

The New Brunswick Oil and Natural Gas Blueprint



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Province of New Brunswick
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Message from Hon. David Alward, Premier

May 2013

The responsible development of our natural resources is a key part of our government's plan to rebuild New Brunswick's economy and create jobs here at home.

Natural resources provide the foundation for prosperity in many regions of North America, and they are critical to sustaining the quality of life that New Brunswickers have built over generations.

As a government, our vision for powering New Brunswick's future is focused on generating smart resource-driven growth through research and innovation.

To guide our efforts, we are pleased to release this *New Brunswick Oil and Natural Gas Blueprint*. This builds on the *New Brunswick Energy Blueprint* that was released by our government in October 2011 and is the product of the hard work and coordinated efforts of several government departments, led by the Department of Energy and Mines. It addresses environmental, social, regulatory and economic issues in relation to future resource exploration and development activities.

In developing this blueprint, we have incorporated the best practices and evidence learned from other jurisdictions, along with public feedback. This document provides a strong and effective framework that will protect communities and create jobs for generations.

New Brunswickers know and understand the benefits of natural resource development. Their communities developed around resource development, and in more recent times many have watched friends and family leave to work in resource industries elsewhere in Canada and around the world. But we can change this trend together. We can provide our skilled workers and future generations with opportunities to work in these very same industries right here at home.



Message from Hon. Craig Leonard

Minister of Energy and Mines

May 2013

Our province's history in the oil and gas sector dates back to the early 1850s, with the first oil well drilled in Dover, one of the earliest ever in North America. By 1912, pipelines from Stoney Creek were supplying natural gas to Moncton and the nearby community of Hillsborough.

Times have changed since then. Oil and natural gas have become key mainstays in the global economy. Technology has transformed the oil and gas industry over the past century and a half, and continues to evolve. Information technology makes vast amounts of information available to a well-informed and engaged public. Governments and industry are much more stringent in their approaches to development and more responsive to environmental stewardship.

In New Brunswick, there is a new focus on the security of our energy supply and an awareness of new opportunities which could provide secure, local energy for our province, while at the same time generating jobs and wealth in the years to come.

In the Legislative Assembly on Nov. 28, 2012, I committed that our government would develop an *Oil and Natural Gas Blueprint* which would help provide a clear path forward for this important sector. This document is the result of a multi-departmental undertaking that will help guide policy in a fast-changing sector that holds immense potential for our province's future. Our government's blueprint is focused on these key objectives: 1) Environmental Responsibility; 2) Effective Regulation and Enforcement; 3) Community Relations; 4) First Nations Engagement; 5) Stability of Supply; and 6) Economic Development.

The Department of Energy and Mines will continue its work towards reducing our province's and region's dependence on fossil fuels and greenhouse gas emissions. Natural gas plays a key role in the transition to this objective, by replacing more carbon-intensive energy such as heavy fuel oil and coal.

New Brunswickers are innovative and are able to recognize and seize opportunities. The oil and gas sector, if conditions are right, could provide tremendous opportunities to our province. This blueprint will guide us on the path of responsible development for future generations.

We firmly believe that by safely and responsibly managing our oil and gas sector in the years ahead, New Brunswick will reap unprecedented benefits.



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Introduction

Over the course of our province's history, the rich diversity of New Brunswick's natural resources have formed the foundation for its development. The First Nations and all people who have made a home in our province have shaped New Brunswick's history, cultural heritage and development. Our rivers and seacoasts continue to provide transportation routes. Our forests, minerals, agricultural lands and marine areas have always supplied the environment and materials needed to generate primary and secondary industries.

These and other natural resources have played a key role in the evolution of our modern society. Our natural beauty and resources have attracted those seeking to pursue opportunities and become a part of our heritage, including First Nations and many other cultures which form our diverse makeup.

Our natural resource inheritance was formed long before any civilization came into being. Dead and decaying plants and animals became part of our province's geological structure, deep below the surface. Pressure and heat over the ages have transformed this material into fossil fuels, including coal, oil and natural gas. Much of the natural gas resource is locked in tight geological formations that, until the past few decades, have made them difficult to access. Until the year 2000, with the construction of the Maritimes and Northeast Pipeline, there was no viable way to transport natural gas to markets, and this was a barrier to their further development.

Although the development of our oil and natural gas resources is only one element of a rich and diversified economy, it holds the potential of being a significant factor in our province's economy. The oil and gas sector already comprises Canada's largest oil refinery, its only LNG import and re-gasification facility, natural gas transmission and distribution pipelines, gas-fired electricity generation, and current oil and gas production facilities. New Brunswick's seaports and location advantages have aided in its becoming a key energy exporter.

In its 2011 report *Are We Entering a Golden Age of Gas?*, the International Energy Agency stated:

The factors that drive natural gas demand and supply increasingly point to a future in which natural gas plays a greater role in the global energy mix. Global uncertainties afflicting the energy sector can be seen as opportunities for natural gas. When replacing other fossil-fuels, natural gas can lead to lower emissions of greenhouse gases and local pollutants. It can help to diversify energy supply, and so improve energy security. It can provide the flexibility and back-up capacity needed as more variable capacity comes on-line in power generation. (p.7)

New Brunswick can choose to become a part of this global trend, rather than being a passive observer and maintaining a reliance on energy imported from other areas. It is a choice that must be made cautiously.

The *New Brunswick Oil and Natural Gas Blueprint* charts out a path towards pursuing the opportunity that may allow our province to play a role in the emergence of a new energy balance. It provides a framework and process that uses rational, science-based information and dialogue with citizens and industry to support informed

government decisions about the safe and responsible future development of our resources. As a first step, it will further enable industry to discover whether there is a viable resource to develop.

This *Oil and Natural Gas Blueprint* is the culmination of many preceding steps. In May 2012, a public discussion document¹ was released, outlining a number of recommendations based on advice from a broad cross-section of participants in a provincial forum held in June 2011, as well as additional input from various provincial departments and agencies, and a comprehensive review of North American studies and management practices.

In May 2012, the province asked Dr. Louis LaPierre to chair a panel to obtain feedback on the discussion document. Over a three month period, Dr. LaPierre heard from many New Brunswickers in nine public meetings, a number of private presentations, and written submissions. His report to the province, *The Path Forward*², released in October 2012, contains a series of recommendations based on his review.

In September 2012, New Brunswick's Chief Medical Officer of Health, Dr. Eilish Cleary, issued a report³ containing recommendations concerning shale gas development in New Brunswick, from a public health perspective. Her report is based on historical experience from other jurisdictions, a review of available literature, and views from a variety of sources.

Rules for Industry were created to support New Brunswick's on-going management of oil and gas activities and to ensure that the Province continues to have the tools needed to guide exploration and extraction in an environmentally responsible manner. The rules help guide the application of existing regulations such as the *Environmental Impact Assessment Regulation*. New standards and legislation will also govern the oil and natural gas industry in New Brunswick.

Finally, in February 2013, the province issued a comprehensive set of rules entitled *Responsible Environmental Management of Oil and Natural Gas Activities in New Brunswick – Rules for Industry*, in order to support New Brunswick's on-going management of oil and gas activities and to continue to provide government with the tools needed to guide development in a responsible manner. (Referred to as "*Rules for Industry*" throughout this *Oil and Natural Gas Blueprint*.)

With this as a background, the *Oil and Natural Gas Blueprint* directs its focus on six **Key Objectives** and sets out a series of 16 **Action Items** aimed at supporting those objectives.

In the following section, the Key Objectives of 1) *Environmental Responsibility*, 2) *Effective Regulation and Enforcement*, 3) *Community Relations*, 4) *First Nations Engagement*, 5) *Stability of Supply* and 6) *Economic Development* are described in detail. The importance to New Brunswick of each of these goals to New Brunswick is explained. The current status of each objective is described, as well as our vision for the future. For each of the five objectives, there are one or more Action Items that are associated with the achievement of that goal.

In the *Action Items* section, the province's 16 initiatives are described. These are grouped in four general themes:

- **Responsible Management of the Industry** covers water and air management, the regulatory framework, compliance and enforcement, and addressing potential future regulatory agency models.
- **Addressing Community Concerns and Needs** deals with ongoing public health engagement and dispute resolution.

1 New Brunswick Natural Gas Group, *Responsible Environmental Management of Oil and Gas Activities in New Brunswick – Recommendations for Public Discussion* (May, 2012).

2 Dr. Louis LaPierre, *The Path Forward* (October 2012).

3 Office of the Chief Medical Officer of Health (NB), *Recommendations Concerning Shale Gas Development in New Brunswick* (September, 2012).

- **Optimizing Economic Benefits** addresses the areas of oil and gas revenues and revenue sharing, measuring economic impacts, First Nations opportunities, economic development and investment attraction, and workforce development.
- **Informing Future Decisions** outlines the role of the New Brunswick Energy Institute, planning for future regional gas supplies and offshore development.

In two annexes, the recommendations of Dr. LaPierre's and Dr. Cleary's reports are summarized, together with the province's response to each recommendation.

The oil and gas sector continues to grow and evolve in North America. New Brunswick's current regulatory framework for the oil and gas sector, including the recently released *Rules for Industry*, provide the necessary rules and practices appropriate for the current level of sector activity as well as activity foreseeable over the next few years.

The *Oil and Natural Gas Blueprint* outlines how the province will adapt the framework for managing this sector for the long term, using the principle of continuous improvement, informed by regular reviews of its regulations, policies and procedures in consultation with industry, the public and other stakeholders.

Our values and goals, and the quality of life that we expect, rely on taking advantage of the opportunities afforded to us by our resources and our people. There are challenges to be faced with any opportunity. *The Oil and Natural Gas Blueprint* is New Brunswick's plan to take the next step in our history of resource development.

Key Objectives

1. Environmental Responsibility

Importance to New Brunswick

Environmental responsibility involves measures to protect air, land, and water including the conservation of our resources. From the outset, the province has stressed that the continued development of an oil and gas industry in New Brunswick would be subject to strong environmental requirements and appropriate safeguards to protect human health, water and air, as well as property, today and into the future.

This approach supports the quality of life in our province and the opportunity for sustainable development into the future. It requires measures that are reliable, whether in use today or implemented in the future. The responsibilities for environmental stewardship extend to industry, government, communities and all individuals.

Apart from requirements in legislation and guidance from established standards, there are additional environmental management tools available to government. These include ongoing sampling and monitoring, which provide scientific information about the quality of our water and air. These tools provide information about impacts from a single industry or activity, and overall impacts of combined activities. They also allow for the identification of emerging issues or trends that may require additional action.

