more than fifty years, pipeline applications were for the most part a function of public policy and economic viability, but in the last several years, the Keystone XL pipeline has turned the application process into a political and environmental activist issue. With the Keystone issue covered daily in the media, obvious is that the oil industry needs to become more nimble in order to participate in a new and ever-changing global energy dynamic. Furthermore, beginning with the 2008 election, the Obama administration placed climate change at the forefront of its energy and economic strategy, with the emphasis on innovation and development of renewable and alternatives to fossil fuels. What caused this change and what does the Keystone XL issue mean for the future of North American energy security? How does this policy backdrop affect energy security for both Canada and the U.S.? The myriad and hydra-like issues surrounding climate change and the environment are also central to both the discussion of energy security and the Keystone XL pipeline.

In 2012, Canadian crude oil exports to the United States averaged approximately 2.9 mb/d – nearly 99 percent of all Canadian crude exports - and accounted for 28 percent of U.S. imports.[328] While U.S. oil demand peaked in 2008, since then the United States has increased domestic production of unconventional oil and gas from 5.1 mb/d in January 2007 to 7.9 mb/d in January 2014.[329] As greater energy efficiency, particularly in transportation, takes hold, demand in the U.S. is decreasing. Canadian energy exports are in a precarious position with an abundance of product for export and only one customer.

For a long time, businesspeople, politicians, and scholars assumed that the U.S. would readily purchase Canadian surplus oil production because of reliability, proximity, and overarching close economic ties. According to David L. Goldwyn, coordinator for international energy affairs at the U.S. State Department, "It is undeniable that having a large supply of crude oil available by pipeline from a friendly neighbor is extremely valuable to the energy security of the United States."[330] For many Americans, Canada is seen as almost an extension of their country, which it is, in part because Canadian oil, particularly from oil-rich Alberta, is landlocked, without pipeline access to tidewater. Transportation and infrastructure to get it to market anywhere but the United States is difficult and expensive. What if, in the future, the United States does not need any imported oil, or a lesser amount relative to American consumption? The overarching assumption that the U.S. will buy whatever oil this country produces is flawed. The new reality is that Canadian security of oil demand is falling, partially underscored by the uncertainty surrounding the construction and operation of the Keystone pipeline.

For the past fifty-six years, TransCanada has transported gas. How did this gas transportation company become an oil shipper as well? The Keystone project started with a

phone call to the company's headquarters in Calgary. Robert Jones remembers it happening as, "Hey, we'd like to talk to somebody about converting one of your pipelines for crude oil service."[331] Jones, a TransCanada engineer, became the project lead and is credited with building the team and developing the plan to build the Keystone pipeline system. The team proposed that underutilized Western Canadian gas pipelines be converted to oil pipelines to connect with new oil lines crossing the U.S. border and extending to markets in the U.S. Midwest and Texas.[332] Knowing that the pipe would cross Iowa, Jones entered the state's name into an Internet image search. He discovered photos of a lot of arched bridges – the kind that appear in the movie *Bridges of Madison County* (1995). Jones felt that a pipeline was a bit like an energy bridge, "if you look at these archway bridges, the critical part of a bridge is the keystone."[333] Ergo, 'Keystone' was born.

The Keystone pipeline system was proposed as two segments, the Keystone (complete and in service in 2011) and Keystone XL (also in two phases). According to TransCanada's 2006 Annual Report to shareholders, "At an estimated cost of approximately US$2.1 billion, the Keystone Pipeline is intended to transport approximately 435,000 barrels per day of crude oil from Hardisty, Alberta, to Patoka, Illinois through a 2,960 km pipeline system."[334] This was a major capital-intensive and strategic shift for TransCanada, which for 50 years had specialized in building and maintaining large diametre cold weather natural gas pipelines. Pipelines are multi-generational projects financed by long-term throughput contracts which provide a fair rate of return for the stakeholders of the enterprise. Rates of return are regulated in Canada by the NEB and the NEB set tolls which provide the operator with the opportunity to recover its projected costs of transporting natural gas or oil, including a return on investment. However, this is only half of the recipe for a successful major infrastructure project. Like a toll bridge needs traffic, a

pipeline needs product, and in January 2006 TransCanada announced it had secured firm, long-term shipping contracts totaling 340,000 b/d. Exploration and development programs produce the reserve bases necessary to enter into long-term shipping contracts. Current and future developments in the oil sands predicated a need for increased transportation outlets.

With shipping commitments in hand, TransCanada proceeded with regulatory filings for approval of the project. In June 2006, TransCanada filed an application with the NEB to convert a portion of its Canadian Mainline natural gas transmission facilities into use as part of the Keystone Pipeline. In April 2006, with NEB approval in hand, TransCanada filed an application with the U.S. Department of State for a Presidential Permit authorizing the construction, operation, and maintenance of the U.S. portion of the Keystone Pipeline. In September 2006, the Department of State issued a formal notice of the application, as well as a Notice of Intent to prepare an Environmental Impact Statement (EIS) for the project.

In January 2008, the U.S. Department of State provided TransCanada with the Final Environmental Impact Statement (FEIS) regarding construction of the U.S. portion of the Keystone pipeline. The FEIS is required to proceed with the Presidential Permit process, which governs the construction and operation of facilities that cross the Canada - U.S. border.[335] The FEIS stated that the pipeline would result in limited adverse environmental impacts. Shortly thereafter, in March 2008, the Department of State issued a Presidential Permit to TransCanada authorizing the construction, maintenance, and operation of facilities at the Canada - U.S. border to transport crude oil between the two countries.

Prior to completion of the first pipeline, and as production in the Alberta oil sands increased, TransCanada announced that existing and new shippers had expressed interest in a proposed extension of the pipeline: "[T]he Cushing Extension [will] expand the Keystone

Pipeline from a capacity of approximately 435,000 barrels per day to 590,000 barrels per day, and see the construction of a 468 km, 36 inch extension of the U.S. portion of the pipeline to Cushing, Oklahoma."[336] The U.S. portion of the pipeline has been in service since June 2010, beginning at Cavalier County, North Dakota and extending to Steele City, Nebraska. The Cushing Extension runs from Steele City to existing crude oil terminals and tanks farms in Cushing. The Cushing Extension has been in service since February 2011.

In 2008, TransCanada proposed that it would complete the Keystone XL pipeline (XL added to the moniker signifies 'Express,' meaning a direct line from Alberta to Cushing) in two phases. The Gulf Coast phase is 696 km of 36-inch pipeline and associated facilities linking the Cushing tank farms to refineries in Houston and Port Arthur, Texas. The Gulf Coast portion of the project became fully operational in the first quarter of 2014. The second, and increasingly controversial, phase of the Keystone XL project is 1886 km of 36-inch pipe and associated facilities linking Hardisty, Alberta to Steele City. This segment includes the Cushing Marketlink[337] project that will provide receipt facilities to transport U.S. crude oil from North Dakota and Montana to the Gulf Coast. TransCanada anticipates that the Keystone XL pipeline will have an initial capacity of 700,000 bpd and a potential capacity of 830,000 bpd. As a result, the entire Keystone Pipeline System may ultimately have a capacity of 1.3 million bpd.

Before the State Department could approve such a permit, it was required to determine if the project was in the 'national interest.' In the past, the State Department identified the following key factors when making national interest determinations: Environmental impacts of the proposed projects; diversity of supply to meet U.S. crude oil demand and energy needs; security of transport pathways for crude oil supplies relative to other modes of transport; stability of trading partners from whom the United States obtains crude oil and the ability of the United

States to work with those countries to meet overall environmental and energy security goals; the impact of proposed projects on broader foreign policy objectives, including a comprehensive strategy to address climate change; economic benefits to the United States; and the relationships between proposed projects and goals to reduce reliance on fossil fuels and increase the use of alternative and renewable energy sources.[338] Obviously, the Keystone XL project meets the criteria of diversification of supply, project pathway security, trading partner stability, economic benefits, and energy security goals. However, the pipeline's approval is delayed because of the broader national interest determinants of the environment and more recently, climate change.

In 1951, the parliamentary hearing into what is now the Trans Mountain pipeline – which has since operated with few incidents – lasted a single day, with a decision released three days later. As recently as 2009, NEB hearings into the Canadian leg of the Keystone XL lasted 11 days and a decision was released within five months. [339] Since the *Exxon Valdez* ran aground on 24 March 1989, there has been a general rise in the awareness of environmental issues that are part and parcel of operating in the natural resources sector. Moreover, the growing presence of oil sands and other heavy and 'dirtier crude oils' in the export market have added to the environmental debate, which dramatically increased in shrillness with the Keystone XL application and the notification to the public of plans to fill it with oil sands crude oil.

In the summer of 2009, crews worked their way down the eastern flank of Nebraska building the original Keystone pipeline. The pipeline's route crossed part of the Ogallala aquifer[340] but opponents raised barely a whisper. Most Americans – and most Nebraskans – were unaware that a pipeline was being built. What changed? Former U.S. Ambassador to Canada David Wilkins stated, "I think there are 80, 81 pipelines crossing the border between Canada and the U.S., why is this one different?"[341] For years, environmental lobbyists, like American

Danielle Droitsch of the National Resources Defense Council (NRDC) had been hard at work with a goal of passing legislation that would enact change on climate. They felt they had a great ally in Obama, as Droitsch observed that "A lot of us were very excited about the fact we would actually finally have an opportunity to confront the fact that the United States was one of the worst climate actors in the world."[342] In June 2009, legislation that would have put a cap on greenhouse gases (GHGs) narrowly passed the U.S. House of Representatives, but the Democrats could not gather the 60 votes necessary to get the bill through the Senate. The economic downturn was also a factor, as "All of a sudden when the economy turned south, and all discussion stopped, you can't underestimate the disappointment of the environmental movement."[343]After years of lobbying for cap-and-trade policy, environmentalists turned their attention to the pipeline, and the battleground was Nebraska, one of the most conservative states in the Union.

Very little time had passed between the developmental stages of the two pipeline projects. Then the April 2010 Macondo well blowout in the Gulf of Mexico[344] continued out of control and an Enbridge pipeline rupture fouled the Kalamazoo River in Michigan. In July 2010 the U.S. National Transport Safety Board (NTSB) filed its report on the Enbridge line break. The report was scathing, finding that material failure of the pipe was the result of multiple small corrosion-fatigue cracks that over time grew in size and linked together, created a gaping breach measuring over 80 inches long:

> This accident is a wake-up call to the industry, the regulator, and the public. Enbridge knew for years that this section of the pipeline was vulnerable yet they didn't act on that information… Likewise, for the regulator to delegate too much authority to the regulated to assess their own system risks and correct them is tantamount to the fox guarding the hen house. Regulators need regulations and practices with teeth, and the resources to enable them to take corrective action before a spill. Not just after.[345]

Droitsch emphasized the environmental concerns: "And that's what makes it even more important to fight against this pipeline because the impact of a much bigger pipeline, through the heartland of America, could affect millions of peoples' drinking water, we can envision it now."[346] There was also a pipeline leak into the Yellowstone River in Montana. Pipelines, out of sight and mind for decades, were now being viewed under a microscope. Pipeline construction had in very short order undergone major change.

In the pipeline industry, direct routes are preferred in order to reduce costs – the main reason for the Keystone XL's route across the Sand Hills. A direct route requires less pipe, less land clearing, less trenching, and less reclamation. During planning, workers generally fly over the entire route. For Keystone XL, they walked its entire 2,673-kilometre length two or three times.[347] However, even with added scrutiny, the old ways of operating were no longer good enough and the dialogue concerning the Keystone XL took on a very different tenor, with the Sand Hills of Nebraska providing the flashpoint for the debate. Pipeline risk was no longer an abstract concept and media attention became constant, incessant, and all-consuming. At the same time, environmental organizations made blocking the Keystone XL a *cause célèbre*, culminating in a protest where thousands of individuals surrounded the White House, charging that the Keystone XL pipeline would lead to higher greenhouse gas emissions and result in water-polluting spills.

Many of the protesters were among Obama's most ardent supporters, disappointed by his failure to pass climate change legislation. They would not rollover on the pipeline as he headed into the 2012 election campaign: "The people who came to be arrested in front of the White House came from all different walks of life. It was not your typical environmentalist gathering."[348] According to Bill McKibben, the founder of environmental activist organization

350.org, "It's the same spirit of civil disobedience as there was with Dr. Martin Luther King. We asked people to do hard things, to come to DC and get arrested. And it turned into the biggest act of civil disobedience in 30 years."[349]

That TransCanada had failed to listen to key voices was quickly obvious. Despite its financial firepower, and millions spent on lobbyists, TransCanada could not outmatch its critics and the company struggled with its response, which is not uncommon in the energy sector. The debate over Keystone XL was uncharted territory for a blue-chip utility with no experience fighting environmentally-minded Hollywood actors. According to Alex Pourbaix, the company's president of energy and oil pipelines, "What I've learned is that whenever we have these kinds of projects we have to get into the local communities early, we have to get the facts in the hands of the residents, we have to go in very humbly and do a lot more listening than talking."[350] For a year TransCanada faced down calls to switch its route around the Sand Hills, calls that included Nebraska's governor and its two U.S. senators. The company refused, adamantly stating that the Sand Hills route was far-and-away the best.[351] When the State Department determined the necessity of an in-depth assessment of potential alternative routes, citing the environmental sensitivities of the Sand Hills, public concern trumped technical reassurances. The State Department then said there was not enough time to draw a new route for the pipeline and assess the potential environmental harm to sensitive grasslands and aquifers along its path. The agency recommended that the permit be denied, and President Obama concurred on 11 January 2012.