These and other environmental management programs form a key part of the overall strategic approach being taken to regulate oil and gas activities. It is important to remember that while the main focus is on reducing risk and preventing negative impacts, there are also strong measures in place to respond to any accidents or events which pose a risk.

The province is committed to using all of the measures it currently has in place, as well as to continually building its knowledge of new approaches to managing an oil and gas industry in New Brunswick. This includes exploring advances in engineering and technology, and applying knowledge which comes from monitoring.

There is an ongoing dialogue about oil and gas development in New Brunswick. As previously stated, environmental responsibility is a shared responsibility. It requires the provincial government and industry to respond with appropriate action and accountability, and requires communities and individuals to actively build knowledge and work towards achieving environmentally responsible development.

Current Status

New Brunswick has a history of effective environmental management of oil and natural gas development. The related legislation, regulations and rules have continued to evolve as the industry has changed. Some examples of this are:

- **EIA.** The province applies its Environmental Impact Assessment (EIA) process to projects, as required, including for oil and gas exploration and development. Continual improvements have led to a strong level of environmental protection, and industry actions required by EIAs are supported by existing requirements under the *Clean Environment Act*, *Clean Air Act* and *Clean Water Act*, and informed by a number of standards and protocols.

- **Enhanced Guidance.** *Rules for Industry* help guide the Minister of Environment and Local Government in assessing environmental impacts and in setting conditions for project development. They were developed with substantial contributions and expertise from public, private and government sectors. They were also drawn from an extensive review of practices in other provinces and countries, as well as a broad array of scientific, technical and other studies.
- **New Brunswick Energy Institute.** The province has established an academic-based institute focused on the subject of energy, including oil and gas. This institute is meant to be an independent body for the continuing study and development of advances in the energy sector, including advances in environmental management. A dedicated New Brunswick-based institute will mean having ongoing access to new thinking and practices that are specifically developed with our province in mind.

What is "EIA"? The environmental impact assessment (EIA) process is managed by the Department of Environment and Local Government. Proponents must register details of projects, which are assessed by subject-matter experts from a number of agencies. EIA avoids or reduces environmental risks and impacts to acceptable levels by placing appropriate restrictions or conditions on projects, prior to approval.

A Vision for the Future

The Province of New Brunswick continues to evolve and improve on service delivery to meet its environmental responsibilities. Pursuing the opportunities presented by a developing oil and natural gas sector will require that the province continue to meet these expectations. This can be accomplished through integrated, comprehensive and innovative programs and approaches to managing such development, with a particular focus on strategic water management and responsive air quality monitoring. There is a clear recognition that a sustainable environment is a cornerstone to a productive economy and a healthy society.

Action Items Linked to this Objective

- Strategic Water Management for the Oil and Natural Gas Sector
- Responsive Air Quality Monitoring
- New Brunswick Energy Institute

2. Effective Regulation and Enforcement

Importance to New Brunswick

A regulatory and enforcement framework consists of legislation and regulations, and this framework is supported by policies, practices, rules and standards that can guide activities by a proponent, and decision-making by regulators. This includes structures and processes used to encourage compliance and respond with enforcement measures when necessary. An effective framework for the oil and gas industry in New Brunswick is one that protects the environment, human health and safety, as well as the interests of landowners and other persons who may be affected by industrial operations. An effective framework also provides clear direction and certainty to the oil and gas industry, while allowing for the responsible and efficient development of the province's oil and gas resources. It also informs the public about how the industry is managed, thereby building public confidence. Finally, an effective regulatory and enforcement framework adapts to evolving oil and gas practices and technologies into the future.

Current Status

New Brunswick's oil and gas resources are held in trust by the province, to be managed and developed for the good of all New Brunswickers. In responding to this important responsibility, the province has already developed a variety of programs, policies, operational procedures and legislation over the years that effectively govern and help to manage oil and natural gas exploration and development. As a result, New Brunswick has a proven track record in the management of this sector. *Rules for Industry* is a continuation of this positive trend.

The Department of Energy and Mines, the Department of Environment and Local Government, and WorkSafeNB conduct the majority of the regulatory, inspection and enforcement activities in relation to the oil and gas industry.

Current legislation, including the *Oil and Natural Gas Act*, gives the Department of Energy and Mines regulatory oversight over oil and natural gas land tenure, exploration, drilling and production, and well abandonment. The Department applies and enforces requirements that address the broad spectrum of the oil and natural gas life cycle. In addition, authorization from the Department of Natural Resources is required for the use of Crown lands under its administration and control.

The Department of Environment and Local Government implements a review and approval process to regulate and manage the environmental and social aspects of the construction, operation and decommissioning of oil and natural gas projects and facilities. The *Environmental Impact Assessment Regulation* under the *Clean Environment Act* requires that proponents register projects involving the extraction of oil or natural gas.

Under this requirement, proponents must register projects for an environmental impact assessment prior to initiation of construction of the first well pad. This allows for early review of projects and early identification of potential areas of concern before development takes place. Provincial and federal government departments and agencies examine and comment on each proposal, and proponents must inform the public about their proposal and invite comment. The Department of Environment and Local Government can subsequently require proponents to adhere to conditions, based in part on comments from the technical experts and the public.

The Department also uses its legislative authority under the *Clean Air Act*, *the Clean Water Act*, *the Clean Environment Act* and the *Community Planning Act* to issue various permits and approvals and attach corresponding conditions addressing issues such as emissions, discharges, monitoring and reporting. As the Minister of Environment and Local Government can enforce the conditions issued under these acts and their corresponding regulations, including the *EIA Regulation*, all such conditions carry the weight of law.

WorkSafeNB is responsible for the administration and enforcement of the *Occupational Health and Safety Act* and its regulations. Compliance activities include planned and unplanned site inspections and investigations of serious workplace incidents. Enforcement activities are carried out by Occupational Health and Safety Officers designated by the province. Violations can result in orders being issued to affected parties, suspension of work and prosecutions. WorkSafeNB also has the mandate to promote occupational health and safety through education, training and consultation.

Other regulatory agencies include the Department of Public Safety (security of critical infrastructure, emergency planning and response, and technical reviews under the *Boilers and Pressure Vessels Act*), the Office of the Fire Marshall, the Department of Transportation and Infrastructure (permitting oversize or overmass vehicle movements under the *Motor Vehicle Act*), and the New Brunswick Energy and Utilities Board (regulation of pipelines and natural gas distribution).

Industry and government work cooperatively under the above framework to ensure that oil and gas development is properly regulated, managed and monitored in order to protect public health, safety and the environment.

A Vision for the Future

New Brunswick's current regulatory and enforcement framework will continue to ensure that oil and gas exploration, development and production is well managed. Building upon the current framework, the province will proactively identify areas for further enhancements, to respond to a growing industry and evolving technologies. Oil and gas exploration may lead to an expansion in New Brunswick's oil and gas sector over the next several years. This will be matched by enhancements to ensure that New Brunswick continues to stay ahead of the curve, focused on:

- continuous improvement informed by experience;
- efficient use and coordination of government regulatory resources and activities;
- matching regulatory capabilities and structures to the level of oil and gas activity;
- ensuring that oil and gas resources are developed responsibly and efficiently;
- applying responses that are directly related to the degree of associated risks, while continuing to protect public health, safety and the environment.

Action Items linked to this Objective

- Strategic Water Management for the Oil and Natural Gas Sector
- Responsive Air Quality Monitoring
- Enhancing the Regulatory Framework for the Oil and Natural Gas Sector
- Compliance and Enforcement Strategy
- Alternative Regulatory Agency Models
- New Brunswick Energy Institute

3. Community Relations

Importance to New Brunswick

New Brunswick is committed to building healthy and vibrant communities in support of a strong and prosperous province. Future expansion of the oil and natural gas industry in New Brunswick can bring new jobs and increased royalties and tax revenues to strengthen our economy and provide economic opportunities for New Brunswick communities.

Potential economic development opportunities associated with oil and natural gas development are diverse, and require that strong relationships are built between industry proponents, urban and rural communities. This will enable a proactive approach to business and industrial development, help to identify required infrastructure and labour needs, and provide an effective response by industry to health, safety and environmental concerns.

The province's role is to support such relationships throughout the life of oil and gas projects from exploration, development and production, to final decommissioning of oil and gas wells.

Current Status

Rules for Industry provides for the establishment of liaison committees. For active oil and gas operations, community liaison committees provide a forum to share information on an ongoing basis between the proponent and community members, and to obtain community input and recommendations regarding local safety and environmental issues.

The province is committed to improving engagement with community groups, municipal councils and organizations to keep them informed of the current and future state of oil and gas exploration and development in New Brunswick, and to ensure that the industry is developed in a responsible manner.

A Vision for the Future

One component of The New Brunswick Energy Institute will be a roundtable forum to discuss oil and natural gas development issues, including representation from the environmental community, rural and urban communities, and the public.

Mechanisms will be put in place, with specific requirements, to ensure effective dialogue between communities and proponents at all stages to: (a) to discuss exploration and development plans directly with proponents and to clarify the requirements that proponents must follow; (b) collaborate on common issues; and (c) capitalize on opportunities.

Action Items linked to this Objective

- Ongoing Public Health Engagement
- Dispute Resolution
- Economic Impacts
- Workforce Development Strategy
- New Brunswick Energy Institute

4. First Nations Engagement

Importance to New Brunswick

New Brunswick is committed to working with First Nations in support of a strong and prosperous province. Future expansion of the oil and natural gas industry in New Brunswick can bring new jobs and increased royalties and tax revenues to strengthen our economy and provide economic opportunities for New Brunswick First Nations.

Potential economic development opportunities associated with oil and natural gas development are diverse, and require that strong relationships are built between industry proponents and First Nations. This will enable a proactive approach to business and industrial development, help to identify required infrastructure and labour needs, and provide an effective response by industry to health, safety and environmental concerns.

The province's role is to support such relationships throughout the life of oil and gas projects from exploration, development and production, to final decommissioning of oil and gas wells.

Current Status

The current regulatory framework ensures that First Nations are informed of and are able to comment on proposed oil and gas projects. These requirements work well for the current level of oil and natural gas exploration and development activity.

Under the Environmental Impact Assessment (EIA) process, First Nations are provided with an opportunity to be engaged and provide input prior to oil and gas developments.

The province is committed to improving engagement with First Nations to keep them informed of the current and future state of oil and gas exploration and development in New Brunswick, and to ensure that the industry is developed in a responsible manner.

Duty to Consult. New Brunswick recognizes and affirms the existing Aboriginal and treaty rights of the 15 First Nations in New Brunswick. The province will consult with First Nations when contemplating an action or a

What is the “Duty to Consult”? The duty to consult and where appropriate, accommodate, is based on the common law and the Constitution of Canada, and arises when the Crown contemplates conduct that might adversely impact potential or established Aboriginal or Treaty rights.

decision where proven or asserted Aboriginal and treaty rights are concerned. The objectives of the *New Brunswick Duty to Consult Policy* are to fulfill the Crown’s legal obligation to consult where aboriginal and treaty rights may be affected, balance aboriginal and treaty rights with New Brunswick’s constitutional mandate to manage public lands and resources, and provide opportunities for First Nations input into government decisions that may affect Aboriginal and treaty rights.

A Vision for the Future

Given both the dynamic nature of the industry and the current level of exploration and development, the province is committed to ensuring benefits flowing from increased oil and gas activities will include economic and social opportunities for First Nations. The nature and depth of consultation and engagement with First Nations will evolve as such growth is experienced. At all stages, opportunities will be provided to be informed and input will be sought, in preparation for growth of the industry.

One component of The New Brunswick Energy Institute will be a roundtable forum to discuss oil and natural gas development issues, including representation from First Nations.

Mechanisms will be put in place, with specific requirements, to ensure effective dialogue between Crown, First Nations and proponents at all stages to: (a) to discuss exploration and development plans directly with proponents and to clarify the requirements that proponents must follow; (b) collaborate on common issues; and (c) capitalize on opportunities. New Brunswick will consult with First Nations throughout the development process of the oil and natural gas industry.

Action Items linked to this Objective

- Ongoing Public Health Engagement
- Dispute Resolution
- Economic Impacts
- First Nations Economic Opportunities Plan
- Workforce Development Strategy
- New Brunswick Energy Institute

5. Stability of Supply

Importance to New Brunswick

Access to natural gas has grown in New Brunswick since 2000, with the development of Nova Scotia's Sable Offshore Energy Project (SOEP), the Maritimes and Northeast Pipeline (MNP) and the growth of a general distribution network. There are currently over 12,000 residential, commercial and industrial customers that rely on natural gas.

A stable and secure supply of natural gas is vitally important to current customers. It is also important that natural gas is available for new residential customers and businesses that may locate in our province. For many industries, natural gas is the only viable source of energy. It is an efficient fuel for electric generation plants. It is major feedstock for the production of ammonia for use in fertilizer production. Natural gas can be used to produce hydrogen, in turn used as a feedstock for refineries and the chemical industry. None of these opportunities are viable without a significant, stable, long-term and economical supply of natural gas.

Stability of supply means more than a continuous flow of natural gas. The cost of the gas itself, as well as the cost of transporting and distributing it to the end user, must also be reasonable. The cost of importing gas from remote production areas or from world markets may render the delivered cost uneconomic. Industry investors could seek other regions where gas is more accessible.

In short, a stable supply at a reasonable *delivered* cost will encourage greater adoption by homeowners, institutions and business prospects seeking a destination for investment. The long term benefits are clear: greater diversification of energy choices and better conditions for business investment attraction.

Access to supplies of oil is also of strategic importance to New Brunswick. With the exception a small amount of production in the Stoney Creek field near Moncton, most of the crude feedstock to the Irving Oil Refinery is imported from foreign sources by ship or rail.

Current Status

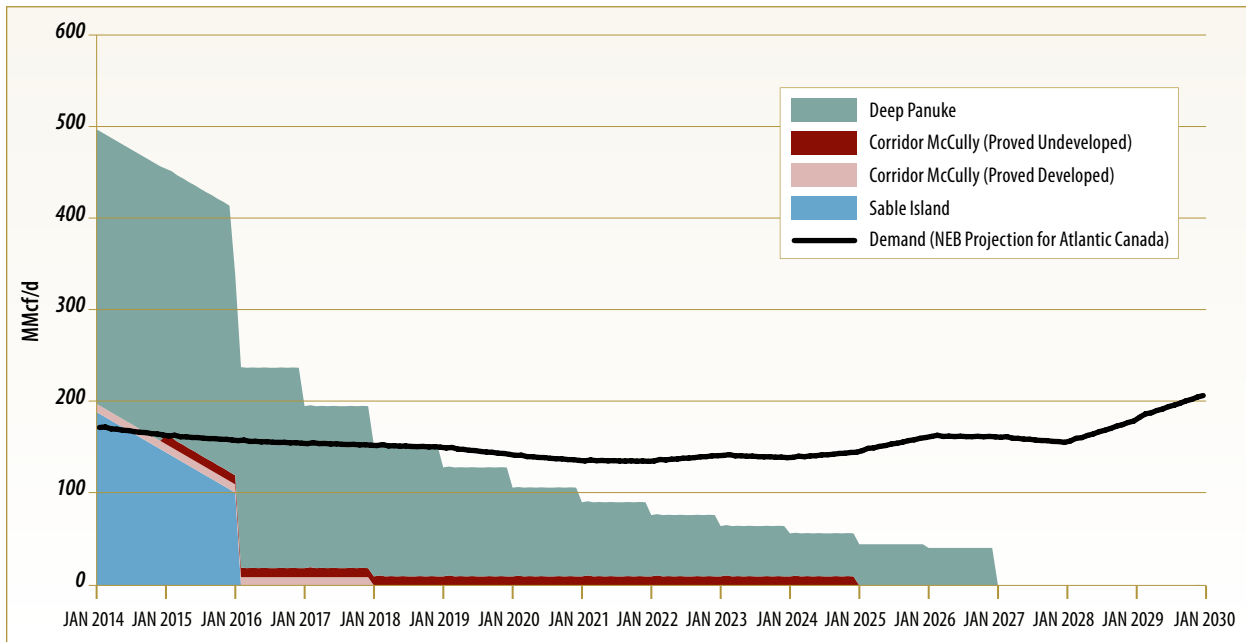
SOEP has been the main source of natural gas for Nova Scotia and New Brunswick. More recent production from the McCully Field near Sussex contributes marginally to this supply. Both projects supply the Maritimes and New England markets. We have reached the point however where most of the supply from these two sources is devoted to demand in the Maritimes. In 2012, total gas consumption in New Brunswick and Nova Scotia represented roughly 90% of the combined production of SOEP and McCully Field. During SOEP production disruptions, demand exceeds supply.

In 2009, the Canaport LNG facility welcomed its first liquefied natural gas (LNG) shipment. It receives LNG from foreign suppliers and sends out natural gas via the Emera Brunswick Pipeline, connected to the MNP in northeastern Maine. Designed as a supply source for the US Northeast, Canaport's capacity would satisfy the Maritime Provinces' demand several times over. LNG prices respond to global markets however, and because of highly elevated North American gas production, demand for higher priced LNG cargoes is very low.

The only other probable regional source of natural gas has not commenced production. Deep Panuke, also a Nova Scotia offshore project, has been under development for several years and is projected to begin production and delivery to the MNP in 2013.

In contrast to the significant growth of supply in the US and western Canada, the supply of natural gas in Atlantic Canada has been declining for several years and SOEP is likely to cease production in the latter half of this decade. Deep Panuke, if it comes online in 2013, is also expected to follow the same general pattern. Meanwhile,

the demand for natural gas in Atlantic Canada will experience modest growth over the longer term, based on National Energy Board projections.



This chart is a simplified model of a potential supply gap between domestic regional supply and demand (it does not predict the timing or extent of supply constraints). In this scenario, additional sources of supply would be required to fill the gap by 2019. There are only two broad choices to fill this gap: (a) import natural gas from foreign sources (as LNG or by pipeline from the US) or (b) find and develop new domestic sources of natural gas.

Imported Sources: There are two import avenues. Canaport could serve our region, but at a delivered price that competes with high global LNG prices. Imports from shale gas rich areas in the US are constrained by current pipeline capacity bottlenecks south of Boston. Costly pipeline additions and enhancements on both sides of the border may be required for flow capacity into New Brunswick. If these challenges can be overcome, supply would come at a high delivered cost, due to transmission tolls.

Domestic Sources: New production in eastern Canada has yet to be determined. New Brunswick has a very large shale gas resource estimate which could amount to approximately 15 trillion cubic feet of recoverable natural gas. To put that into perspective, at current levels of New Brunswick residential, commercial and industrial demand for natural gas, this would equate to a 350 year supply. This estimate does not include the potential from areas currently being explored. Fully developed, New Brunswick would be a dominant source of supply to the Maritime Provinces and a major exporter.

A Vision for the Future

The potential of significant, sustained sources of natural gas from New Brunswick are attractive alternatives to imports over the long term. If the known potential were to be fully realized and developed in a responsible manner, the outcomes for New Brunswick could extend far beyond lower delivered costs to consumers, higher royalty and tax revenues, and increased direct and indirect employment.

Perhaps the most significant potential outcome of a stable domestic supply of natural gas is the attraction of industries that seek to locate where economic, long term supply of natural gas is assured. These include industries such as electric generation and fertilizer plants. It could also include the conversion of the Canaport

LNG terminal to an export facility, *taking advantage of high global LNG prices*. There are no guarantees, but without a source of domestic supply, such a project would be unlikely.

A vision for the future is based on the scenario outlined above: The “supply gap” would be filled with natural gas from New Brunswick, not imported natural gas, available at competitive delivered prices. The level of development would be sufficient to attract investors to locate in New Brunswick. Residential and commercial customers would benefit from the security of knowing that natural gas is sourced locally. Domestic supply will contribute to price stability.

Action Items linked to this Objective

- New Brunswick Energy Institute
- Regional Natural Gas Supply Planning
- Offshore Oil and Natural Gas Opportunities

6. Economic Development

Importance to New Brunswick

Economic development is critical to the long-term health and sustainability of any economy. Sustainable growth means that society is prospering, enjoying an improved standard of living, and that governments are better able to provide needed services to the population.

Natural resource-based industries are at the heart of New Brunswick’s economy. While traditional industries continue to play a key role, emerging areas of resource development provide additional opportunities. If New Brunswick has a viable oil and gas resource, it will provide our province with an additional driver of economic growth.

Provinces and territories with developed energy resources have typically experienced strong economic growth over the years. Economic development begins with private sector investment. This yields economic impacts (often called “multiplier effects”) on the economy on three levels:⁴

- Direct impacts are directly attributable to revenues generated by the construction of, and production from, energy related infrastructure.
- Indirect impacts are “spin-off” effects from the supply-chain that contributes to construction and operations, such as commercial fuel purchases, site catering services, etc.
- Induced impacts come from the fact that people employed by the primary and supporting industries use much of their earnings locally to purchase groceries, buy or rent homes, attend movies and other household spending.

Oil and gas exploration and development has potential impacts beyond those that are directly linked. A thriving oil and gas sector can attract other industries, particularly those requiring a plentiful and secure gas supply, when linked with location advantages such as transportation infrastructure, port facilities and proximity to markets.