In May of 2012, TCPL applied for a presidential permit for a new route. Late to the party, TransCanada continued to backtrack: "The Sandhills really does hold a special place in the hearts of Nebraskans. It was very personal and emotional to them and it became apparent to me that the right decision for our stakeholders was to move the pipeline out of the Sandhills."[352] Moreover,

TransCanada's agreement to change the route after only four days prompted the question of whether it could have avoided the conflict from the beginning.

By 2014, pressure from environmental activists had not let up. There are several large, well-funded environmental organizations with large staff components that blog and write news releases.[353] Billionaire investor Tom Steyer[354] stated he would spend $1 million on a four-part ad campaign against the pipeline.[355] Moreover, in June 2013, while speaking at Georgetown University, President Obama emphasized that "Our national interest will be served only if this project does not significantly exacerbate the problem of carbon pollution. The net effects of the pipeline's impact on our climate will absolutely be critical to determining whether this project is allowed to go forward."[356] Some analysts and commentators argue his speech shifted the pipeline debate squarely into one about climate change. "It's all about the impact on climate," said Bill Burton, a former communications aide to Obama who is now advising the League of Conservation Voters, which opposes the pipeline, "And if we see they make a judgment call about whether or not oil will still come out of the ground with or without the pipeline."[357]

According to Kevin Book, managing director at ClearView Energy Partners, a Washington-based nonpartisan analysis firm, "The thing that matters most is the word 'additionality.' Additionality isn't actually a word but a jargon term used among climate experts to explain how many more carbon emissions a project adds relative to the status quo."[358] Book predicts that Obama will ultimately approve the pipeline, observing that "If you're going to deny the pipeline, it could have been done already."[359] However, the drive to force disapproval shows no signs of fatigue. According to disclosure reports filed with the U.S. Senate, at the end of June 2013, 54 companies and interest groups reported an interest in the project (including TransCanada).[360] Although governments change and large multi-national corporations are very

patient, many other factors will influence the ultimate success or failure of this project. If delays continue indefinitely, capital costs will accelerate and diminish the economic benefits, or if sub-national actors like environmental pressure groups push the issue into the courts, the project may never be completed.

A key note is that the large utilities and MNCs at the centre of the debate each take a long-term strategic view, as they must, in order to attract capital. Historically, their directors patiently wait for political leadership changes. Therefore, the Keystone pipeline is likely to be ultimately approved. To emphasize this point, in late September 2013 Prime Minister Stephen Harper told business executives in New York that Canada "will not take no for answer. I remain an optimist that, notwithstanding politics, that when something is so clearly in everybody's interest — including our interest as Canadians, but the national interest of the United States — I'm of the view that it has to be approved."[361] There is no doubt that central to the discussion is Canada's national interest and the benefit to both countries. How does energy security fit into the national interest dialogue? As noted, a traditional definition of energy security is adequate supplies at reasonable prices, providing a safe and sustainable future. Obvious is that the presence of climate and environmental issues in the current narrative has increased the importance of the notion of a 'sustainable future.'

According to Brock Clayton and Michael Levi of the U.S. Council on Foreign Relations, scholars and policymakers differ on the fundamental source of imported oil. Economists believe that it does not matter; that there is one world price for oil and all consumers pay that price, regardless of who supplies them. The only requirement is price; where this resource comes from is immaterial. The other argument, dominated by security strategists', views countries as wise if their leaders carefully choose their oil-trading partners, thereby strengthening themselves

geopolitically.[362] Clayton and Levi add that policymakers who favour Keystone XL contend that indigenous North American oil provides the United States with security benefits and isolation from seaborne imports, some of which come from Washington's political adversaries. Moreover, in 2012, the IEA estimated that for the U.S. to reach energy independence by 2035 it will need about 4 million barrels a day from Canada's oil sands.[363] This is not energy independence in its strictest sense as imports are still necessary. In addition, most serious analysts dismiss the notion of energy independence as a dangerous chimera.[364] Importantly, even if Keystone XL is built, international events will continue to affect prices for the crude oil that the pipeline carries, as well as for domestic production and consumption.

On 24 October 2013, current U.S. Energy Secretary Ernest Moniz suggested that the most prominent energy-related security issues facing the U.S. is vulnerability to oil price volatility: "We are not disconnecting from oil price volatility. We are not independent from global oil prices and need to deal with that fact. Increasing domestic production is one measure that's happening now and the policy objective has to be reducing oil dependence even as we produce more."[365] The oil market is globally integrated and events in major producer and consumer countries can affect prices everywhere. How important then, is security of supply when determining whether or not the Keystone XL is in the 'national interest'?

U.S. Gulf Coast refineries are geared to process heavier grades of crude oil and for many years much of the oil processed by these refineries came from the Middle East and Venezuela. The United States' reliance on these countries for imports of crude oil adds vulnerability to regional circumstances oftentimes at odds with U.S. strategic goals. Proponents of the Keystone XL project argue that building the pipeline is important because even though it benefits Texas refineries, it does more for U.S. national security. The project shifts the object of U.S. energy

dependence away from countries notoriously opposed to U.S. objectives and aligns the country with a friendly neighbour and America's largest trading partner.[366] Is this fact true, however? Is Canada the best and most readily available U.S. supplier of imported crude oil? Furthermore, if and when Mexico is able to eradicate its declining oil production, North American consumers may be completely insulated from the effects of a supply interruption in the Middle East, or elsewhere for that matter. In the summer of 2013, the Mexican government unveiled a bill to change its constitution and allow private companies and MNCs to find and produce oil and gas through possible joint venture agreements or other production sharing agreements. Mexico is the third biggest supplier of crude to the U.S.[367] More recently the Mexican federal government passed the proposed constitutional amendment necessary to open its faltering energy sector to foreign investment. The amendment is expected to be ratified by Mexico's 31 states and pass into law in 2014.[368] Mexican imports into the Texas Gulf could prove bothersome for Canadian exports. Mexican additions to North American crude oil supplies would provide direct competition and apply pricing pressure on Western Canadian supplies heading to the Gulf Coast, especially if the Keystone XL is not completed.

Canadian producers are counting on pushing out foreign suppliers of heavy oil when large amounts of oil sands crude start hitting the U.S. Gulf Coast. However, Canadian exports will face stiff competition and may not even be welcome at some upgrading refineries, according to Robert Johnson, Director of Global Energy for the Eurasia Group, a global political risk research and consulting firm.[369] Johnson stated that imported heavy oil is currently processed at facilities that have a capacity for 4.71 mb/d. One-third of those refineries — representing 1.44 mb/d of capacity — have relationships with national oil companies from Saudi Arabia, Mexico, Venezuela, and Brazil, and oil producers from those nations have few options outside the Gulf

Coast: "They will price their heavy crude to maintain their market share."[370] Johnson also confirms that Alberta faces additional challenges because of rapidly increasing U.S. oil production: "Things have changed. It used to be the U.S. would take all that Canada wanted to sell, but it is not that way anymore. There is less urgency in the U.S. on the pipeline front…So this just reinforces the point that the east and west coasts are critical for Alberta's oil."[371]

According to Dr. Jack Mintz, Director and Palmer Chair in Public Policy at the University of Calgary's School of Public policy, "The security benefit of increasing reliance on Canadian oil is without question. With growth in the U.S. tight oil supply, Brazilian offshore finds and Canadian oil sands, the U.S. has a tremendous opportunity to eliminate its reliance on oil from Middle East and other hostile regimes such as that of Venezuela."[372] This situation means that other countries may have to rely on less politically reliable oil and the U.S. can shift its foreign policy emphasis from the never-ending problems in the Middle East to other parts of the world. Carl Meacham, the director for the Americas Program at the CSIS[373] agrees: "The pipeline's potential for increasing North American energy output and facilitating its movement—and, by extension, for bolstering U.S. national security—leaves the United States with the clear choice to move forward with the project."[374] Meacham does emphasize caution for those that think this issue is a 'no brainer.' In a September 2011 interview on Bloomberg Television, Prime Minister Harper said he was confident that the Obama administration would view the proposed Keystone XL pipeline as a 'no-brainer' because of job creation and additional American energy security. This has not been the case: "[T]he Obama administration has gone to great lengths to prove its mettle as a force for environmental protection, making efforts to establish itself as a global leader in the fight to lower carbon emissions. President Obama is likely to continue efforts—with or without a pipeline—to create a diverse energy basket for the United States."[375]

Apparently, the approval and construction of the Keystone XL pipeline enhances energy security. Is that really the case?

Groups opposed to construction of the Keystone XL pipeline frequently claim that the pipeline will not enhance US energy security and that oil sands crude oil has a corrosive effect on pipelines (and therefore more likely to spill or leak).[376] According to IHS CERA, an internationally recognized energy information provider and think-tank, these claims are unfounded. In an October 2013 report entitled *Critical Questions for the Canadian Oil Sands*,[377] IHS CERA countered these common anti-oil sands arguments:

1. *Keystone XL won't contribute to US energy security*.

The IHS CERA report stated that despite the rapid growth of US tight oil, the Canadian oil sands will continue as an important component of US oil supply. Over the next two decades, the United States will need over 5 mb/d of net crude oil imports and Canadian imports will form a key component in helping meet this demand. Furthermore, all sources of oil supply contribute to global spare capacity and price stability. All else being equal, without the Canadian oil sands, the world's spare production capacity cushion would be less than it is now. The thinner this cushion, the more susceptible the price of oil is to unanticipated changes in supply and demand. Large disparities between supply and demand cause volatility. Additionally, pipeline and rail links between the United States and Canada constitute a 'hardwired' link of Canadian oil to the US market—very different from waterborne shipments that can be diverted, even while en-route.[378] When supplier countries divert their product to other markets, they create instability and market volatility, leading to higher prices.

For the IEA, energy security refers to the uninterrupted availability of energy sources at an affordable price.[379] In addition to security of supply, a significant benefit of imported oil from

Canada is its price compared to foreign imports. For several years, North American crude has traded at a severe discount to foreign-priced crude.[380] By utilizing imports from Canada, U.S. refineries with excess capacity are able to substitute oil priced roughly $15 per barrel below other imported oil. From an economic perspective, discounted Canadian crude oil imports subsidizes the U.S. economy, allowing for cheaper refined products such as gasoline, diesel fuel, and jet fuel. Unfortunately, from an economic point of view this can also have negative consequences and encourage inefficiency and wastage.

2. Oil sands crude oil has a corrosive effect on pipelines.

According to a February 2011 report published by the NRDC, the National Wildlife Federation, the Pipeline Safety Trust, and the Sierra Club entitled "Tarsands Pipeline Safety Risks," pipeline companies are using inferior conventional pipeline technology to transport oil sands crude oil:

> Tar sands crude oil pipeline companies may be putting America's public safety at risk. Increasingly, pipelines transporting tar sands crude oil into the United States are carrying diluted bitumen or "DilBit"—a highly corrosive, acidic, and potentially unstable blend of thick raw bitumen and volatile natural gas liquid condensate—raising risks of spills and damage to communities along their paths.[381]

Although the issue of corrosion may seem granular in the broader discussion of energy security, it is important to recognize the fierce tone some of those individuals and groups opposed to the increased use of fossil fuels apply to their argument. This report claims oil sands crude is significantly more corrosive to pipeline systems than conventional crude and also contends that higher operating temperatures and pressures pose new and significant risks of pipeline leaks or ruptures, due to internal corrosion from what is viewed as an "unstable blend of thick raw bitumen and volatile natural gas liquid."[382]

Pipeline corrosion is a well-understood phenomenon and a number of scientific studies have found no evidence that oil sands crudes subject pipelines to greater risk of damage or spills than other crudes.[383] Under extreme temperatures, bitumen may be more corrosive than conventional crude oil, but temperatures never reach corrosive levels while the oil is in transit. When the oil arrives at a refinery it quite likely will be overheated in the refining process, where the piping and vessels are designed to handle pressure and temperature configurations of the magnitudes suggested.[384] The report also claims that bitumen is more dense and viscous and requires higher pressures for transport, adding to the danger. Several studies, including those cited above, conclude that operating temperatures and pressures are well within the design specifications of the selected piping and ancillary pumping equipment. More to the point, the design characteristics of the Keystone XL will exceed any pipeline built to date.