One example is the liquefaction and export of LNG. It requires large quantities of natural gas and represents a large capital investment and significant employment for both construction and ongoing operations. A single

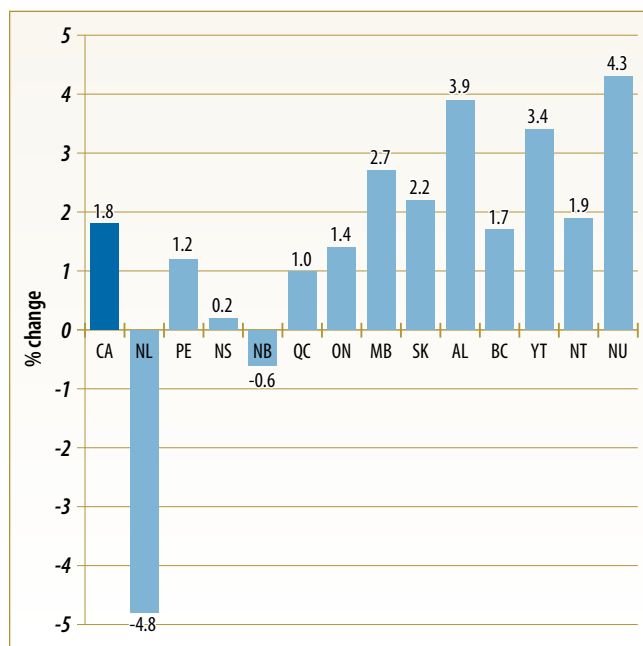
4 Conference Board of Canada: *The Role of Natural Gas in Powering Canada’s Economy* (December 2012), p. 23.

plant to convert natural gas to LNG is estimated to represent up to \$4.5 billion in capital investment.⁵ Canaport LNG has been cited as an excellent prospect for re-purposing; it already has significant LNG storage capacity and a marine facility. Such investments also yield their own direct, indirect and induced impacts on the regional economy, thus making their own contributions to growth.

A Conference Board of Canada report contains a cross-Canada estimate and analysis of natural gas investments and their economic impacts over the period 2012-2035. In its study, a total estimated investment of \$386 billion (mainly concentrated in Alberta and British Columbia) would yield \$364 billion to Canada's GDP and an average of 131,460 jobs annually. Beyond that, natural gas production would contribute another \$576 billion to the economy and support 129,000 jobs per year.⁶

There is a clear link between the development of an oil and natural gas policy for New Brunswick and the key objective of sustainable economic development. This potential cannot be accurately estimated however, until exploration activities reveal the true extent and nature of our gas resources and whether they can be developed economically. The development of our primary oil and gas resources offers an opportunity for economic growth in a challenging economic climate.

Current Status



The New Brunswick economy has traditionally been based on commodities associated with the energy, forest, mining, fishing and agriculture industries. However, we cannot solely rely upon these traditional drivers of economic growth in the future.

New Brunswick's recent economic and fiscal situation has been challenging, with below average economic growth in recent years. Our unemployment rate was 10.2% in 2012⁷ and fiscal deficits are expected to continue in the near term. New Brunswick's economic prospects are also challenged by an ageing, slow-growth population.

The chart⁸ showing 2012 real GDP growth in Canada demonstrates that most provinces with strong resource sectors, such as Saskatchewan,

Alberta and British Columbia, had strong economies for that year. Estimates and forecasts for 2013 indicate the same general trend.⁹

5 Conference Board of Canada, *The Role of Natural Gas in Powering Canada's Economy* (December 2012), p. 12.

6 *Ibid.*, p. 22.

7 Statistics Canada Cansim table 282-0001.

8 Statistics Canada, as released in *The Daily*, Friday, April 26, 2013.

9 TD Economics, *Provincial Economic Forecasts*, December 19, 2012.

A Vision for the Future

A stable economy means well-diversified development that lasts beyond a boom and bust cycle and growth that is reasonably paced and sustained over many years. Although oil and gas resources are finite, jurisdictions around the world have enjoyed several decades of prosperity based on such resources. It is critical that we investigate our potential in New Brunswick.

Our vision for the future therefore begins with ensuring that exploration activities proceed in a safe and responsible manner, leading to a determination of the extent and nature of our oil and gas resources, and in turn to an estimation of the economic potential of developing those resources.

The economic potential is based on activities both directly linked to oil and gas development and on the potential to grow complementary industries in New Brunswick, making their own economic contributions. This would also result in higher provincial revenues through royalties, income taxes and property taxes.

A stronger economic and fiscal picture for New Brunswick is therefore important to the province's plan for oil and gas development, not for the sake of improved statistics, but for enhancing our way of life in a balanced way. A vision for economic development includes a network of vibrant communities, thriving businesses and employment opportunities. Economic growth would help to expand our population base by retaining and attracting young people and families to our province. A strong oil and gas sector would play a key role in a strong and diversified New Brunswick economy.

Action Items linked to this Objective

- Oil and Gas Royalties
- Royalty Revenue Sharing
- Economic Impacts
- First Nations Economic Opportunities Plan
- Economic Development and Investment Attraction
- Workforce Development Strategy

Action Items

Responsible Management of the Industry

1. Strategic Water Management for the Oil and Natural Gas Sector

The Province of New Brunswick will ensure that water management and protection measures keep pace with oil and natural gas development.

The Department of Environment and Local Government will focus on four key areas:

- Water monitoring
- Water use in exploration and extraction
- Wastewater treatment
- Water-related public information

The province recognizes that water management and protection extends beyond the oil and gas industry. The Department of Environment and Local Government will undertake the development of a comprehensive Water Management Strategy for New Brunswick.

Details of the province's action areas are as follows:

Water monitoring. Water quality monitoring and reporting are key requirements of individual oil and gas projects throughout the various phases of development. The province maintains a program of water quality monitoring in locations across the province. This helps establish baseline information about the state of both surface and ground water and influences decision-making in relation to development and other activities. An appropriate water monitoring program is in place for the current level of oil and gas development. Should the industry expand in New Brunswick, monitoring capabilities will be expanded to meet corresponding needs.

To address this potential, the province will conduct an assessment of water monitoring needs and capabilities. This will involve comparing current monitoring capabilities to any future scale of oil and gas development, including the prospective locations for further development, and types of monitoring required for surface and ground water. This assessment will also consider technology or other advancements which may enhance monitoring capabilities, both as part of the existing monitoring network, or any future expanded network.

Water use in exploration and extraction. Through conditions issued under the *EIA Regulation* and other legislation, oil and gas operators will be required to have an approved Water Management Plan for the withdrawal or use of water from any water source. An annual plan will be required for operations lasting more than one year and must include contingencies for alternative water sourcing should intended water supply sources become unavailable.

In preparing a water management plan, all potential sources of water must be investigated. The province has identified potential sources of water, listed below (from most to least preferred):

- treated/recycled wastewater from municipal or industrial sources;
- ocean water;
- non-potable groundwater water (e.g. from deep, saline aquifers);
- dugouts or catchments or other man-made features that capture run-off or rainwater;
- lakes or watercourses (including municipal water supplies drawn from lakes, watercourses or impoundments);
- potable groundwater (including municipal water supplies drawn from groundwater).

To ensure continuing protection of New Brunswick's water sources, including sustainable water quantity needs, the province will facilitate the further assessment and any required modification to this hierarchy of water use options as the oil and gas industry is established.

Wastewater treatment. In managing wastewater resulting from oil and gas activities, oil and natural gas proponents are provided with options for appropriate re-use or disposal, all of which must be outlined by industry as part of a Waste Management Plan for approval by the province. These requirements are appropriate for the current level of oil and gas development.

To meet any potential expansion, the province will assess wastewater treatment options developed by proponents to manage any larger quantities of wastewater, as well as other containment and disposal options within or outside of the province. This assessment will include an examination of appropriate effluent discharge standards and an evaluation of proposed wastewater treatment methods. The assessment will also include emerging wastewater management processes, containment systems, or disposal options, as well as those used in other jurisdictions. Any new or expanded facility would be required to undergo an environmental impact assessment. The New Brunswick Energy Institute can play a role in identifying wastewater treatment options suitable for New Brunswick.

Water-related public information. As companies explore the potential for an oil and gas industry in New Brunswick, a series of rules have been developed to guide oil and gas activities in a way that respects people, property and our province's environment. The province recognizes that most people are not familiar with the processes involved in oil and gas development and the technical terms used to describe these processes and protection measures.

To address this need, the province will develop an overview to summarize the key rules that will guide the oil and natural gas industry in managing and protecting water. This overview will provide an easily understood description of industry practices and the water protection rules that guide them, and will be available online and in printed form. This will be accomplished in 2013.

Key Objectives serviced by these Actions

- Environmental Responsibility
- Effective Regulation and Enforcement
- Community Relations
- First Nations Engagement
- Sustainable Economic Development

2. Responsive Air Quality Monitoring

The Province of New Brunswick will continue to monitor air quality and ensure that current air monitoring network and activities keep pace with any growth in the oil and gas sector.

The Department of Environment and Local Government (DELG) operates a comprehensive provincial air quality monitoring network. Ambient background data and data from existing emitters are collected continuously across the province. For example, DELG operates a monitoring station in Norton, close to the McCully gas field. The network will be enhanced, as required, in response to any growth in this sector.

Future network enhancements may include: a) adding to the 16 stations currently operated by DELG; b) new equipment to expand monitoring parameters; c) adding to the 26 stations currently operated by various industries; and d) upgrading the existing mobile air quality lab to investigate emergent air quality issues.

To inform these enhancements, DELG is currently undertaking an air quality monitoring study in partnership with Health Canada to better understand the potential air quality impacts from shale gas development in New Brunswick. This will examine baseline “pre-development” conditions, and monitor subsequent emissions from hydraulic fracturing, routine well operations, gas plant operations, and decommissioned wells. Any required enhancements to New Brunswick’s air quality monitoring network could be implemented in time for any significant increase in oil and gas development.

In preparing for this study, DELG has already begun the process of enhancing its air quality monitoring, by acquiring the capacity to monitor ambient methane levels and deviations from background levels, on a continuous basis. Efforts are also underway to expand DELG’s capacity to monitor volatile organic compounds (VOCs) in real time, instead of shipping samples for later laboratory analysis. This equipment can be redeployed to enhance the network as required once the study is complete.

Key Objectives served by these Actions

- Environmental Responsibility
- Effective Regulation and Enforcement

3. Enhancing the Regulatory Framework for the Oil and Natural Gas Sector

The Province of New Brunswick will continue to enhance the regulatory framework applicable to the exploration and production of oil and natural gas.

There is an effective regulatory framework already in place for New Brunswick’s existing state of oil and gas exploration and development. *Rules for Industry* provide a source of additional guidance to provincial departments in setting requirements for industry. They were developed primarily to address extraction technologies for unconventional oil and natural gas resources.

The Department of Energy and Mines is also updating additional oil and gas technical standards which will be completed in 2013. The consolidation of rules and standards with existing legislation and regulations will provide a revised framework to manage the level of oil and natural gas exploration and production that could occur in the foreseeable future. This will allow a determination of the extent of hydrocarbon resources in

New Brunswick and the economic feasibility of extraction. This new regulatory framework will also serve as a foundation for additional enhancements that may be required over the longer term.

The Department of Environment and Local Government will continue to fully use existing legislation and other environmental tools in managing the oil and gas industry. Such legislation allows for the application of new and enhanced protection and mitigation measures as they emerge.

The principle of continuous improvement will continue to guide the province's actions. Enhancements will be timed to anticipate any expansion of the oil and gas sector and will be based on progressive learning and experience in New Brunswick and elsewhere. This may include measures such as additional training and certification requirements for oil and gas companies, and increasing public accessibility to information about specific projects.

This knowledge base will include data from monitoring activities in the province and independently sourced knowledge developed by a newly created New Brunswick Energy Institute. In addition, the province will seek to make monitoring data publicly available, and will foster partnerships with the federal government, First Nations, non-governmental organizations and industry to conduct additional research and monitoring.

Taken together, the knowledge gained from all sources will guide the on-going management of oil and gas activities in New Brunswick, allow the province to validate the effectiveness of its regulatory framework, and inform further enhancements.

Key Objectives Served by this Action Item

- Environmental Responsibility
- Effective Regulation and Enforcement

4. Compliance and Enforcement Strategy

The Province of New Brunswick will release a Compliance and Enforcement Strategy for the oil and natural gas sector.

New Brunswick has a proven track record in achieving compliance and undertaking enforcement measures as part of its management of industrial activities. The oil and gas sector is no exception. The province works with industry to ensure that industrial development is properly regulated, managed and monitored in order to protect workers, the public and the environment. Responsibilities for inspection and enforcement are shared among a number of departments and agencies including the Department of Environment and Local Government, the Department of Energy and Mines, WorkSafeNB, the Department of Public Safety, and the Office of the Fire Marshall.

The Compliance and Enforcement Strategy will lay out an effective, efficient and transparent process to ensure compliance with New Brunswick's requirements for oil and gas activities. The strategy will be phased in as needed, according to the future pace and scale of oil and gas activities, with additional resources being added as required to keep pace with the industry's growth. It will describe steps that the province will take to monitor oil and gas activities for compliance, and to enforce New Brunswick laws. It will also set out a method of evaluating

the effectiveness of the province's enforcement activities to support continuous improvement. The strategy will be formulated by all relevant departments and agencies and will be implemented in 2013.

The strategy will include:

- a coordinated approach to inspection and enforcement;
- continuing to provide knowledgeable, trained inspection staff;
- enhancing information management systems;
- identifying a risk based process to determine inspection priorities;
- processes to improve communications with industry and the public regarding expectations and results;
- improving performance objectives and measuring the success of inspection and enforcement;
- continuing to ensure appropriate penalties for non-compliance; and
- continuing to provide sufficient resources to manage the program, scaled to a growing industry.

Key Objectives Served by this Action Item

- Environmental Responsibility
- Effective Regulation and Enforcement

5. Alternative Regulatory Agency Models

The Province of New Brunswick will study regulatory agency models that may be appropriate for a future expanded oil and natural gas sector.

A regulatory agency model determines the roles and relationships of government departments and agencies in fulfilling government responsibilities, particularly in relation to approving and monitoring industrial activity, providing direction and oversight, responding to issues and events, and enforcing government requirements. For the oil and natural gas sector, these activities engage multi-disciplinary skills and resources from across government.

In a process led by the Department of Environment and Local Government, New Brunswick currently implements interdepartmental reviews of proposed oil and gas projects under the *Environmental Impact Assessment Regulation*. This allows experts from several key departments and agencies, including the federal government, to review projects and contribute their comments through a single project manager. Similar multi-departmental coordination has enabled the development of *Rules for Industry*.

The 2012 merger of the former Department of Energy with elements of the Department of Natural Resources to create the new Department of Energy and Mines further enhances the province's ability to manage oil and natural gas. Strategic issues such as energy security and infrastructure are now managed by the same department that is responsible for operational functions such as management of petroleum resources and collecting geoscience information.

As outlined in the Key Objectives section, the Department of Energy and Mines and the Department of Environment and Local Government are two key regulatory agencies currently managing oil and natural gas activities in New Brunswick, working under different legislated mandates. As described above, this interdepartmental model is well-coordinated and will continue to meet New Brunswick's needs for the foreseeable future. Should the level of activity increase significantly in the longer term, alternative future models for the coordination of provincial oversight might be more responsive, efficient and effective.

For this reason, during 2013 and early 2014, the province will examine its current structures and study alternative institutional models that are employed in jurisdictions with high levels of oil and natural gas activity. The province will then consider models that may be appropriate for New Brunswick, if and when needed. Any decision to implement a new model would reflect the future scale of oil and gas exploration and development.

Key Objectives Served by this Action Item

- Environmental Responsibility
- Effective Regulation and Enforcement

Addressing Community Concerns and Needs

6. Ongoing Public Health Engagement

The Province of New Brunswick will ensure ongoing consideration of issues associated with public health and its social determinants during the development of an oil and natural gas industry.

Safeguarding the health of populations is a key responsibility of the province in relation to the oversight and development of our resources. Legislative responsibility for this is distributed among several departments. Population health-focused perspectives must help shape a variety of policies and strategies governing oil and natural gas development, grounded in scientific knowledge and in liaison with other jurisdictions.

Both the LaPierre and Cleary Reports made recommendations regarding potential health risks associated with oil and natural gas exploration and development, partly in order to assist mitigation options. Each also made recommendations which would affect environmental impact assessment processes, and directions for ongoing scientific review of environment and health literature.^{10,11}

The Department of Health will work with other key government departments, agencies and others to ensure ongoing consideration of issues associated with public health and its social determinants over the life span of an oil and natural gas industry.

Some anticipated elements of the approach include:

- The Department of Health will work with Environment and Local Government on assessment measures in their registration process.

10 Dr. Louis LaPierre, *The Path Forward* (October 2012, pp. 21 & 29).

11 Office of the Chief Medical Officer of Health (NB), *Recommendations Concerning Shale Gas Development in New Brunswick* (September, 2012), p. 58.

- The Department of Health will monitor the evolving research on health impacts of natural gas development and will share this information with relevant departments. The Department will also facilitate research and information dissemination as appropriate.
- The Department of Health will provide input on measures to monitor environmental and socioeconomic impacts of shale gas development, and continued input on analysis of those measures.

Key Objectives Served by this Action Item

- Environmental Responsibility
- Effective Regulation and Enforcement
- Community Relations
- First Nations Engagement

7. Dispute Resolution

The Province of New Brunswick will assess and implement effective and appropriate mechanisms for resolving disputes or claims arising from oil and natural gas activities.

Industrial activity brings the potential that persons or property may be affected in ways that give rise to a claim for remediation or compensation. Potential claims can relate to the use and enjoyment of land, health related issues, lease disputes, property damage, water, or other matters. The monetary value of claims can be relatively insignificant or very large. Oil and natural gas activities are not immune to such claims.

With such a variety in scope and scale of potential disputes, a single resolution mechanism may or may not be a wise solution. In any case, a dispute resolution system must be designed so that disputes can be avoided or resolved fairly, efficiently, and without unnecessary costs or delays. In cases where fault is attributed, the responsible party must be accountable for the appropriate remedy or compensation. There are several aspects that should be examined in the assessment and implementation of a dispute resolution model.

Information. Claims can often be avoided or mitigated if persons are forearmed with information concerning their rights and remedies. In cases where a dispute cannot be avoided, information about how to pursue a claim can assist and reassure claimants that there is a clear path to timely resolution. For example, knowing about rights in relation to leasing land for resource development may avoid misunderstandings prior to granting access to land, avoiding disputes that could otherwise arise. Information about industry requirements such as setbacks, well water testing, vehicle restrictions and noise limits would assist local residents to identify thresholds for making claims.

Advocacy. Claimants often require assistance to validate and advance a claim, negotiate a settlement, or present evidence and submissions. Lawyers typically fulfill this function in court or arbitration cases, particularly when the stakes are high. Although a successful claimant may be compensated for legal fees, advancing a claim against a company with its own legal resources can be daunting. There are some models that may assist claimants, at least with the initial preparation, negotiation or mediation of a claim. These include the role of an industry ombudsman or public advocate.

Mediation Tools. There are many forms of mediation or alternative dispute resolution models that have as their objective the resolution of disputes through principled negotiations, typically with the assistance of

an independent facilitator. This process will often enable the disputing parties to clearly identify issues and positions and arrive at a mutually acceptable solution, without resorting to adjudication.

Adjudication Bodies and Process. An adjudicator is an impartial person or panel that has the legal authority to consider evidence, rule on matters of fact and law, and decide the outcome of claims, including the measure of compensation and costs to be awarded, if any. The New Brunswick judiciary responds to all types of legal disputes, applying laws and procedures that have evolved over centuries. There are however, alternative models that may provide less costly and expedited avenues to resolve disputes. Parties may agree in advance to submit the claim to a less formal arbitration process. Legislation may vest an ombudsman, commissioner or regulatory tribunal with the power to decide disputes and award damages in specific types of cases. In almost all models, there is an appeal process if a party believes that the primary adjudicator made an error in arriving at a decision.

Enforcement. A successful claim is of little value without a remedy. Court and arbitration awards, for example, are enforceable through processes outlined by legislation and regulation. Any dispute resolution model must therefore include enforcement capacity in order to be truly effective.

In *Rules for Industry*, the province outlined a dispute resolution process in cases involving damage to a water supply. Under this model, the province will, in defined cases, pay the costs of water remediation and pursue reimbursement against the oil or gas operator, avoiding any burden on the landowner to do so.

The elements of this Action Item will therefore include:

- The development, publication and distribution, in 2013, of a public information package covering landowner rights, what to consider before conveying lease rights, and what to do in the event of a dispute or claim.
- A review, in 2013 and early 2014, of current and potential dispute resolution models for the oil and natural gas sector.
- Following a review, the implementation of appropriate mechanisms to ensure that potential claims are resolved fairly, efficiently, effectively and with a minimum of delay. These mechanisms will apply to: (a) the above process for reimbursement of damage to a water supply; and (b) potential claims beyond water supply issues.