Keystone supporters argue that TransCanada is going above and beyond the safety features required by law to ensure that it will be the safest ever built. "At the end of the day this is going to be the safest pipeline ever built in North America," according to Michael Whatley, executive vice president of the Consumer Energy Alliance, "The State Department has said that on multiple occasions."[385] Indeed, TransCanada agreed with the U.S. Department of Transportation's suggestion that it implement 57 special safety conditions that go beyond what is required by laws and regulations: "They have got sensors throughout the pipeline. They have internal pressure gauges. They have an amazing array of safety devices."[386] Nevertheless, environmentalists argued that only 12 of the 57 special safety conditions agreed to by TransCanada actually go above what the federal government already requires.

In terms of the plethora of other environmental concerns which seem to dominate the current debate, activists contend that the Keystone pipeline is regressive action in the fight

against climate change. Is the Keystone pipeline really the issue, or are environmental concerns more about crude oil from the oil sands and an overarching fight against fossil fuel use in general? Those individuals opposed to the pipeline often claim that its construction and operation will dramatically increase the amount of Greenhouse Gases (GHGs) entering the atmosphere: "There is substantial evidence that this pipeline will increase and lead to an expansion of tar sands which will of course lead to an increase in global emissions. The current conclusion that this pipeline will have no effect on global emissions makes no sense."[387] Is this really the case?

Several unbiased studies have shown that the net effect of the construction of the pipeline and transport and subsequent refining and usage of oil sands derived products will have minimal effect on global GHG releases. When using a lifecycle analysis[388] of GHG emissions, the bulk of CO2 emissions – roughly 2/3 - are produced in the burning of the fuel, after crude oil becomes a refined product like gasoline or diesel. Moreover, increasingly heavier or sour grades of crude are produced by other exporting countries like Mexico, Venezuela, and Saudi Arabia, as Forrest reitierates, "the most likely replacement for crude oil from the oilsands is crude oil from Venezuela and Venezuelan crudes are in the same range as the oilsands."[389] Therefore, excluding oil sands crude from the import mix will not result in any substantial reduction of GHGs. The State Department's initial environmental review, released in the summer of 2011, concluded that the overall contribution to cumulative GHG impacts from the construction and operation of the Keystone project would not constitute a substantive contribution to the U.S. or global emissions. The draft environmental review released in March of 2013 found that Keystone would indirectly add up to 830,000 metric tons of carbon dioxide a year, or .000025 percent of the 32 billion metric tons of global annual carbon emissions from the entire energy sector.[390]

On 7 May 2013, Chip C. Knappenberger[391] made a submission before the U.S. House of Representatives Committee on Science, Space, and Technology Subcommittee on Energy and Subcommittee on the Environment, entitled "Keystone XL Pipeline: Examination of Scientific and Environmental Issues." Knappenberger expertly describes in an unbiased manner the *global* result of the extraction of bitumen: "The emissions premium primarily arises from the relatively energy-intensive manner in which tar sands oil is currently extracted… [T]he State Department points out that this emissions premium may well shrink over time as new extraction methodologies are developed." Additionally, Knappenburger agrees with the State Department's preliminary report which concludes that the demand for the oil sands oil is great enough that it will come to market whether or not the Keystone XL pipeline is ever built. Regarding climate change, Knappenberger is equally as succinct:

> The 181 million metric tons per year from the assumption that all Keystone XL oil is additional oil in the global supply would result in about 0.0001°C of annual warming—one ten-thousandths of a degree. In other words, if the Keystone XL pipeline were to operate at full capacity until the end of this century, it would, worst case, raise the global average surface temperature by about 1/100th of a degree Celsius. So after nearly 100 years of full operation, the Keystone XL's impact on the climate would be inconsequential and unmeasurable.[392]

In late January 2014, the U.S. Department of State published the FEIS. The report is extensive and concludes that in terms of GHG emissions, the Keystone XL pipeline would not substantially worsen carbon pollution. The report also indicates that if Keystone is not built, carbon-heavy oil would still be extracted at the same rate and transported to refineries by rail. The report also concludes that the process used for producing the oil creates about 17 percent more greenhouse gas emissions than traditional oil. The analysis took into account the growing global demand for oil and the rapidly growing practice of moving oil by rail in areas where

pipelines have not been built. Given the anticipated outlook of oil prices and the cost of development, no single project will likely affect the rate of extraction.[393]

There is also the school of thought that not completing the Keystone XL pipeline could actually increase global emissions. The American Petroleum Institute (API) indicates that the State Department found that Keystone XL will not impact climate change because Canada will still develop its oil sands. Is this really the case? Furthermore, what if Alberta oil remains landlocked? What if there is no market to service? Would the oil sands still be developed? According to energy advisor Robert McNally, "It is likely that if the Keystone XL pipeline is rejected, the development of the next five to seven to eight hundred thousand barrels of oilsands in Alberta will be delayed and will be more costly. It will happen, it will go out by rail to the Maritime Provinces, it will go by rail to ports on the west coast or it will go north to find other ways to market."[394] Future projections about the development of the oil sands are fraught with complications and do not rest on takeaway capacity alone. Continued development of the oil sands will only occur if economic conditions warrant it. MNCs and the large independent companies operating in the oil sands generally take the long view when it comes to development of these massive reserves. However, after the federal government approved the takeover of Nexen in 2012 by the Chinese National Overseas Oil Company (CNOOC), officials stated that it would limit investment by SOEs in the oil sands to minority positions. This decision has put a chill on investment by SOEs.

The price of oil is also a key factor in future developments and sometimes companies take the short view when making future commitments. Oil sands projects are capital intensive, require substantial upfront capital and lead time, and do not produce revenue for several years. If the price of heavy oil languishes, companies must find other ways to ensure returns on

investment. For example, in the past year, Talisman Energy has sold some of its non-core assets, and in March 2013 Suncor Energy Inc. announced the cancellation of the $11.6 billion Voyageur upgrader project. According to Suncor CEO Steve Williams, the project's ability to provide long-term, profitable growth was not there.[395] For smaller independent single-focus oil sands operators, such as Cenovus Energy, investments must expeditiously achieve cash flow and earnings growth in order to create shareholder value. Cenovus announced late in 2013 that it would spend 40 per cent less on emerging oil sands assets and concentrate on increasing production in existing fields.[396] The continued growth of oil sands production capacity is not guaranteed.

Nonetheless, without Keystone XL, global greenhouse gas emissions are likely to increase because more oil sands crude will be refined in countries where current emissions standards are more lax than in the United States.[397] This is a dangerous alternative on which to rest the future of oil sands development. How does Canadian oil sands crude oil get to these other markets? Notwithstanding a modicum of transport by rail, any substantial increase to current oil sands production is landlocked. For Canadian oil sands production to reach assumed daily rates in excess of 4 million barrels per day, increased access to tidewater must be established, especially if U.S. imports continue to decline.

Environmentalists lobby on, passionately promoting an agenda that can be viewed as tainted at best. According to a *New Yorker* article, the pipeline issue is a climate change symbol seized by wealthy activists seeking to influence national politics, while advancing their own political ambitions and in large part casting aside science-based research and analysis.[398] As noted above, significant science-based research and literature on the issue suggest constructing the pipeline would have a limited impact on global carbon dioxide emissions levels.

Whether or not the pipeline was the correct battle to wage over climate change, President Obama chose it. In the June 2013 speech at Georgetown University, Obama tied the pipeline's approval to the environment.

> I put forward in the past an all of the above energy strategy, but our energy strategy must be about more than just producing more oil. And by the way, its certainly about more than just building one pipeline. Our national interest will be served, only if this project does not significantly exacerbate the problem of carbon pollution. The net effects of the pipelines impact on our climate will be absolutely critical to determining whether this project will go forward. It's relevant.[399]

By linking approval of Keystone XL to climate change impacts, rather than decide whether it warrants a permit on its own merit, the U.S. president handed Keystone opponents what they wanted: a platform to debate the oil sands. However, according to Colin Robertson of the Canadian Defence and Foreign Affairs Institute (CDFAI), "There is a tendency by Canadians to interpret any reference to Canada by the government of the United States as a direct challenge to our interests. But it is better to take it at face value; as another indication that President Obama sees the pipeline as 'relevant' to the climate change debate."[400] This is not a new revelation. Unfortunately, as added by Robertson, "The oils-sands debate, of which the pipeline is a surrogate, has sucked up most of the oxygen in the Canada-U.S. energy discussion and frustrates the overall relationship."[401]

This begs the question, where does the Canada-U.S. energy relationship go from here? How does Canada enhance energy security which is clearly security of demand? As one Washington observer put it: "Time kills all deals, and President Obama is stretching this one out as long as he can. The only way this project passes the president's test is to claim that just as much tar sands crude would be produced without the pipeline — that there might be some other way to ship it out of Canada."[402] If the U.S. wants to make sure Canada remains a strategic

partner, listening to a singular view that is not necessarily in America's best interest will be a policy mistake with potentially harmful long-run implications for the North America region. Unfortunately, Obama keeps ignoring the most important reason for approval of the pipeline - long-term continental energy security.

According to former Cabinet minister Jim Prentice, now executive Chairman of CIBC World Markets, a missing ingredient in the conversation about Keystone is an understanding of how the North American economy has benefited from the continental energy market that exists today, underpinned by the FTA and NAFTA. Since NAFTA was ratified in 1993, Canada and the United States have developed a highly integrated energy marketplace. As Prentice states, "It has driven our prosperity and enhanced the standard of living on both sides of the border. It would be difficult to extricate a single product from the North American energy marketplace, like oil from the oilsands."[403] A self-contained, self-sufficient continental energy market makes for a competitive economic trading bloc, a necessity for participation in the global marketplace. Increasing light oil production in the U.S. and growing volumes from the oil sands is pushing North America to a position of greater energy independence and more clearly defining geopolitical interests and foreign policy goals, while decreasing the need to protect supply chains.

As emphasized, given current technologies, U.S. energy independence is unattainable without Canada. However, the delay in Keystone's approval makes it obvious that Canada must look to other solutions for resource takeaway and demonstrate it can survive without Keystone XL. This situation means gaining access to other global markets. Therefore, the implications for Canada are profound. Diversifying export markets into Asia, where demands will double over

the next two decades, needs to happen quickly, as there are numerous competitors who can also meet these growing energy demands, including paradoxically, the United States.

Less than a decade ago, the United States faced severe oil and gas supply shortfalls. The Canadian oil and gas sector seemed poised to be a global energy power. This situation has not happened and the industry and the country, which for more than a century have relied on resource exports to build and grow the economy, need to reset. What then does the future hold for Canada – U.S. interdependence and Canadian demand security?

Conclusions: Interdependence…Ebbs and Flows

Geography has made us neighbors. History has made us friends. Economy has made us partners. Necessity has made us allies.

John F. Kennedy, Address to the House of Commons in Ottawa, 17 May 1961

Simplified, energy security is the assurance of adequate, reliable supplies of energy secured at reasonable prices in ways that do not jeopardize major national values and objectives. However, each nation-state defines its own energy security to a large degree on that nation's position in the energy supply chain – on whether it is a producing or consuming country or a developed or developing country. Energy security also entails a wide array of political, economic, social, and environmental attributes as well as the complex human elements of affordability, sustainability, and safety. In addition, the topic of energy security is made challenging by an ever-expanding complex web of regional, national, and global interactive and interdependent relationships and issues such as geographical location, resource endowment, level of economic development, and system of governance.

For better or worse, policy development occurs amidst complex, uncertain alternatives, and energy policy, especially with regards to oil, is no exception. Unfortunately, when combining resources and policy, necessary elements consume variable ones, no matter what make up the latter. For an import-dependent nation, if imports are reliable, dependence does not necessarily mean high vulnerability. In terms of oil, price is usually the most important variable and price volatility creates political and policy pressures. Historically the tension between price and policy has created a paradox. In periods of low oil prices, states do not view energy supply security as much of a policy concern, and policy 'consumes' price as an unnecessary element. However, when oil becomes expensive, price is the 'necessary' element. Recent large oil discoveries and record production levels lends credence to lower prices. However , the price of

oil is more than likely to remain at current or higher levels. The most obvious reason is continuing demand growth in the developing world, but another important reason is the requirement for the oil-rich nations of the Middle East (with the exception of Saudi Arabia) to keep oil prices high in order to receive enough revenue to move their societies and economies forward, albeit slowly. Although OPEC will fight tooth and nail to maintain market share, societal pressure for reform forces these autocratic nations to generate revenue and their only means of doing so is selling oil. North American production from the oil sands and the new shale oil fields of North Dakota and Texas also require high oil prices because of high costs of exploration and production. Consequently, if world prices remain high, the oil sands and the shale oil projects in North Dakota and Texas will continue to be economically viable.

Demand for fossil fuels will continue to climb and a decline in the use of carbon-based energy sources is unlikely. In the broader context, oil is the most important global strategic commodity and its use creates an element of interdependency in the international system. Furthermore, as the most important raw material in the world, oil comprises one-third of total primary energy supply and 95% of transportation energy. Canada is a major global oil producer with excess production capacity available for export. This excess capacity requires security of demand for Canada. Presently, this security of demand is a monopsony securitized by the Unites States.