The Department of Energy and Mines will work with the Department of Environment and Local Government and the Department of Justice and Attorney General to accomplish these plans.

Key Objectives Served by this Action Item

- Environmental Responsibility
- Effective Regulation and Enforcement

Optimizing Economic Benefits

8. Oil and Gas Royalties

The Province of New Brunswick will establish an oil and natural gas royalty regime which ensures a fair return to the Crown, while encouraging investment in this sector.

A key aspect of managing oil and natural gas development is ensuring that the province secures a fair return to New Brunswickers for our resources. A royalty regime must ensure that this return is fair and reasonable, while at the same time being sufficiently attractive to potential investors in the development of our resources. New Brunswick is one of many North American jurisdictions in which developers may choose to make exploration and development investments. Without these private sector investments, there would be no royalty revenues or other economic benefits.

A royalty regime includes compensation rates for resource extraction, as well as a collection and auditing framework for revenues. Taken together with our potentially rich and viable oil and gas resources, a balanced royalty regime has the potential to position New Brunswick as an attractive place to make investments.

The Province of New Brunswick will therefore develop a comprehensive royalty regime which:

- ensures a fair return to the Crown for the province's oil and natural gas resources;
- is competitive with royalty regimes in other jurisdictions; and
- provides effective tools for the collection and auditing of royalties.

Key Objectives served by this Action Item

- Effective Regulation and Enforcement
- Stability of Supply
- Economic Development

9. Royalty Revenue Sharing

The Province of New Brunswick will continue to review potential royalty sharing models.

In 2011, the province announced a commitment to develop a revenue-sharing formula in relation to oil and natural gas royalties. A potential model for sharing of royalties was published in May 2012 in a document entitled *Sharing of Royalty Revenues from Natural Gas Activities in New Brunswick*. Although comments and discussion followed, further dialogue and consideration would provide for a more comprehensive foundation upon which to establish a policy.

The province will continue to explore potential revenue sharing models, including those set out in the 2012 discussion paper, with a recommendation in 2014. Issues such as fairness to all New Brunswickers, levels of sharing, and achieving optimal economic and social benefits will be considered.

Key Objectives Served by this Action Item

- Economic Development
- Community Relations
- First Nations Engagement

10. Economic Impacts

The Province of New Brunswick will work with the New Brunswick Energy Institute to identify economic impacts from developing oil and natural gas resources.

Oil and natural gas development makes a significant contribution to the Canadian economy. As detailed in the *Key Objectives* of this document, the Conference Board of Canada recently estimated significant economic and employment benefits from planned or probable natural gas developments over the next two decades.

New Brunswick could increase its share of this opportunity, far beyond the benefits from the current level of oil and gas development. That depends on a number of factors. Exploration will help to determine the size of our resource base and known reserves. If there is a significant viable oil and natural gas resource in New Brunswick, we must be prepared to optimize the economic benefits to New Brunswick.

As a first step, effective economic analytical tools are needed to estimate the actual and potential economic

The surge in unconventional gas production will be especially beneficial to manufacturers... in energy terms, natural gas is nearly 12 times cheaper than crude oil.

(The New Power, RBC Capital Markets, with The Economist, February 2013)

potential of an expanded oil and natural gas industry. These tools will be developed over time by the New Brunswick Energy Institute, in collaboration with the Province of New Brunswick. This will provide regular assessments of projected and actual economic impacts of oil and gas developments in the province. Input from government departments, New Brunswick educational institutions, the federal government, industry and other sources will identify analytical requirements and limitations.

These analytical tools will have the capacity to track, monitor, forecast and report on potential oil and gas economic impacts in New Brunswick. This will enable an analysis of how oil and gas development yields economic benefits that are unique to our province on a provincial, regional and local basis. It will also assist the province and entrepreneurs to develop a business case to further develop the oil and gas sector and to take advantage of supply chain opportunities. Finally, economic impacts tools will help to plan for the development of education and information initiatives relative to these opportunities.

Key Objectives Served by this Action Item

- Economic Development
- Community Relations
- First Nations Engagement

11. First Nations Economic Opportunities Plan

The Province of New Brunswick will collaborate with industry and First Nations communities to maximize First Nations opportunities in the oil and gas sector.

The Province of New Brunswick is committed to the participation of First Nations businesses and individuals in the New Brunswick resource economy. The enhancement of relationships between First Nations, industry and government is a necessary next step to ensure that opportunities arising from the development of our

natural resources can be identified and acted upon. Regular engagement and reliable information exchange will highlight solid business opportunities for First Nations interested in benefiting from the development of this industry over time.

There are three components of this Action Item:

- 1. First Nations capacity in the oil and gas sector.** Successful development of an oil and gas sector in New Brunswick can only happen if the province and industry are prepared to invest in building capacity within communities. The First Nations population in our province is young and growing, with strong, skilled leadership. This combination of youth and skilled leadership will position First Nations to take advantage of benefits flowing from industry activity. Developing the capacity to analyze and assess project proposals will provide First Nations with valuable skills and expertise. This will, in turn, help provide valuable input into the growth of this sector in the province. Investing in First Nations training and employment programs will benefit both Aboriginal people and proponents. The province will work with First Nations and project proponents to identify funds for capacity-building.
- 2. Proponent guide to First Nations engagement.** A proponent guide will assist industry in better understanding the requirements for engagement with First Nations in New Brunswick. Although the Duty to Consult ultimately resides with the Crown, procedural aspects of consultation may be assigned or delegated to proponents. A proponent guide will be developed in 2013 and will outline requirements for exploration and development in areas that may impact on Aboriginal and treaty rights.
- 3. Collaborative industry-First Nations economic development.** The province will leverage existing mechanisms to create an effective framework in 2013 for collaborative industry-First Nations economic development. The framework will clarify expectations and provide direction for all parties involved in resource projects. It will include direct relationship-building with First Nations, ensuring that all parties benefit from productive, long-term relationships.

Key Objectives Served by this Action Item

- First Nations Engagement
- Economic Development

12. Economic Development and Investment Attraction

The Province of New Brunswick will maximize the economic development and investment attraction opportunities associated with New Brunswick's oil and natural gas industry.

The New Brunswick oil and natural gas sector is comprised of a wide range of industrial and commercial activities, including refining, natural gas production, transmission and distribution, electricity generation from natural gas, petroleum retail, and related administration and transportation activities. The sector is an important contributor to New Brunswick's economy. It provides direct employment for an estimated 7,500 New Brunswickers in a wide range of retail, administrative, professional, technical and engineering occupations.

The Irving Oil Refinery in Saint John is a strong competitor in regional markets. The refinery, Canada's largest, has a capacity of 300,000 barrels per day and accounts for about 64% of Canada's petroleum exports to the United States. This generates over \$10 billion in annual energy exports from our province. The Canaport LNG terminal, also in Saint John, can deliver up to one billion cubic feet per day of natural gas into the international northeast market.

The oil and natural gas industry is characterized by large-scale capital investments, often occurring in rural areas. This can act as a catalyst for local and regional economic development, leading to higher incomes, population growth, improved local infrastructure and higher level workforce skills. In many cases, the industry supports a significant economic regeneration of communities and entire regions. Benefits can also accrue to existing local suppliers through procurement opportunities or the establishment of new lines of business.

Increased oil and gas development in New Brunswick would provide a wide range of new economic development benefits to the province, including improved supply chain activities, stable energy prices, industrial development, and investment and growth opportunities for all sizes of existing business.

New Brunswick is also well positioned, because of its energy infrastructure, location advantages and access to export markets, to serve as a strategic east coast export terminal for crude oil, refined petroleum products and natural gas. Canadian oil and natural gas producers are particularly focused on developing new markets for our country's energy resources in the rapidly expanding economies of the Asia Pacific region. New Brunswick has year-round, ice-free access to some of these emerging markets, via shorter shipping routes than many other North American ports.

Future access to new domestic sources of natural gas will benefit our province's efforts to retain and attract new investments in energy-intensive manufacturing industries, a key competitive issue relative to other North American jurisdictions with access to local natural gas sources.

The province will pursue new economic development and investment attraction opportunities associated with the development of our oil and natural gas resources by focusing on three key areas:

- **Supply Chain Development**

- Identify domestic and global oil and natural gas supply chain opportunities.
- Complete an assessment of New Brunswick supplier capabilities.
- Enhance capabilities within New Brunswick firms.
- Maximize New Brunswick content in the oil and natural gas sector.

- **Innovation & Trade**

- Identify and develop competitive advantages in the oil and natural gas sector through research.
- Support innovation in the oil and natural gas sector and supporting industries.
- Enhance capabilities and best practices in sectors that support the oil and natural gas sector.
- Assist New Brunswick-based firms export oil and natural gas-related products and services.

- **Investment Attraction**

- Encourage responsible oil and natural gas exploration and development activities in New Brunswick.
- Support industry efforts to establish a new Canadian west-to-east crude oil pipeline terminating in Saint John.
- Work with industry to create a ten year investment attraction vision for the province's oil and natural gas sector, including a focus on energy-related infrastructure projects and value-added energy processing and export opportunities.
- Introduce new industrial investment attraction strategies to fully leverage the emergence of natural gas development in the province.

These actions will be co-led by the Department of Economic Development, Invest NB and the Department of Energy and Mines, in partnership with other public and private sector stakeholders.

Key Objectives Served by this Action Item

- Economic Development
- Community Relations
- First Nations Engagement
- Stability of Supply

13. Workforce Development Strategy

The Province of New Brunswick will create a workforce development, attraction and retention strategies to support a growing oil and natural gas sector.

The availability of a trained workforce is a key factor in attracting any industry. Enhancing New Brunswick's ability to develop or attract "in-house" workforce skills and trades relevant to the oil and gas sector will allow the province to be competitive with other jurisdictions when it comes to investment attraction. There may be opportunities in many employment areas, such as pipeline construction and maintenance, refinery and gas plant operations and drilling operations. Other opportunity areas directly or indirectly related to oil and gas development would also result from an expanding economy, such as general construction trades, heavy equipment operation and hospitality.

A workforce strategy for the oil and gas sector will support a phased expansion of the industry and will include several initiatives of the Department of Post-Secondary Education, Training and Labour, such as:

- building awareness about career and employment opportunities for grades 9-12 and post-secondary students;
- streamlining the apprenticeship program;
- identifying how repatriation and immigration initiatives can support its workforce needs; and
- increasing support for early stage co-op initiatives.