From the midpoint of the 20th century, the United States and Canada have enjoyed a relationship that is interdependent but distinctly asymmetric. Canada's hydra-like connections to the United States make interdependence mandatory, but interdependence is not without pitfalls and national self-interest generally prevails. In most cases, the fundamental challenge with the asymmetry of the relationship is the fact that policy and cross-border trade coupled with a high

degree of societal interdependence ensures that American policy influences Canada, with the converse not always the case, at least in terms of degree. Like interdependence, oil trade between Canada and the U.S. has grown substantially over the past 60 years due in large part to the geographic distribution of oil and gas reserves and challenges of efficient supply and demand distribution. However, economics, technological advancements, and environmental concerns have dramatically changed the landscape of oil trade.

Early in the new millennium, as oil prices rose rapidly and settled at much higher levels, Canada's vast oil sands resource became economic to recover and market. On a per capita basis, Canada's abundant oil reserves far outweigh those of the U.S., a seemingly powerful asymmetric position. The U.S. will readily buy Canadian oil at the clearing price, but access to and availability of Canadian oil will not stop the U.S. from accessing crude oil from anywhere in the world. As a lack of market access for crude oil exports continues, Canada's limited entry into the U.S. affects the former far more significantly than the latter. This fundamental asymmetric disconnect in Canada-U.S. oil trade places Canada's vast oil resources in a perilous position. The overarching assumption that the U.S. will buy whatever oil this country produces is flawed. The new reality is that Canadian security of oil demand may fall, partially underscored by the uncertainty surrounding the construction and operation of the Keystone pipeline. As well, technological changes in horizontal drilling and hydraulic fracturing have caused a paradigm shift in oil supply and demand in the U.S., creating challenges for Canadian oil exports. Due largely to these technological advances, North America has become the fastest growing oil and gas producing region in the world and likely to remain so for the rest of the decade and into the 2020s. However, a lack of new pipeline capacity is straining existing transportation capacity and rail is moving more and more crude oil in both Canada and the U.S. Is Canada's energy future,

more specifically security of demand for the oil sands, in danger? Probably not, but the lack of market access for crude oil unquestionably threatens the Canadian position on the global oil supply landscape.

Over time, the cordiality of the relationship between Canadian prime ministers and U.S. presidents has ebbed and flowed, much like the flow of inter-governmental policy and trade. From Diefenbaker and Eisenhower, to Harper and Obama, oil trade has for the most part flourished. The Keystone debate is certainly not the first time that Canada-U.S. relations have hinged on a frosty relationship between president and prime minister. However, President Obama has singlehandedly changed the energy dynamic by making a myriad of issues surrounding climate change and the environment central to energy security dialogue, discussion, and debate, and most importantly, to decisions about the future of energy transportation pathways like the Keystone XL pipeline.

The Keystone XL pipeline has long since morphed into a U.S. domestic political issue. It was a prominent fixture in the 2012 presidential race and continues to pit Democrats against Republicans in Congressional politics. On 18 April 2014, the U.S. State Department issued a statement saying it would be further delaying a decision on the project because of ongoing litigation at the Nebraska Supreme Court, which could have an impact on the routing of the pipeline.[404] For Canada, this is both a huge complication and considerable handicap to finding a diplomatic compromise. In addition, Senate Democratic leader Harry Reid has recently suggested he will bring a vote on the pipeline to the Senate floor in order to better support Democratic senators up for re-election in conservative states![405]

Under President Obama's leadership, energy, Keystone XL, and the future development of the oil sands have formed a highly charged political debate about climate. In his February 2013 State

of the Union address, Obama stated that, "we can choose to believe in the overwhelming judgment of science -- and act before it's too late."[406] Noted Washington commentator Charles Krauthammer disagrees: "There is nothing more anti-scientific than the very idea that science is settled, static, or impervious to challenge."[407] What is decided is that the world requires energy and the biggest demand for energy no longer comes from the developed nations, where carbon emissions are actually in decline due to conservation, efficiency, and technological and societal change. Without energy – specifically fossil fuels for the next several decades– impoverished nations will continue to lead miserable, degrading lives. As Alex Epstein of the Center of Industrial Progress points out, "Nature does not give us a healthy environment to live in we must create it." Absent industrialization and a cheap attainable source of energy, the existence of man would be dramatically different. Because energy and technology have made the climate so livable, albeit with carbon, environmental pressure groups have spun a perception that is out of touch with what is actually more dangerous to human survival. Human development without energy is impossible. Coal, oil, and natural gas can be the salvation for billions of impoverished people in developing nations.

Perhaps equally as important, the environmental debate has become highly polarized. DeSmog Canada[408] deputy editor Emma Gilchrist cited a number of U.S. studies that warn of the dangers of this situation. Highly polarized debate demonizes opponents and leads to less engagement, let alone concessions. The oil sands debate has become a perpetual motion machine. In 1967, the Sun Oil Company (today Suncor Energy) opened the first oil sands mine. Since then, the oil sands area has produced approximately 9 billion barrels of bitumen. Debate is therefore largely after the fact. Stephen Ewart of the *Calgary Herald* points out that the pace of future development should be the only thing up for discussion.[409] Future development is

contingent on access to markets. Therefore, Canada is on its own in establishing shipping options other than the Keystone XL pipeline. It is now time for Canadians to look after themselves and provide for other options that may not include being the largest supplier of oil to the U.S.

The American president and his supporters – including environmental activists and celebrities of all persuasions – have won in the court of public opinion. On both sides of the debate, facts, fiction, subterfuge, and allusion have created a situation where the average Canadian or average American cannot discern the real truth about energy production and distribution in North America. If the president of the United States does not have enough information to make a decision, how can the populace? One of the fundamental tenets of great organizations is the premise that after discussion and debate, decisions are made, right, wrong, or indifferent. Of equal importance in great organizations, great leaders surround themselves with smart people and even though the leader may be the smartest person in the room, they acknowledge the fact that they are not always right. More importantly, *leaders decide*. Largely for political reasons, Obama has decided not to decide. There is no doubt that he is an altruist, true to his beliefs and kicking the can down the road is a common practice for Presidents and all decision makers. However, great leaders ultimately get to the decision point. In August of 1945, Harry Truman made a decision. In October of 1962, John F. Kennedy made a decision. In October of 1970, Pierre Elliot Trudeau made a decision. In January of 1990, George H.W. Bush made a decision. Obama's strategy of defeat by delay, does not project leadership but rather cynical political manipulation. Coincidentally, delay does not necessarily guarantee that a better decision will be made, just that more time will be taken. It almost assuredly also means that both financial and political costs will be higher when that decision is made. Regardless of when

Obama comes decides, there are going to be bruised feelings and it is going to cost someone, somewhere.

The repeated delays do not appear to be slowing down cross-border oil shipments as U.S. imports of Canadian oil have surged to the highest levels in four decades. Unfortunately, these increased exports are for the most part moving by rail, which is far more energy intensive and dangerous than pipelines. Environmentalists await a decision, too, and must continue to apply their resources to the debate as the stalling continues. The United States has historically facilitated and supported open markets for energy trade to address its oil security issues. In the past, this policy included diversifying supply through the construction of infrastructure that facilitates the import of oil from multiple suppliers. A move away from this strategy has made the Keystone delay and uncertainty confusing to Canadians and has increased stress and strain on the bilateral Canada-U.S. relationship, prompted some to suggest that Canada simply wait-out the end of Obama's term in office.

Oftentimes, progress is stymied by well-meaning but cumbersome multi-layered bureaucratic regulations. Governments can help, without ignoring the need for appropriate environmental and other regulatory reviews but rather by streamlining, expediting and accelerating various regulatory approval processes for megaprojects. It is possible that new requirements for legislative and regulatory control can go too far. In the epic 1957 novel *Atlas Shrugged,* author Ayn Rand explores an increasingly socialist United States where rapid and inconsistent regulatory controls are ruining society and many of the country's vital industries collapse. The overarching policy of equality through regulation proves disastrous for the economy and society. In a surprisingly prescient 1964 interview about her writing, Rand stated, "What we have today is not a capitalist society, but a mixed economy — that is, a mixture of

freedom and controls, which, by the presently dominant trend, is moving toward dictatorship. The action in *Atlas Shrugged* takes place at a time when society has reached the stage of dictatorship."[410] Is Obama a dictator? Of course not, but his singular aversion to making a decision on the Keystone XL pipeline does not bode well for the future and perhaps foreshadows decisions of much more important global consequence.

Under the new environmental assessment framework forced through in the 2012 spring omnibus budget, the Harper government established a two-year time limit on regulatory reviews for infrastructure projects such as pipelines. TransCanada's Energy East, Enbridge's Northern Gateway and Kinder Morgan's Trans Mountain projects are all subject to the two-year review. In December 2013, the Joint Review Panel (JRP) recommended approval of the Northern Gateway project subject to 209 conditions/recommendations and final cabinet approval. The endless electoral cycle of U.S. politics likely gives credence to this type of policy action. Although environmentalists and other critics claim that the JRP is too narrowly focused, the U.S. system is open to political meddling. After two thorough environmental analyses, the U.S. State Department determined that the Keystone XL pipeline's impact would most likely be minimal, even on climate change-inducing carbon dioxide emissions. Moreover, notwithstanding the economic benefits to both nations, not open to dispute is the safety of pipelines versus railcars, barges, and ocean tankers.

A fundamental tenet of democracy is the social contract. For society to function, individuals give up some rights to government. Social contract empowers judges to interpret and apply laws. Likewise, Canadians depend on independent regulators to assess the merits of large industrial projects. Democracy lays no claim to the idea that every single person needs to approve of a project for it to go forward. The mandate is majority rules and people sometimes

lose sight of that fact. There is never going to be a universally accepted major industrial project. Ideally, as many people as possible approve, but a 100 percent consensus is a wishful and futile chimera.

In addition, governments must look beyond regional interests. The benefits of these megaprojects flow to the whole nation, not just the specific location of a deposit. Canada's Constitution gives ownership of energy resources to the provinces and dealings among them have not always been perfect. Provincial governments as well as the federal government must recognize that together the whole is greater than the sum of its parts. Canadians also need a better understanding of what the energy industry provides for all of them, not just for the industry itself and the people in the producing provinces. All Canadians need to better understand the benefit derived from the oil and gas industry in terms of the core aspects of who we are in health care, public education, infrastructure, pensions, international balance of payments, and the myriad other services and programs that form the roots of Canadian society.

Canada enjoys enormous potential oil wealth and with the planned megaprojects already on the books and new, secure international markets, the means are at hand to unlock that potential. Although similar in nature, Canada's energy interests and those of the United States – while certainly interdependent – have never been identical. Since the 1980s, because of free trade agreements the two nations have enjoyed the mutual benefits of an extraordinary partnership, creating the largest and most integrated energy marketplace in the world. However, the emergence of sub-national standards in various jurisdictions, in both Canada and the U.S., impede the flow of Canadian oil into the U.S. as well as into the global market, by delaying the build-out of an efficient North American pipeline system. Markets produce impressive results when they are allowed to work and Americans know this better than anyone.

Yet regional interests in Nebraska, British Columbia, Ontario and Quebec have caused undue delay to the regulatory process, thereby allowing sub-national standards to depart from market-based principles. Policymakers have encouraged these delays, as a substitute for concerted national or continental action on energy and environment policy. This is not the situation for which NAFTA was designed. Real energy security comes from the ability to trade freely. Canada and the United States (and Mexico as well) must return to the principles of free trade that are enshrined in NAFTA and address energy matters on a continental basis. For the past 25 years, both countries have reaped the benefits of continental energy policies. Recent policy changes in Mexico may create a North American competitive advantage that is insurmountable, an advantage that not only creates energy security for all three nations, but dramatically moves the continent toward energy self-sufficiency. However, this requires collaboration and cooperation.

In the past decade, environmental issues and climate change have dominated public policy discussion. Furthermore, if an individual is in the energy business, he/she is also now in the environment business and the energy industry must adapt. Overall emissions will increase if the oil sands production, at approximately 2 mb/d presently, increases to 5 mb/d in 2020. At the same time, the federal government has committed to a 17 percent reduction in emissions relative to 2005 levels by 2020. The industry has a done an excellent job of decreasing the level of emissions on a per barrel basis, but that will not be enough to satisfy activists.

More and more it appears that there is consensus for a levy on emissions. The U.S., especially the president, continually calls on Canada to establish tougher environmental legislation, especially related to the oil sands. This is troublesome for a number of reasons. The federal government, as well as the Alberta government and the industry, have been clear that

emissions rules in Canada must parallel those established by the U.S. Canadian governments at all levels must adhere to a wait-and-see strategy. This is an extremely important point with respect to the asymmetric Canada – U.S. relationship. The U.S will establish climate and environmental policies that adhere to its national interest. Canada must do the same. Today, coal-fired electrical generation in the U.S emits several times more carbon than the oil sands.[411] In this context, Canada is a victim of the prisoner's dilemma[412] and the fundamental tenets of the aforementioned asymmetric relationship. When discussing the necessity of changes to carbon emission policy, cooperation is possible if the largest player, in this case the U.S., has a lot to lose. Due to the asymmetric relationship, the U.S. has far less to lose than Canada.

This country must establish realistic goals that are achievable over a reasonable time-period while adhering to the national interest and while also having a reasonable chance of success if applied elsewhere in the world. At the same time, industry cautions against new laws that create an uncompetitive environment for the oil sands. Shell Canada CEO Lorraine Mitchelmore, long a supporter of increased carbon pricing, was quoted as saying that, "Alberta needs to be sure that it keeps the industry competitive," while former Suncor CEO Rick George stated that, "it's a bad idea to make companies uncompetitive." [413] For Mitchelmore and George, as well as countless other oil and gas CEOs, changes to carbon policy cut both ways. It is up to industry to remain competitive in an increasingly global market. The industry has asked for and received a free market, capitalist system that promotes growth. Capitalism depends on genius, luck, inspiration, and an acquisitive spirit; it is unsystematic, chaotic, erratic and blatantly unfair – but it works. Given today's political and fiscal realities, the private sector must continue to take the lead in resource development. Canada has a tremendous economic advantage. Both domestic

and foreign capital has flowed into the resource sector, achieving an energy renaissance underpinned by free markets, private enterprise, and technological innovation.

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Over many decades, most U.S.-Canadian controversies have dominated the Canadian media, engaged millions of Canadians and been ignored by most Americans. Issues related to energy and energy security could be included in this overview – if not for the Keystone XL project. The Keystone XL issue has shined a spotlight on Canada-U.S. interdependence. Is this a bad thing for Canada? Does the overwhelming asymmetry of the relationship mean that Canada and the U.S. are embarking on a new and uncharted energy future? Most Canadians are unaware that there is only one customer for Canadian oil and most Americans are unaware that Canada is that nation's largest supplier of imported oil. Canadians also think a lot more about the U.S. than Americans do about Canada, another fundamental tenet of the relationship's asymmetry. However, the most important truth about both countries is an overarching ability and fundamental desire to work together and share common values. Both countries represent the marvels of the post-Second World War world, when North America became, and remains, the model of democracy and freedom. This thesis has pointed out on numerous occasions that interpersonal relationships between leaders plays a very important role in determining which way an administration will lean. The current situation is no different. At the same time, governments change, industries adapt, and new technologies emerge. The relationship and interdependence have ebbed and flowed and will continue to do so.

EndNotes

Introduction

[1] John N. McDougall, *Drifting Together: The Political Economy of Canada-US Integration* (Toronto: Broadview Press, 2006), 16.

[2] Robert O. Keohane and Joseph S. Nye define transgovernmental as "direct interaction between agencies (governmental and sub-units) of governments where those agencies act relatively autonomous from central government control." See Robert O. Keohane and Joseph S. Nye, "The Complex Politics of Canadian-American Interdependence," *International Organization* Vol. 28, No. 4 (September 1974) and "Canada and the United States" *Transnational and Transgovernmental Relations*, Autumn (1974): 596.

[3] Stephan Haggard and Beth A. Simmons, "Theories of International Regimes," *International Organization* Vol. 41, No. 3 (Summer 1987): 516.

[4] Gal Luft and Anne Korin, "Realism and Idealism in the Energy Security Debate," in Gal Luft and Anne Korin, eds. *Energy Security Challenges for the 21st Century* (Santa Barbara: ABC-CLIO LLC, 2009), 344.

[5]Joseph S. Nye Jr., *The Future of Power* (New York: The Perseus Group, 2011), 54-5.

[6] Brenda Shaeffer, *Energy Politics* (Philadelphia: University of Pennsylvania Press, 2009), 3.

[7] Luft and Korin, 340.

[8] Luft and Korin, 342.

[9] Daniel Yergin, *The Prize: The Epic Quest for Oil, Power and Money* (New York: Simon and Shuster, 2009), xiii-xiv.

[10] Tammy Nemeth, "Pat Carney and the Dismantling of the National Energy Program," *Past Imperfect* Vol. 7 (1998): 6.

[11] John N. McDougall, *Fuels and the National Policy* (Toronto: Butterworth and Company, 1982).

[12] Michael Hart, *A Trading Nation* (Vancouver: UBC Press, 2002), 4. Hart explains that the value of Canadian exports and imports of goods and services reached nearly 90 percent of the value of Canada's gross domestic product in 2000.

[13] Hart, 11.

[14] Shaeffer ,18.

[15] Michael A. Levi, "Energy Security: An Agenda for Research," *Council on Foreign Relations*® Council Working Paper (June 2010): 1.

[16]

[17] Quotation received from Dr. James Keeley Department of Political Science, University of Calgary. During a lecture while attending his class, Strategic Studies 681, February, 2011.

[18]G. Bruce Doern and Glen Toner, *The Politics of Energy: The Development and Implementation of the NEP* (Toronto: Methuen, 1985), 14.

[19] International Energy Agency, *World Energy Outlook* (2009) www.iea.org Accessed November 9th 2011. The IEA is an autonomous body within the Organisation for Economic Co-operation and Development (OECD), established in November 1974. It is one of the world's most authoritative sources for energy statistics (discussion of the IEA in some detail follows later in the thesis). *BP Energy Outlook 2030* http://www.eprg.group.cam.ac.uk/wp-content/uploads/2011/05/Keynote.pdf Accessed May 9, 2013.

[20] "Conventional oil" is defined as crude oil and natural gas liquids produced from underground reservoirs by means of conventional wells. This category includes oil produced from deepwater fields and natural bitumen. "Non-conventional oil" includes oil shales, oil sands-derived oil and derivatives such as synthetic crude products, and liquids derived from coal (CTL), natural gas (GTL) and biomass (biofuels).

[21] World Energy Outlook (2002): 97. http://www.worldenergyoutlook.org/media/weowebsite/2008-1994/weo2002_part1.pdf. Accessed January 19, 2014.

[22] Oil that has been discovered and expected to be economically producible is called a proven reserve. Oil that is thought to exist, and expected to become economically recoverable, is called a resource. Total resources include existing reserves, "reserves growth" – increases in the estimated size of reserves as fields are developed and produced – and undiscovered resources. Comparison of reserves and resource assessments is complicated by differences in estimation techniques and assumptions among countries and companies. In particular, assumptions about prices and technology have a major impact on how much oil is deemed to be economically recoverable. World Energy Outlook (2006):88.
http://www.worldenergyoutlook.org/media/weowebsite/2008-1994/WEO2006.pdf. Accessed January 21, 2014.

[23] World Energy Outlook (2006):89. http://www.worldenergyoutlook.org/media/weowebsite/2008-1994/WEO2006.pdf. Accessed January 21, 2014.

[24] World Energy Outlook (2006): 85.

[25] *Journal of Petroleum Technology* Vol. 17 No. 4, p.32

[26] "How does Directional Drilling Work" https://www.rigzone.com/training/insight.asp?insight_id=295&c_id=1 Accessed March 5, 2014

[27] World Energy Outlook (2012):1. http://www.iea.org/publications/freepublications/publication/English.pdf. Accessed January 21, 2013.

[28]Michael T. Klare, "The New Geopolitics of Energy," *The Nation* (May 19, 2008): 2.

[29]Based on average world oil production of 86.4 million b/d.

[30]David G. Victor and Linda Yueh, **"**The New Energy Order," *Foreign Affairs* Vol. 89, No. 1 (Jan/Feb 2010): 61.

[31]International Energy Agency, *World Energy Outlook* (2009), Paris: www.iea.org. Accessed November 12th 2011.

[32]Mamdouh G. Salameh, "Quest for Middle East Oil: the US versus the Asia-Pacific region," *Energy Policy* Vol. 31 (2003): 1086.

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[33]Aad Correlje and Coby van der Linde, "Energy Supply Security and Geopolitics: A European Perspective," *Energy Policy* Vol. 34 No. 5 (March 2006): 532.

[34]Brenda Shaeffer, *Energy Politics* (Philadelphia: University of Pennsylvania Press, 2009), 11; and Gal Luft, "Dependence on Middle East Energy and Its impact on Global Energy Security," S. Stec and B. Baraj (eds.), *Energy and Environmental Challenges to Security* (Springer Science + Business Media B.V., 2009), 198.

[35]Bill McSweeney, *Security, Identity and Interests: A Sociology of International Relations* (Cambridge Massachusetts: Cambridge University Press, 1999), 13.

[36]McSweeney, 17.

[37]Muthiah Alagappa, *Asian Security Practice* (Stanford: Stanford University Press, 1998), 28.

[38]Alagappa, 28.

[39]Rob McRae and Don Hubert, eds., *Human Security and the New Diplomacy* (Montreal: McGill-Queen's University Press 2001), 15.

[40]Condoleezza Rice, *Foreign Affairs* Vol. 87, No.4 (Jul/Aug 2008): 2.

[41]Alagappa, 12.

[42]Barry Buzan, Ole Wæver and Jaap de Wilde, *Security: A New Framework for Analysis* (Boulder Colorado: Lynne Reinner Publishing, 1998), vii.

[43]Barbara Koremenos, Charles Lipson and Duncan Snidal, "The Rational Design of International Institutions," *International Organization* Vol. 55, No. 04 (September 2001): 782.

[44]Joseph S. Nye Jr., *The Future of Power* (New York: The Perseus Book Group, 2011), 7.

[45]Nye, 8.

[46]Nye, 8.

[47]John J. Mearsheimer, "Back to the Future: Instability in Europe after the Cold War," *International Security* Vol. 15, No.1 (Summer 1990): 45.

[48]Gal Luft and Anne Korin, "Realism and Idealism in the Energy Security Debate," in Gal Luft and Anne Korin, eds. *Energy Security Challenges for the 21st Century* (Santa Barbara: ABC-CLIO LLC, 2009), 344.

[49]Hans J. Morgenthau, ''Another 'Great Debate': The National Interest of the United States," *American Political Science Review* Vol. 46, No. 4 (December 1952): 977.

[50]Luft and Korin, 340.

[51] Carlos Pascual and Jonathan Elkind, (eds.) *Energy Security: Economics, Politics, Strategies, and Implications.* (Washington: Brookings, 2010), p. 2.

[52]Luft and Korin, 13.

[53]Daniel Yergin, "Energy Security in the 1990s," *Foreign Affairs* Vol. 67, No. 1 (Fall 1988): 111.

[54]Shaeffer, 165.

[55] Remarks by President Barack Obama on jobs, energy independence, and climate change, East] Room of the White House, January 26, 2009, http://www.whitehouse.gov/blog_post/Fromperiltoprogess/. Accessed February 21, 2010

[56]Luft and Korin, "Realism and Idealism in the Energy Security Debate", 335.

[57] Gal Luft, "United States: A Shackled Superpower," in *Energy Security Challenges for the 21st Century*, Gal Luft and Anne Korin, eds. (Westport, CT: Praeger Publishers, 2009), http://www.praeger.com. Accessed January 18, 2010): 153, 157.

[58]Andrew Best, Alexandre Denault, Myriam Hebabi, Xueqin Liu, Jean-Philippe Samson, Patrick Wilson, under the supervision of: Paul Robinson, Professor University of Ottawa and Jean-Louis Tiernan Sr. Coordinator, Academic Outreach Canadian Security Intelligence Service, *Canadian Energy Security What Does Energy Security Mean for Canada?* Capstone seminar student report, Graduate School of Public and International Affairs, University of Ottawa in collaboration with the Canadian Security Intelligence Service, published July 2010.

[59]Yergin, "Energy Security in the 1990s", 112.

[60]Shaeffer, 160.

[61]Shaeffer, 94.

[62]Michael A. Levi, "Energy Security: An Agenda for Research," *Council on Foreign Relations*® Council Working Paper (June 2010): 4**.** Slack production capacity is sometimes reported as a static figure—for example, 2 million b/d—but any reasonable measure must report the amount of extra oil that could be brought online in a given period of time and at what cost. Such details, unfortunately, are closely guarded secrets. Although industry observers can make reasonable estimates of current production levels—for example, by counting the number and size of the tankers that dock at a given oil terminal—they cannot tell how full producers' inventories are or how aggressively the producers are drawing oil out of underground reservoirs. See Eugene Gholz & Daryl G. Press, "Protecting 'The Prize': Oil and the U.S. National Interest," *Security Studies* Vol.19, No.3 (August 2010): 458.

[63]Luft and Korin, 337-8. For years, disruptions in the oil sector were controlled by OPEC's spare capacity---the ability of some producers, principally Saudi Arabia, to inject extra oil into the market when other suppliers faltered. The International Energy Agency defines "spare capacity" as the additional oil that can be brought into the market within thirty days and sustained for at least ninety days. Unfortunately, data on spare capacity in the oil industry are notoriously unreliable, so it is difficult to test hypotheses about spare capacity directly or to adjust foreign-policy decisions in response to the amount of spare capacity. Gholz and Press, 458.