Key Objectives Served by this Action Item

- Economic Development
- Community Relations
- First Nations Engagement

Informing Future Directions

14. New Brunswick Energy Institute

The Province of New Brunswick will create the New Brunswick Energy Institute, to facilitate independent research in relation to oil and natural gas exploration and development.

The province has adopted the recommendation of Dr. Louis LaPierre to create an energy institute as an independent body to provide research and monitoring in support of gas exploration and production.¹² The New Brunswick Energy Institute will be in place in the spring of 2013. This independent body will involve the research capacity of our major universities.

While chairing citizen engagement meetings across the province in 2012, Dr. LaPierre noted a state of confusion due to conflicting information about the oil and natural gas industry. New Brunswickers need factual, science-based and unbiased information pertaining to the energy sector. The New Brunswick Energy Institute will provide information through relevant research and monitoring activities pertaining to the energy sector, including oil and natural gas activities in a New Brunswick context.

As an advisory body to the Province of New Brunswick, The New Brunswick Energy Institute will study emerging issues and technologies and review, assess and inform the public on the environmental, social, economic and health issues relating to energy projects.

The New Brunswick Energy Institute will operate with a Chair and a small support staff. The Chair will be appointed for a three year term and will be responsible for its direction.

The New Brunswick Energy Institute will have three components:

A Scientific Advisory Council will determine the scientific and overall direction of the institute and oversee the conduct of research and monitoring projects in the areas of engineering, environmental sciences, social sciences, economics and industrial health. Members of the Scientific Advisory Council will be appointed for terms of up to three years.

An Energy Roundtable will be an ongoing forum to discuss major issues associated with energy developments, including the oil and natural gas sector. It will consist of representatives from New Brunswick First Nations, the energy sector, business, the environmental community, rural and urban communities, provincial government departments, and the public. Members of the Energy Roundtable will be appointed for terms of up to three years.

The **Effects Research Program** will involve current research capacity within the four provincial universities and will undertake research and monitoring initiatives identified and approved by the Scientific Advisory Council and the Energy Roundtable. External university involvement will also be sought, as deemed relevant to specific issues.

Key Objectives Served by this Action Item

- Environmental Responsibility
- Community Relations
- First Nations Engagement
- Economic Development
- Stability of Supply
- Effective Regulation and Enforcement

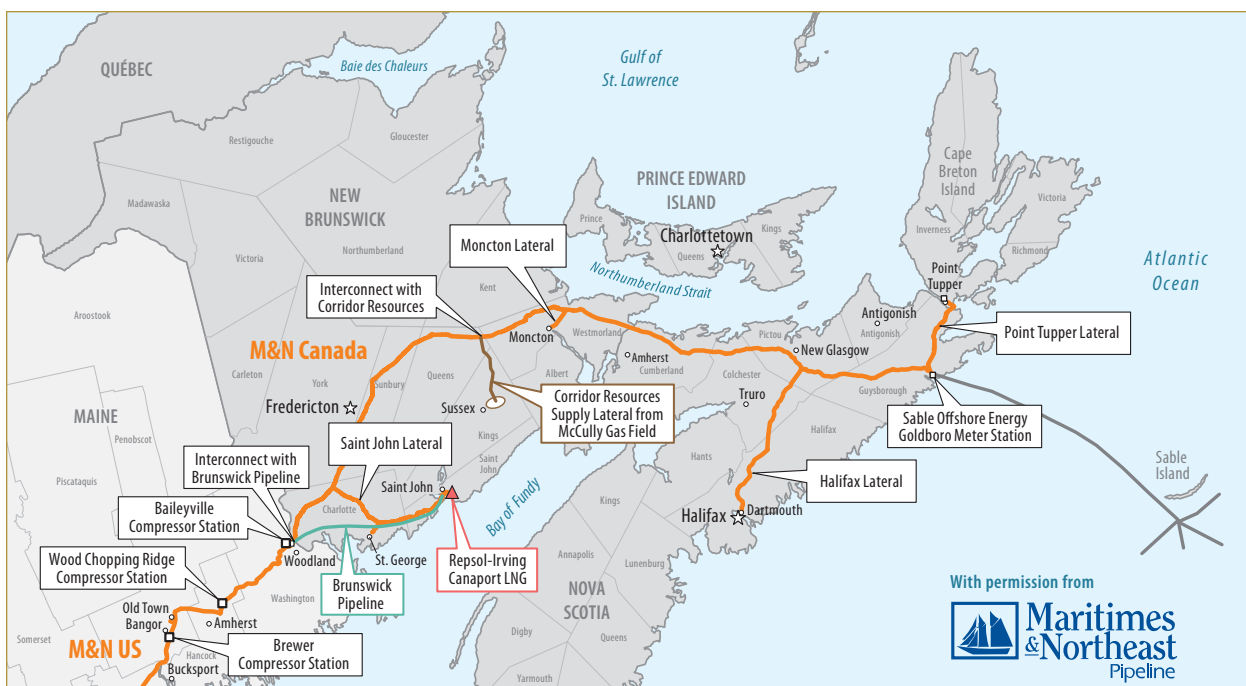
¹² Louis LaPierre, *The Path Forward* (October, 2012), p. 37.

15. Regional Natural Gas Supply Planning

The Province of New Brunswick will work with industry and regional governments to monitor and address natural gas supply strategic issues.

As outlined in the *Key Objectives* section, there is uncertainty about medium to long-term sources of New Brunswick's natural gas and potential commodity and transportation costs associated with different supply scenarios. This issue is not limited to New Brunswick. It is shared by Nova Scotia and Prince Edward Island, as well as northern New England states which have traditionally relied on imports from the Nova Scotia offshore. It is an issue faced by current industrial consumers of gas in our region, as well as by economic development planners focused on attracting industries that rely on a stable, long term supply of natural gas.

This issue has already captured the attention of regional government departments and agencies, as well as the private energy sector, on both sides of the border.



The New Brunswick Department of Energy and Mines will therefore collaborate with various partners in an effort to combine resources and knowledge to gain a better understanding of the evolution of supply and demand for natural gas in our region and the pricing and other impacts that will flow from it. These partners could include the Department of Economic Development, Intergovernmental Affairs, InvestNB, the New Brunswick Energy Institute, appropriate federal agencies, other regional provinces and states, and industry stakeholders.

Since this issue is evolving and strategic in nature, collaboration will be ongoing, but should result in a better collective knowledge and understanding of the demand and supply dynamics that will shape the New Brunswick natural gas market at all levels – residential, commercial, institutional and industrial.

Key Objectives Served by this Action Item

- Stability of Supply

16. Offshore Oil and Natural Gas Opportunities

The Province of New Brunswick will pursue the potential of its offshore oil and natural gas resources by negotiating a joint management Canada-New Brunswick offshore accord with the Government of Canada.

As directed by the Energy Blueprint, during the past two years the Province of New Brunswick has been developing a plan to negotiate a Canada-New Brunswick offshore accord and has reviewed the history of offshore boundary discussions between adjacent provinces and the federal government. The province has also researched scientific data from seismic and exploration drilling activities that took place between 1965 and 1985.

New Brunswick does not have an offshore joint management regime with the federal government that agrees on terms for the development of potential offshore petroleum resources. Successful exploration, development and production is now taking place in the offshore of Newfoundland and Labrador and Nova Scotia, under federal-provincial offshore accords with those provinces, with the potential for the same in Quebec's offshore. Due to New Brunswick's geographical proximity to current potential development, negotiating a similar offshore accord is therefore in the best interests of the province.

New Brunswick's offshore areas comprise approximately 2.3 million hectares, or 24% of the province's total onshore and offshore area of 9.6 million hectares. The offshore may contain significant oil and natural gas reserves. A comprehensive understanding of the geoscience and the potential for offshore oil and gas development will serve as the basis for future offshore exploration decisions, if the province were to consider such development. It would also assist in identifying New Brunswick's resources in relation to adjacent provinces with established offshore boundaries under current federal-provincial accords.

The initial phase of developing a better understanding of New Brunswick's offshore oil and natural gas potential will focus on maximizing the benefits of existing geophysical exploration well data, seismic, and other geological information. New Brunswick will also seek to partner with the Federal Department of Natural Resources Canada and the Geological Survey of Canada, which could result in the collection of additional seismic and geophysical data in New Brunswick's offshore areas.

The principles of a Canada-New Brunswick offshore accord would include: (a) joint and equal management of the resource; (b) New Brunswick as the principal beneficiary of its offshore petroleum resources; and (c) optimizing social and economic benefits of development. An offshore accord will also provide a rigorous regulatory framework, with safeguards to protect New Brunswick's social and natural environments. It would help to attract investment in offshore petroleum development and will enhance and diversify New Brunswick's portfolio in the energy sector.

Key Objectives served by this Action Item

- Effective Regulation and Enforcement
- Stability of Supply
- Economic Development

Conclusion

The *New Brunswick Oil and Natural Gas Blueprint* will provide the province and the public with a clear path forward in oil and gas exploration and development. It will also provide guidance on engaging the public, working in partnership with First Nations, protecting our health and environment, addressing future needs for monitoring and enforcement of the oil and gas sector, and much more.

This comes at a critical time. There are many opportunities in the oil and gas sector – perhaps more than there have been in decades, due to the convergence of many factors of regional, national and international scope. The Province of New Brunswick is well positioned to build on our successes and capitalize on those opportunities to help maintain and improve social programs, education, health care and other key services. It will also provide an avenue to create jobs and attract skilled workers and their families to share in these opportunities.

To optimize the success that could flow from these opportunities, the actions set out in this *Oil and Natural Gas Blueprint* will adapt to future conditions, to new technologies, and to evolving best practices, all of which will be closely monitored.

The success of the oil and gas sector does not depend only on government. It will take the work of many individuals, communities, First Nations, stakeholders, the science community, universities, and many others. All will play a role to guide our province towards expansion and success so that we can all benefit from its advancements.

The Department of Energy and Mines, in conjunction with other departments and agencies, such as Environment and Local Government and the Department of Health, will provide annual updates on the progress of the Action Items.

New Brunswick has a long and impressive history of developing its natural resources. The *Oil and Natural Gas Blueprint* will assure that we travel down the right path in continuing to explore and develop this important sector for future generations.