[64] IEA, "World Energy Outlook" (2009): 43.
http://www.iea.org/publications/freepublications/publication/weo2009.pdf. Accessed February 4, 2014.

[65] OPEC World Oil Outlook (2008),
http://www.opec.org/opec_web/static_files_project/media/downloads/publications/WOO%202008.pdf . Accessed February 4, 2014.

[66] OPEC World Oil Outlook (2008): 1.
http://www.opec.org/opec_web/static_files_project/media/downloads/publications/WOO%202008.pdf. Accessed February 4, 2014.

[67] OPEC World Oil Outlook (2009): 1.
http://www.opec.org/opec_web/static_files_project/media/downloads/publications/WOO%202009.pdf. Accessed February 4, 2014.

[68] Ken Koyama, "Dialogue between Oil Producing and Consuming Countries and IEA-OPEC-IEF Cooperation," *IEEJ* (January 2011) http://eneken.ieej.or.jp/data/3584.pdf. Accessed February 11, 2014.

[69]Shaeffer, 93.

[70]World Energy Outlook 2012, Executive Summary, www.worldenergyoutlook.org. Accessed December 28, 2012.

[71]Levi, "Energy Security: An Agenda for Research," 3.

[72]Luft and Korin, 342.

[73]Luft and Korin, 342.

[74]World Energy Outlook 2012, Executive Summary, www.worldenergyoutlook.org. Accessed April 10, 2013.

[75]World Energy Outlook 2012, Executive Summary, www.worldenergyoutlook.org. Accessed April 10, 2013.

[76]Luft, "United States: A Shackled Superpower," 147. In fact, the Carter Doctrine implemented in the 1970s considers any effort by a hostile power to block the flow of oil from the Persian Gulf to the United States as an attack on America's vital interests, to be repelled by any means necessary, including military force. The U.S. has exercised the Carter Doctrine several times. During the 1980-1988 Iran–Iraq War, when Iranian forces attacked Kuwaiti tankers, President Ronald Reagan authorized "reflagging" and provided them with U.S. Navy protection. Following Iraq's invasion of Kuwait in 1990, President H.W. Bush authorized military action to defend Saudi Arabia's oil fields and restore Kuwait's sovereignty. In the decade between the 1990-1991 Gulf War and Operation Iraqi Freedom, the U.S. strengthened its military presence in the region, building bases in Qatar, Bahrain, and Kuwait. Luft, "Dependence on Middle East Energy and Its impact on Global Energy Security," 203.

[77]Luft, "United States: A Shackled Superpower," 147.

[78]Levi, "Energy Security: An Agenda for Research," 22; Keith Crane et al., *Imported Oil and U.S. National Security* (Santa Monica, CA: RAND Corporation, 2009), 74; and John Mitchell, Valérie Marcel and Beth Mitchell, "*What Next for the Oil and Gas Industry?*" (London: Chatham House The Royal Institute of International Affairs, 2012), 77.

[79]Shaeffer, 101.

[80]Shaeffer, 100.

[81]Trevor Royle "How the Algerian siege could open a Pandora's box of terror," http://www.heraldscotland.com/mobile/news/home-news/how-the-algerian-siege-could-open-a-pandoras-box-of-terror.19961372?_=9a2fef1022169f47b2c8982218935db3182ebd05. Accessed April 12, 2013.

[82]Levi, "Energy Security: An Agenda for Research," 5.

[83]Levi, "Energy Security: An Agenda for Research," 5.

[84]Levi, "Energy Security: An Agenda for Research," 17.

[85]Levi, "Energy Security: An Agenda for Research," 5.

[86]Brian Swint, "Algeria attack no outlier as oil targeted 3 times a week," *Bloomberg News* http://business.financialpost.com/2013/01/23/algeria-attack-no-outlier-as-oil-targeted-3-times-a-week/. Accessed April 12, 2013.

[87]Blake Clayton, "The Future of Energy Insecurity," *Council on Foreign Relations*, http://www.nationalinterest.org/commentary/the-new-face-energy-insecurity-7715. Accessed November 9, 2012.

[88] Klahid Al-Falih, Opening Keynote Address, CERAWEEK, Houston Texas, March 5, 2013. http://ceraweek.com/2013/agenda/.

[89]Molly Ryan, "What's next in Cybersecurity?" *Houston Business Journal*, http://www.bizjournals.com/houston/blog/nuts-and-bolts/2013/04/whats-next-in-cybersecurity.html?ana=e_hstn_rdup&s=newsletter&ed=2013-04-10&u=11045160944fb11cb04d756bde59d9. Accessed April 12, 2013.

[90]General Michael Hayden, "Cyber Threats: Fighting the Battle of the Future," CERAWEEK, Houston Texas, March 5, 2013. http://ceraweek.com/2013/agenda/.

[91]Erica S. Downs, "The Chinese Energy Security Debate." *The China Quarterly* No. 177 (2004): 22-41; Daniel Yergin,. 'Ensuring Energy Security.' *Foreign Affairs* Vol. 85, No. 2 (March/April 2006): 69-82; and Michael T. Klare, "The New Geopolitics of Energy," *The Nation* (May 19, 2008). http://www.jmhinternational.com/news/news/selectednews/files/2008/05/20080501_Nation_%20TheNewGeopoliticsOfEnergy.pdf. Accessed April 20, 2013.

[92]Nye, "the Future of Power," 64.

[93]Levi, "Energy Security: An Agenda for Research," 4.

[94] Jane Taber, "PM brands Canada an 'energy superpower'," *The Globe and Mail*, http://www.ontarioenergynetwork.org/pdf_docs/2006-IN-PM%20brands_Canada_Energy_Superpower.pdf.Accessed April 16, 2013; and Address by the Prime Minister at the Canada-UK Chamber of Commerce 14 July 2006, London UK http://pm.gc.ca/eng/media.asp?id=1247 Accessed April 16, 2013.

[95] Donald V. Smiley, **"**Canada and the Quest for a National Policy,*" Canadian Journal of Political Science* Vol. 8, No. 1 (March 1975): 40-62.

[96] Tammy Nemeth, *Canada-U.S. Oil and Gas Relations, 1958-1974* (Ph.D Thesis, University of British Columbia, May 1997): 5.

Chapter 2: The Development of Canadian Oil and Gas Policy: From Leduc #1 to Petro-Canada

[97]Following years of exploration failure, the expenditure of millions of dollars, and more than 100 dry holes, Imperial Oil made a major oil discovery near the town of Leduc, Alberta on 13 February 1947.

[98]G. Bruce Doern, and Glen Toner, *The Politics of Energy: The Development and Implementation of the NEP* (Toronto: Methuen, 1985), 453.

[99] David H. Breen, *Alberta's Petroleum Industry and the Conservation Board* (Edmonton Alberta: The University of Alberta Press, 1993), xlv.

[100]Mary Janigan, *Let the Eastern Bastards Freeze in the Dark: The West versus the Rest Since Confederation* (Toronto: Alfred A. Knopf Canada, 2012), 3.

[101]Janigan, 262.

[102] Breen, 6-7. Later in 1910, as the arms race in Europe accelerated and the strategic importance of oil from a naval perspective was amplified, the Canadian government reserved the right to expropriate all oil products for the use of "His Majesty's Canadian navy." Breen, 7.

[103]Breen, 22.

[104]Breen, 52-3.

[105]Janigan, 328; and http://www.solon.org/Constitutions/Canada/English/ca_1930.html. Accessed October 15, 2012

[106]Breen, 63.

[107]Eric M. Uslaner, "Energy Policy and Federalism in the United States and Canada," in Jonathan Lemco ed., *The Canada United States Relationship: The Politics of Energy and Environmental Coordination* (Westport Connecticut: Praeger Publishing, 1992), 42-3.

[108]This Act sought to regulate every kind of pipeline, so long as it was an undertaking subject to the legislative authority of the Parliament of Canada and built, operated, owned by or leased to a company incorporated under a Special Act of Parliament. See *Pipeline Act*, S.C. 1949, c. 20, R.S.C. 1952, c. 211.

[109]At the time, Inter-Provincial Pipeline Co. was a wholly owned subsidiary of Imperial Oil Ltd. Inter-Provincial Pipelines Limited became Enbridge in 1996. See Earle Gray, *Forty Years in the Public Interest: A History of the National Energy Board* (Toronto: Douglas & McIntyre, 2000), 3. In 1954, the 1,200 km Trans-Mountain Pipeline System (Kinder-Morgan pipeline) was also completed, which connects Edmonton to the port of Vancouver and extends to marketing terminals and refineries in Puget Sound. Gray, 4.

[110] Earle Gray, *The Great Canadian Oil Patch* (Toronto; Maclean-Hunter, 1970), 133.

[111]Patrick Nicholson, *Vision and Indecision* (Don Mills Ontario: The Alger Press, 1968), 45-6.

[112]John N. McDougall, *Fuels and the National Policy* (Toronto: Butterworth's, 1982), 58 and 63.

[113]Hugh G. Thorburn, "Parliament and Policy-Making: The Case of the Trans-Canada Gas Pipeline," *The Canadian Journal of Economics and Political Science*, Vol. 23, No. 4 (November 1957): 516-531**.** See also Gray, *The Great Canadian Oil Patch***,** 177-218; and *Forty Years in the Public Interest*, 3.

[114] During the Great Debate of 1956 tempers ran hot and Canadians watched with increasing interest. Nearly 75% of the adult population of the country, including nearly 90% in the four provinces most immediately involved, said they had heard or read about the project. Of those who had an opinion, 45% said they favoured a pipeline built and run by private Canadian investment, while 29% favoured one built by the government. Only 17% wanted a line built partly by the government and partly by private investment in Canada and the U.S. William Kilbourn, *Pipeline: TransCanada and the Great Debate.* (Toronto :Clarke, Irwin and Company, 1970), vii-viii.

[115]Kilbourn 24.

[116] Kilbourn, 30.

[117] Although Alberta's first large gas field near Pincher Creek had not been found to have the vast reserves that were once considered proven, the Conservation Board's estimates of the province's total reserves did turn out to be far more cautious than even their most extravagant critics thought possible in 1951. In fact, within a decade and a half, proven reserves were ten times the 1951 estimate. Gas reserves are almost always historically understated. This is the nature and the dictum of reserve evaluators. A reserve evaluator will only project future reserves based on past performance.

[118]Kilbourn, 17.

[119]Kilbourn, xi.

[120]Kilbourn, 29.

[121]Kilbourn, 56.

[122]Kilbourn, 63.

[123]Gray, *The Great Canadian Oil Patch*, 206.

[124]Thorburn, 523.

[125]McDougall, *Fuels and the National Policy*, 76.

[126]Kilbourn, 56-64.

[127]Kilbourn, 94-98.

[128]In 1943, Symonds became president of the newly established Tennessee Gas Transmission Company (renamed Tenneco in 1966) in Houston. The company moved gas by pipeline from Texas to the northeastern United States and grew under Symonds's leadership to become an industrial complex of diversified interests reporting assets of over $4 billion in 1970.

[129]Kilbourn, 97.

[130]Kilbourn, 125.

[131]G. Bruce Doern, review of Kilbourn, *Pipeline: TransCanada and the Great Debate Canadian Debate, Journal of Political Science* Vol. 3, No. 4 (December 1970): 667.

[132]Kilbourn, 193.

[133]Janigan, 334.

[134]Tammy Lynn Nemeth, *"Canada-U.S. Oil and gas Relations 1958-1974"* (PhD Thesis, University of British Columbia, May 2007), 32.

[135]For a comprehensive overview of the role and importance of Royal Commissions, see G. Bruce Doern, "The Role of Royal Commissions in the Public Policy Process and in Federal-provincial Relations," *Canadian Public Administration* Vol. 10, No. 4 (December 1967): 417–433.

[136]For a complete description of the National Energy Board Act, see "National Energy Board Act" in Revised Statutes of Canada, 1985, c. N-7, s.12; available at http://laws.justice.gc.ca/eng/N7/index.html . Accessed April 29, 2011. See also T.J. Latus, "Developments in Western Canada in 1959," *Bulletin of the American Association of Petroleum Geologists* Vol. 44, No. 6 (June 1960): 918-931.

[137] Gray, *The Great Canadian Oil Patch*, 166.

[138] AMERICAN PETROLEUM INSTITUTE, *PETROLEUM FACTS AND FIGURES* 1-3 (9th ed.).

[139] Tammy Nemeth, "Conflicting Visions: Pierre Trudeau External Affairs and Energy Policy," *IN THE NATIONAL INTEREST: Canadian Foreign Policy and the Department of Foreign Affairs and International Trade, 1909–2009*, eds. Greg Donaghy and Michael K. Carroll (Calgary: University of Calgary Press, 2011),160.

[140] Nemeth, *"Canada-U.S. Oil and gas Relations 1958-1974,"* 26-7.

[141]Anthony Scott, "Policy for Crude Oil," *The Canadian Journal of Economics and Political Science* Vol. 27, No. 2 (May 1961): 267-276.

[142]Nemeth, "Consolidating the Continental Drift," 194-200.

[143]Takamichi Mito, *State Power and Multinational Oil Companies: The Political Economy of Market Intervention in Canada and Japan* (Kyushu Japan: Kyushu University Press, 2001), 98.

[144]Peter Foster, *Other People's Money: The Banks, the Government and Dome* (Toronto: Collins, 1983), 31.

[145]Melissa Clark-Jones, *A Stable State: Canadian Industrial Relations in the Cold War* (Toronto: University of Toronto Press, 1987), 68; McDougall, *Fuels and the National Policy*, 92, 96; and Gray, *Forty Years in the Public Interest*, 31.

[146]Mito, 103.

[147] Stanley D. Metzger, "The Trade Expansion Act of 1962," *Georgetown Law Journal* Vol. 51, No. 3 (Spring 1963): 425. See also Jeffrey P. Bialos, "OIL IMPORTS AND NATIONAL SECURITY: THE LEGAL AND POLICY FRAMEWORK FOR ENSURING UNITED STATES ACCESS TO STRATEGIC RESOURCES," *University of Pennsylvania Journal of international Business* Vol. 11, No.2 (1989): 240-1. By its terms, Section 232 provided that the Secretary of Commerce could, upon a petition from an interested party, the request of the head of another federal agency or department, or upon his or her own motion, "immediately initiate an appropriate investigation" as to whether an article "is being imported into the United States in such quantities or under such circumstances as to threaten to impair the national security." Under the statute, the U.S. Commerce Department has 270 days to make its findings and recommendation "for action or inaction" to the President. Thereafter, the President has 90 days in which to determine whether to concur in the Secretary's finding and to determine the nature and duration of the action, if any, that must be taken to adjust imports of the article and its derivatives so that national security is no longer threatened. This relatively obscure statute has served as a basic framework for formulating and implementing energy security policy ever since, but the statute has never been successfully invoked for any commodity other than oil.

[148] Since 1955, Section 232 and its predecessor statute have been used on numerous occasions to address energy security concerns. Presidents Eisenhower, Kennedy, Johnson, Nixon, Ford, Carter, and Reagan all invoked Section 232 as a basis for restricting oil imports or modifying existing restrictions thereon.

[149] Bialos, 238-9.

[150] "Kennedy-Diefenbaker relationship 'a toxic swamp'' Canadian Press, November 21, 2013 http://thechronicleherald.ca/world/1169043-kennedy-diefenbaker-relationship-a-toxic-swamp

[151] Michael Behiels and Reginald C. Stuart, *Transnationalism: Canada-United States History into the Twenty-first Century* (Montreal: McGill-Queen's Press, 2010): 155.

[152] Nemeth, *"Canada-U.S. Oil and gas Relations 1958-1974,"* 28.

[153] Nemeth, Conflicting Visions, 161-2.

[154]M.A. Adelman, *The World Petroleum Market* (Baltimore: The Johns Hopkins University Press, 1972), 208.

[155]Peter Foster, *The Sorcerer's Apprentice: Canada's Super-Bureaucrats and the Energy Mess* (Toronto: Collins, 1982), 58.

[156]Doern and Toner, *The Politics of Energy*, 454.

[157]Mito, 88.

[158]Michael Hart, *A Trading Nation: Canadian Trade Policy from Colonialism to Globalization* (Vancouver: UBC Press, 2002), 270.

[159]Tammy Nemeth, "Conflicting Visions: Pierre Trudeau External Affairs and Energy Policy," in Greg Donaghy and Michael K. Carroll, eds., *IN THE NATIONAL INTEREST: Canadian Foreign Policy and the Department of Foreign Affairs and International Trade, 1909–2009* (Calgary: University of Calgary Press, 2011), 161-2.

[160]Thomas Axworthy, "To Not Stand So High Perhaps but Always Alone: The Foreign Policy of Pierre Trudeau," in Thomas S. Axworthy and Pierre Elliott Trudeau, eds., *Towards a Just Society: The Trudeau Years* (Markham, ON: Viking, 1990), 16.

[161]Mito, 100.

[162]Mito, 100.

[163]Doern and Toner, *The Politics of Energy*, 131.

[164]The original bureaucratic entity for the regulation of oil and gas activity in Alberta was the Petroleum and Natural Gas Conservation Board (PNGCB), established in 1938. The PNGCB's original purpose was to ensure that the development of the province's petroleum resources served the long-term public interest. The PNGCB became the Energy Resources Conservation Board (ERCB). See David Breen, *Alberta's Petroleum Industry and the Conservation Board* (Edmonton: University of Alberta Press, 1993).

[165]Foster, *The Sorcerer's Apprentice*, 58.

[166]John Erik Fossum, *Oil, the State and Federalism: the Rise and Demise of Petro-Canada as a Statist Impulse* (Toronto: University of Toronto Press, 1997), 37.

[167]Quoted in Mito, 108. Trudeau recognized a lack of capacity for comprehensive energy policy analysis in the federal government. Austin was a very capable nationalist and one of his major concerns was the high degree of foreign ownership in the oil and gas industry.

[168] Nemeth, "*Canada-U.S. Oil and gas Relations 1958-1974*" 29.

[169] Nemeth, "*Canada-U.S. Oil and gas Relations 1958-1974*" 266.

[*170*] John H. Jackson, "The New Economic Policy and United States International Obligations," *American Journal of International Law* Vol. 66, No. 1 (January 1972):110.

[171]In the 1950s, oil and Arab nationalism had become a marriage of necessity. Arab nationalism sprung from the ideological underpinnings of resource nationalism. As the global oil market weakened, growing nationalism throughout the Arab world began to destabilize the post-war petroleum order. This led to the development of The Organization of the Petroleum Exporting Countries (OPEC). http://www.opec.org/opec_web/en/about_us/24.htm The Organization of Arab Petroleum Exporting Countries (OAPEC) was a smaller group, comprised of Abu Dhabi, Algeria, Bahrain, Egypt, Iraq, Kuwait, Libya, Qatar, Saudi Arabia, and Syria. OAPEC instituted the selective embargo in the winter of 1973-74. See Francisco Parra, *Oil Politics: A Modern History of Petroleum* (New York: I.B. Taurus & Co., 2010), 3-4.

[172]Seven Anglo-American oil companies dominated the petroleum industry after World War II. See Leonardo Maugeri, *The Age of Oil: The Mythology, History and Future of the World's Most Controversial Resource* (Westport, Connecticut: Praeger Publishers, 2006), 72-73 and 80-84; and Daniel Yergin, *The Prize: The Epic Quest for Oil, Power and Money* (New York.: Simon and Shuster, 2009), 485-7.

[173] Parra, 258.

[174]Brenda Shaffer, *Energy Politics* (Philadelphia: University of Pennsylvania Press, 2009), 7.

[175]Shaffer, 6.

[176]Alan Greenspan, *The Age of Turbulence: Adventures in a New World* (New York: The Penguin Press, 2007), 457.

[177]Nemeth, "Conflicting Visions," 158.

[178]During the period from 1972 to 1974, the Liberal government's hold on power was tenuous at best and required the support of the NDP. NDP energy critics attacked the national oil policy as 'archaic' and demanded new steps to protect the eastern Canadian market. The effect of a minority government on parliamentary politics cannot be discounted, as in December 1973 the NDP threatened to bring down the government if Cabinet did not commit to implement a number of specific changes to energy policy. These demands included a single oil price for all Canadians, a national oil company, a pipeline from Sarnia to Montreal, and acceleration of the development of the oil sands. See Larry Pratt, "Petro-Canada," in Allan Tupper and G. Bruce Doern, eds., *Public Corporations and Public Policy in Canada* (Montreal: Institute for Research on Public Policy, 1981), 169; and Hart, *A Trading Nation*, 286.

[179]Canada. Energy, Mines and Resources, *An Energy Strategy for Canada: Phase I Volume I* (Ottawa: Information Canada, 1973), 242-7.

[180]Bill Hopper became president and CEO of Petro-Canada in 1976. In 1979, he became Chairman and CEO and remained in that position until 1993 when Petro-Canada was privatized.

[181]Pratt, "Petro Canada," 157. For an in-depth discussion of the role of public corporations and the state see Allan Tupper, "The State in Business," *Canadian Public Administration* Vol. 22, No.1 (Spring 1979); and Nelson Wiseman, "The Direction of Public Enterprise in Canada," *Commonwealth & Comparative Politics* Vol.2, No.37, 75.

[182]Pratt, "Petro Canada," 158.

[183]Hasan Z. Zakariya, "State Petroleum Companies," *Journal of World Trade Law* Vol. 12, No. 6 (November December 1978): 481-500.

[184]Walter L. Bystryk, *The Crown Corporation: A Case Study of Petro-Canada* (Master's Thesis, Simon Fraser University, 1980), 23.

[185]Canada. Parliament, House of Commons, *Debates*, 25 October 1973, pp. 7229, 7222. (Hereafter cited as Debates, date, page).

[186]Pratt, "Petro Canada," 162.

[187]Jean Thomas Bernard and Robert J. Weiner, "Transfer Prices and the Excess Cost of Canadian Oil Imports: New Evidence on Bertrand versus Rugman," *The Canadian Journal of Economics* Vol. 25, No. 1 (February 1992): 28**.**

[188]Nemeth, "Conflicting Visions," 167. See also Ralph Toombs, *The Canadian Energy Chronology* [on-line book], available from http://www2.nrcan.gc.ca/es/es/Energy-Chronology/index_e.cfm. Accessed 9 December 2011.

[189]Richard W. Phidd and G. Bruce Doern, *The Politics and Management of Canadian Economic Policy* (Toronto: MacMillan, 1978), 44-59.

[190]Fossum, 39-42.

[191]*Debates*, 12 March 1975, 4040.

[192]Discount rates are especially relevant to oil and gas development. Crown Corporations use much lower rates and can wait for revenues. Faced with higher discount rates, private companies require a relatively rapid return on their investment. For this reason, they need to turn reserves into production and cash flow as rapidly as possible.

[193]*Oilweek*, October 13, 1975.

[194]J.S. Poyen, Chairman of the Canadian Petroleum Association, April 30, 1975, as cited in Bystryk, 31. For a prominent oilman's view of Petro-Canada, see Ronald S. Ritchie, "Government domination has robbed energy industries of initiative," *Financial Post* (January 21, 1978): 6.

[195]Bystryk, 36. The frontier is land owned by the Government of Canada, specifically the Northern regions. Frontier lands exceeded 500 million acres at the time.

[196]G. Bruce Doern and Peter Aucoin, eds., *The Structure of Policy making in Canada* (Toronto: MacMillan, 1971), 24.

[197]Peter Foster, *Self-Serve: How Petro-Canada Pumped Canadians Dry* (Toronto: MacFarlane Walter & Ross, 1992), 62.

[198]Paul A. Chastko, *Developing Alberta's Oil sands: from Karl Clark to Kyoto* (Calgary: University of Calgary Press, 2004), 156.

[199]A.C. Irvine, "The Delegation of Authority for Crown Corporations," *Canadian Public Administration* Vol. 14, No.4 (Winter 1971): 562.

[200]Canada. "An Energy Strategy for Canada: Policies for Self-Reliance," *Energy, Mines and Resources Canada,* (Ottawa: Supply and Services Canada, 1976): 3.

[201]Canada. "An Energy Strategy for Canada: Policies for Self-Reliance," 4.

[202]Canada. "An Energy Strategy for Canada: Policies for Self-Reliance," 16.

[203]Canada. "An Energy Strategy for Canada: Policies for Self-Reliance," 27.

[204]Canada. "An Energy Strategy for Canada: Policies for Self-Reliance," 27-28.
[205]

[206]Doern and Toner, *The Politics of Energy*, 455.

[207] Gordon Ritchie, interview with the author, 10 October 2013.

[208]Canada. "An Energy Strategy for Canada: Policies for Self-Reliance," 40-41.

[209] Gordon Ritchie, interview with the author, 10 October 2013.

[210] Gordon Ritchie, interview with the author, 10 October 2013.

[211]Doern and Toner, *The Politics of Energy*, 8.

[212]Doern and Toner, *The Politics of Energy*, 9.

[213] Gordon Ritchie, interview with the author, 10 October 2013.

[214] Gordon Ritchie, interview with the author, 10 October 2013.

CHAPTER 3: The Development of Canadian Oil and Gas Policy: From the NEP to Keystone

[215] G. Bruce Doern and Glen Toner, *The Politics of Energy: The Development and Implementation of the NEP* (Toronto: Methuen, 1985), 7.

[216] Doern and Toner, 39.

[217] Stephen McCall and Christina Clarkson, *Trudeau and Our Times: Heroic Delusion, Volume II* (Toronto: McClelland and Stewart, 1994), 170-175.

[218] Doern and Toner, , 41.

[219] Clark was typical of the super-bureaucrats who flourished under the Trudeau regime and during his time in government Clark earned the moniker 'Red Ed' in the Alberta oil industry. Shorty after Brian Mulroney took office, Clark was fired. In 1994, he became president and CEO of CT Financial Services and then joined TD Bank Group following TD's acquisition of CT Financial Services in 2000. He was appointed president and CEO of TD Bank Group in 2002.

[220] According to former Canadian Ambassador to the United States Alan Gottlieb, "The NEP was put together in locked rooms and in some ways the secret surrounding it proved its undoing. It could have been sold to the Americans had they enlisted External's help." Gottlieb refers to the Department of External Affairs. See McCall and Clarkson, 214.

[221] Tammy L. Nemeth, "Continental Drift: Energy Policy and Canadian-American Relations," in *Diplomatic Departures: The Conservative Era in Canadian Foreign Policy 1984-1993*, Nelson Michaud and Kim Richard Nossal eds. (Vancouver: UBC Press, 2001), 60.

[222]Doern and Toner, *The Politics of Energy*, 29.

[223]Alberta. Department of Federal and Intergovernmental Affairs, "Eighth Annual Report to March 31, 1981" (Edmonton, April 1982), 24.

[224]The Western Canadian Sedimentary Basin (WCSB) is a vast sedimentary basin underlying 1,400,000 square kilometres (540,000 sq mi) of Western Canada, including southwestern Manitoba, southern Saskatchewan, Alberta, northeastern British Columbia, and the southwest corner of the Northwest Territories. It consists of a massive wedge of sedimentary rock extending from the Rocky Mountains in the west to the Canadian Shield in the east. This wedge is about 6 kilometres (3.7 mi) thick under the Rocky Mountains, but thins to zero at its eastern margins.

[225] Doern and Toner, *The Politics of Energy*, 29.

[226] The Canada Lands are lands owned by the Government of Canada, specifically in the Northern regions and the offshore Atlantic, although as development offshore Newfoundland began, the Newfoundland government challenged federal claims. The dispute went all the way to the Supreme Court of Canada, with the Court ruling in favour of the federal government. In 1984, the Mulroney government reversed this decision and returned the control of the offshore resources to the province.

[227] Doern and Toner, *The Politics of Energy*, 461.

[228]Ibid, 460.

[229] Ibid, 117.

[230] Larry Pratt, "Petro-Canada," in *Public Corporations and Public Policy in Canada* Allan Tupper and G. Bruce Doern, eds., (Montreal: Institute for Research on Public Policy, 1981), 153.

[231] Barbara Jenkins, "Reexamining the "Obsolescing Bargain: A Study of Canada's National Energy Program," *International Organization* Vol. 40, No. 1 (Winter 1986), 163.

[232]McCall and Clarkson, 268.

[233]Jenkins, 160.

[234]Foster, *The Sorcerer's Apprentice*, 192.

[235] Foster, *The Sorcerer's Apprentice* 196.

[236]Foster, *The Sorcerer's Apprentice* 169.

[237] Doern and Toner, 115.

[238]Edward A. Carmichael and James K. Stewart. *Energy and the Canada-US Free Trade Agreement.* (Toronto : C.D. Howe Institute, 1988), 3.

[239] Lorraine Eden and Maureen Appel Molot, "Canada's National Policies: Reflections on 125 Years," *Canadian Public Policy* 19, No.3 (September 1993): 240-1.

[240] Carmichael and Stewart, 58.

[241] Doern and Toner, *The Politics of Energy*, 464.

[242] Carmichael and Stewart, 57

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[243] Jenkins,160.

[244] Allan Gotlieb, *Washington Diaries, 1981-1989* (Toronto: Mc Clelland & Stewart, 2006), 16.

[245] For accounts of the American reaction see Stephen Clarkson, *Canada and the Reagan Challenge* (Toronto: James Lorimer, 1985), 33-45; Clarkson and McCall, *Trudeau and Our Times*, vol. 2, chap. 6; and Lawrence Martin, *The Presidents and Prime Ministers* (Toronto: Doubleday, 1982), 280-84. Although elements within the newly elected Reagan administration advocated retaliatory action, forceful arguments for diplomacy instead were made with the support of the president. For examples, see Memorandum for Richard V. Allen from Norman A. Bailey, Subject: Cabinet Council on Economic Affairs Meeting of July 29, 1981, 30 July 1981, National Security Council, WHITE HOUSE OFFICE OF RECORDS MANAGEMENT (WHORM), Subject Files, FG010-02, box 15, file FG 010-02 (018919CA), RRL; and Memorandum to the President from William E. Brock [U.S. Trade Representative], Subject: Status of U.S.-Canada Bilateral Trade and Investment Issues, 30 October 1981, WHORM, Subject Files, FG010-02, box 17, file FG010.

[246] Foster, *The Sorcerer's Apprentice,* 197.

[247] Quoted in Jenkins, 160.

[248] Michaud and Nossal, 7.

[249] Michael Hart, *Decision at Midnight: Inside the Canada-US Free Trade Negotiations* (Vancouver: UBC Press, 1994), 16.

[250] Tammy Nemeth, "Pat Carney and the Dismantling of the National Energy Program," *Past Imperfect* Vol. 7 (1998): 88.

[251]Library and Archives Canada (LAC), MG 32 B 43 Carney Papers Vol. 2 File 2, Energy Policy-Appraisals and Priorities 193-1984 File 1, "Steps in the Policy Process," quoted in Nemeth, "Pat Carney and the Dismantling of the National Energy Program," 88.

[252]Nemeth, "Pat Carney and the Dismantling of the National Energy Program," 89.

[253]Nemeth, "Pat Carney and the Dismantling of the National Energy Program," 90.

[254]Carney Papers, Vol. 2 File 1, Energy- Progressive Conservative Party Caucus Briefings 1983, I.R., Private Dinner at the Ranchmen's Club – Calgary, n.d., quoted in Nemeth, "Pat Carney and the Dismantling of the National Energy Program," 91.

[255]Carney Papers, Vol. 1 File 6, COGLA – correspondence, clipping, speeches, 1983-1984, quoted in Nemeth, "Pat Carney and the Dismantling of the National Energy Program," 91 and 118.

[256]Nemeth, "Pat Carney and the Dismantling of the National Energy Program," 119.

[257]Library and Archives Canada (LAC), Document 8, "Energy Discussion: An Overview" 13 December 1984, 1-10, quoted in Nemeth, "Pat Carney and the Dismantling of the National Energy Program," 119.

[258]Canada. Enegry Mines and Resources, *The Atlantic Accord: Memorandum of Agreement between the Government of Canada and the government of Newfoundland and Labrador on offshore oil and gas resource management and resource sharing* (Ottawa: Supply and Services Canada, 1985), 2-11.

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[264]Nemeth, "Continental Drift," 62.

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[270] Government of Canada, "Royal Commission on the Economic Union and Development Prospects for Canada" (1985), 247.

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[291]For example, the Nixon administration, not yet faced with oil supply problems, decided to cut the flow of Canadian crude to the U.S. market, to bring the Canadian government speedily to terms. In March 1970, the U.S. imposed a quota on Canadian crude imports, cutting them back to 395,000 barrels a day.

[292]Nemeth, "Continental Drift," 64.

[293]Nemeth, "Continental Drift," 63.

[294]Nemeth, "Continental Drift," 62. One exception to this is a crisis of national security. According to Article 907 of NAFTA, national security must refer to armed military conflict, rather than the desire for domestic producers to reduce access for competitively priced imports.

[295]In 2005, the ravages of Hurricane Katrina forced the curtailing of much of the oil production coming from the Gulf of Mexico. The government of Alberta allowed oil producers to increase production from prolific wells (which have limitations on their allowable daily rates) in order to increase exports to the U.S. in this time of need.

[296]Nemeth, Continental Drift," 66.

[297]Nemeth, "Continental Drift," 65.

[298]Hart, *Decision at Midnight*, 307.

[299]Hart, *Decision at Midnight*, 378.

[300]James Laxer, "Free Trade and Canada's Choice of an Economic Model," in *The Future on the Table: Canada and the Free Trade Issue,* ed. Michael A. Henderson (North York: Masterpress, 1987), 55.

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[388]Lifecycle analysis is a technique used to evaluate the environmental aspects and impacts (in this case GHGs) that are associated with a product, process, or service from raw materials acquisition through production, use, and end-of-life. The lifecycle analysis considered wells-to-wheels GHG emissions, including extraction, processing, transportation, refining, and refined product use (such as combustion of gasoline in cars) of WCSB crudes compared to other reference heavy crudes. The lifecycle analysis also considers the implications associated with other generated products during the lifecycle stages (so-called *co-products*) such as petroleum coke. Some WCSB crudes, such as oil sands crude, are generally more GHG intensive than other heavy crudes they would replace or displace in U.S. refineries, and emit an estimated 17 percent more GHGs on a lifecycle basis than the average barrel of crude oil refined in the United States in 2005. The largest single source of GHG emissions in the lifecycle analysis is the finished-fuel combustion of refined petroleum fuel products, which is consistent for different crude oils. "Final Supplemental Environmental Impact Statement" (January 2014) http://keystonepipeline-xl.state.gov/documents/organization/221135.pdf. Accessed February 17, 2014.

[389] Jackie Forrest, interview with the author, March 21, 2014.

[390]Quoted in Amy Harder, http://www.nationaljournal.com/energy/keystone-pipeline-saga-still-has-several-more-chapters-20131125. Accessed November 27, 2013.

[391]Paul C. "Chip" Knappenberger is the assistant director of the Center for the Study of Science at the Cato Institute. He has over 20 years of experience in climate research and public outreach. Knappenberger has published numerous papers in the major atmospheric science journals on global warming, hurricanes, precipitation changes, weather and mortality, and Greenland ice melt, among many other areas, and is a very popular presenter at climate conferences worldwide. http://www.cato.org/.

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Conclusions: Interdependence…Ebbs and flows

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[405]Reid's comments reflect the Democrats' calculus that a Keystone vote could provide a boost to vulnerable Democrats running for re-election in conservative-leaning states who must hold their seats for the party to retain control of the chamber in the November 2014 midterm elections. But the calculus would potentially expose divisions among Democrats and carry political risk because a Keystone defeat in the U.S. Senate could allow the GOP to blame Senate Democrats for the delay. In an interview on May 1, 2014 Mr. Reid (D., Nev.) said the vote would be "not bad for Democrats." At the same time, he continued to criticize the project, which he has voted against in the past. The pipeline would "bring in from Canada the dirtiest kind of stuff from the tar sands…and ship the oil overseas after having transversed the whole country."
Amy Harder and Kristina Peterson, "Senate Likely to Vote Soon on Keystone Approval, Democrats Say," *WSJ Online* May 1, 2014
http://online.wsj.com/news/articles/SB10001424052702303678404579535833749857104?mg=reno64-wsj&url=http%3A%2F%2Fonline.wsj.com%2Farticle%2FSB10001424052702303678404579535833749857104.html. Accessed April 24, 2014

[406]Barack Obama, "Remarks by the President in the State of the Union Address," February 12, 2013, http://www.whitehouse.gov/the-press-office/2013/02/12/remarks-president-state-union-address. Accessed April 24, 2014

[407]Charles Krauthammer, "The myth of 'settled science,'" http://www.washingtonpost.com/opinions/charles-krauthammer-the-myth-of-settled-science/2014/02/20/c1f8d994-9a75-11e3-b931-0204122c514b_story.html. Accessed April 15, 2014.

[408]DeSmog Canada exists to clear the public relations pollution that prevents sensible public conversations about critical issues around the environment, social justice, and the economy. See www.desmog.ca. Accessed April 24, 2014

[409]Stephen Ewart, "Endless oilsands debates prove exhausting," *Calgary Herald*, January 22, 2014, http://www2.canada.com/calgaryherald/news/business/story.html?id=e0133484-88af-4569-9c08-e71d8465cd26&p=2. Accessed April 17, 2014.

[410]Alvin Toffler, "Ayn Rand interviewed by Alvin Toffler," *Playboy magazine* © 1964, http://www.discoveraynrand.com/playboyinterview.html. Accessed April 24, 2014

[411] Shawn McCarthy, "the Politics of emissions: Keystone is an easier target than U.S. coal fired power plants" The Globe and Mail http://www.theglobeandmail.com/news/national/the-politics-of-emissions-keystone-is-an-easier-target-than-us-coal-fired-power-plants/article8783444/ Accessed June 17, 2014.

[412]Avinash Dixit and Barry Nalebuff, "Prisoners' Dilemma," *The Concise Encyclopedia of Economics*, http://www.econlib.org/library/Enc/PrisonersDilemma.html. Accessed April 24, 2014. The "prisoners' dilemma" is the best-known game of strategy in social science. It helps us understand what governs the balance between cooperation and COMPETITION in business, in politics, and in social settings.

[413] Andrew Leach, "This One Change Would Make the Oilsands No Longer Worth Developing," http://www.desmog.ca/2014/04/17/this-change-make-oilsands-no-longer-worth-developing. Accessed April 24, 2014

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