For additional information regarding the *Oil and Natural Gas Blueprint*:

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Email : DEMweb@gnb.ca

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Appendix A:

Recommendations of Dr. Louis LaPierre and Government Responses

No.	Page	Dr. LaPierre Recommendation	Government Response
Water			
1.	8	Tests need to be performed prior to and through various stages to ensure that well water has not been compromised. The data should be subjected to an independent evaluation.	Section 5.1 of <i>Rules for Industry</i> ¹⁶ addresses this issue. See also Blueprint Action Item 1 (Strategic Water Management for the Oil and Natural Gas Sector), in relation to water monitoring needs.
2.	8	Enable the identification and delineation and mapping of the major aquifers prior to any exploration.	The province will explore opportunities to partner with industry and the Energy Institute to address this recommendation.
3.	8	Should a full scale shale gas industry be developed in New Brunswick, a suitable water treatment facility will need to be set up in the province.	Action Item 1 (Strategic Water Management for the Oil and Natural Gas Sector) addresses this issue in relation to waste water treatment options.
4.	8	Consider creating a water management strategy akin to the way forestry and wildlife are handled through a regulatory framework.	<p>The Department of Environment and Local Government will ensure that water management and protection measures keep pace with oil and natural gas development in New Brunswick. These actions will focus on four key areas:</p> <ul style="list-style-type: none"> • Water Monitoring • Water Exploration and Extraction • Wastewater Treatment • Water-related public information <p>The department recognizes that water management and protection extends beyond the oil and gas industry, and will undertake the development of a comprehensive Provincial Water Management Strategy for New Brunswick.</p>
Well Casing			
5.	11	Create a monitoring system to oversee stages of gas development with monitors onsite and unannounced checks.	Section 5.0 of <i>Rules for Industry</i> addresses monitoring requirements. Blueprint Action Item 4 (Compliance and Enforcement Strategy) also outlines a multi-agency Compliance and Enforcement Strategy to be implemented in a manner consistent with the future pace and scale of oil and gas activities.
6.	11	Proper training must be provided for all industry workers to ensure safety of all employees and to reduce risk of human error.	<p>Section 9 of the <i>Occupational Health and Safety Act</i> obligates employers to provide the necessary information, instruction, training and supervision to ensure the health and safety of employees on their site. Regulations under the Act place additional obligations on employers to provide training.</p> <p>WorkSafeNB will continue to provide compliance (enforcement) and prevention (education, training and consultation) services to ensure that employers provide the necessary training to workers to carry out the work safely.</p>
Economy			
7.	16	Develop a comprehensive business case for the development of a shale gas industry and evaluate positive and negative impacts.	Blueprint Action Item 10 (Economic Impacts) sets out a commitment to create economic impact analytical tools that will allow for better economic assessments and planning for opportunities.

13 Note: “Rules for Industry” refers to the document *Responsible Environmental Management of Oil and Natural Gas Activities in New Brunswick – Rules for Industry* (released on February 15, 2013). This document is available at: <http://www2.gnb.ca/content/dam/gnb/Corporate/pdf/ShaleGas/en/RulesforIndustry.pdf>

No.	Page	Dr. LaPierre Recommendation	Government Response
Environment			
8.	18	Consider establishing a central agency to process all permitting and EIA application.	Blueprint Action Item 5 (Alternative Regulatory Agency Models) outlines a plan to study appropriate regulatory agency models that may be appropriate for a future expanded oil and gas sector.
9.	18	Define appropriate time lines for all the phases of the government review.	This will be incorporated as part of a study of appropriate regulatory agency models.
Health			
10.	21	Create a science based process to define and assess health risks and mitigation options associated with gas exploration.	<i>Rules for Industry</i> was developed by adopting rules employed in other jurisdictions that are among the most stringent in North America. A science based process to assess risks and mitigation options will be supported by several requirements in <i>Rules for Industry</i> . These include the monitoring of geological formations, water quality and usage monitoring, source and ambient air quality monitoring, and risk assessment of fracture fluids. Blueprint Action Item 3 (Enhancing the Regulatory Framework) outlines the province's commitment to continuous improvement based on science and experience. Blueprint Action Item 15 (New Brunswick Energy Institute) will further support a science-based approach through the mandate of the New Brunswick Energy Institute.
11.	21	Consider the creation of a dedicated health registrar, available to physicians on a 24/7 basis, to contain all relevant information on fracking chemicals used in the province.	<i>Rules for Industry</i> (section 11.3 and Appendix 19) speaks to public disclosure of additives used in hydraulic fracturing.
Legal			
12.	23	Test and implement the proposed regulations and legislation within an operating framework.	<i>Rules for Industry</i> helps to guide the requirements imposed using the authority granted in existing legislation. Blueprint Action Item 3 (Enhancing the Regulatory Framework) confirms the province's commitment to use knowledge from all sources to guide on-going management of oil and gas activities, allow the Province to validate the effectiveness of its regulatory framework, and inform further enhancements to its existing framework.
Energy			
13.	24	Consider a dedicated heritage gas pool.	The province will investigate this option as a potential component of the royalty regime if there is future expansion of oil and gas development in the province. Oil and natural gas produced in New Brunswick will continue to be part of the supply available to the New Brunswick market on a competitive basis. The <i>New Brunswick Energy Blueprint</i> generally addresses strategies to promote the use of natural gas as an alternative fuel source.
First Nations			
14.	25	Government must consult with all First Nations Leaders in New Brunswick.	Blueprint Action Item 11 (First Nations Economic Opportunities Plan) and Key Objective 4 (First Nations Engagement) affirm the province's commitment to the New Brunswick <i>Duty to Consult Policy</i> to fulfill the Crown's legal obligation to consult where aboriginal and treaty rights may be affected.
The Path Forward			
15.	26	Establish an ombudsman office to allocate compensation to negatively impacted citizens.	Blueprint Action Item 7 (Dispute Resolution) outlines the province's plan to assess and implement effective and appropriate mechanisms for resolving disputes or claims arising from oil and natural gas activities.

No.	Page	Dr. LaPierre Recommendation	Government Response
16.	28	Conduct an independent scientific peer review of literature and technical reports to provide an overview of environmental and health issues that relate to the extraction of shale gas. Identify any knowledge gaps and provide valid information to the public in an easy to understand format.	The New Brunswick Energy Institute will help ensure that New Brunswickers receive independently sourced information pertaining to the energy sector. This is more fully described in Blueprint Action Item 14.
17.	29	Proceed with a full scientific review of the peer reviewed literature for both environment and health.	The New Brunswick Energy Institute will help ensure that New Brunswickers receive unbiased information pertaining to the energy sector. This is more fully described in Blueprint Action Item 14.
18.	29	Establish a shale gas health database with involvement of provincial Health Authorities. Database would list all chemicals used in any fracking process, chemical structure and toxicity pathways of fracking ingredients, and synergistic properties of mixed chemicals.	Public disclosure of additives used in hydraulic fracturing have been incorporated in section 11.3 of <i>Rules for Industry</i> . Blueprint Action Item 6 (Ongoing Public Health Engagement) also addresses this recommendation.
19.	30	Design a structured process to enable citizens to debate the issues in an environment of mutual trust and respect.	Under Blueprint Action Item 14, the New Brunswick Energy Institute will include an Energy Roundtable as a forum to discuss oil and natural gas related and other issues associated with the energy sector. Representation on this panel will include general public interests and special interest groups.
20.	33	Prepare a business model to show and quantify how oil and gas development will benefit New Brunswick.	Blueprint Action Item 10 describes the development of an economic impact analytical tools to identify economic impacts from the development of oil and natural gas resources, which will enable the development of a business case for planning and identifying opportunities.
21.	33	Adopt a phased approach to future exploration initiatives, as a framework to constantly integrate new knowledge and experience.	Blueprint Action Item 3 (Enhancing the Regulatory Framework for the Oil and Natural Gas Sector) outlines the province's continuous improvement approach to its management of oil and gas sector development, based on progressive learning and experience in New Brunswick and elsewhere.
22.	34	Establish a governance model to manage the gas and oil sectors. Transfer oversight of shale gas development to the Minister of Energy and integrate with provincial energy policy.	The Department of Energy and Mines was created in October 2012 from the merger of the Department of Energy and petroleum and mining branches of Department of Natural Resources. Management of oil and gas resources and strategic energy policy now fall under the same department. Blueprint Action Item 5 (Alternative Regulatory Agency Models) outlines the province's intention to consider alternative governance models that may be appropriate for an expanded oil and gas sector in New Brunswick.

Appendix B:

Recommendations of the Chief Medical Officer of Health and Government Responses

No.	Page	Chief Medical Officer of Health's Recommendations	Government Response
Social Environment			
1.1	36	Establish mechanisms to measure, monitor, and optimize equitable distribution of risks and rewards that maximize benefits to the socioeconomic determinants of health for all New Brunswickers.	<p>Blueprint Action Item 10 will enable an analysis of how oil and gas development yields economic benefits that are unique to our province.</p> <p>Under Blueprint Action Item 9, the province will explore potential revenue sharing models, including those set out in a 2012 discussion paper, with a recommendation in 2014.</p> <p>The province will continue to track the socioeconomic status of New Brunswickers through the work of several departments and agencies.</p>
1.2	37	Develop a principles-based method with input from Public Health to enhance the proposed revenue sharing approach so that an appropriate portion of monies from royalties and other sources will help to offset negative impacts on the social determinants of health.	Under Blueprint Action Item 9, the province will explore potential revenue sharing models, including those set out in a 2012 discussion paper, with a recommendation in 2014.
1.3	38	Implement structures and processes to ensure a role for local governments in planning the location of gas industry infrastructure such as roads, well pads, pipelines, compressor stations and water storage and treatment facilities.	In addition to current mechanisms such as Municipal Plans, zoning by-laws, Rural Plans and Basic Planning Statements, the <i>Action Plan for a New Local Governance System in New Brunswick</i> has committed that each Regional Service Commission will develop a Regional Plan. Regional Plans will focus on strategies that foster sustainable practices that encourage coordinated development between communities that influence and guide the location of significant infrastructure.
1.4	38	Implement structures and processes to ensure a role for Public Health in community planning in order to ensure that the built environment is optimized for the determinants of health.	The Department of Health's participation in Technical Review Committees provides an opportunity to comment on projects registered for review under the <i>Environmental Impact Assessment Regulation</i> .
1.5	39	Undertake a transparent consultative process with representative members and sectors of the public and other stakeholders on the implementation process for the CMOH's recommendations in order to achieve better health outcomes.	<p>Under Blueprint Action Item 14, the Energy Institute will include an <i>Energy Roundtable</i> as a forum to discuss energy development issues. It will consist of representatives from First Nations, the energy sector, business, the environmental community, rural and urban communities, provincial government departments, and the public.</p> <p>The province has already undertaken a series of public information sessions to inform residents living in potential development areas, and has launched a information website.</p> <p>The Blueprint generally commits to continuous improvement of its regulatory framework for oil and gas and will continue to seek public input as enhancements are considered.</p> <p>The Department of Health will continue to monitor evolving research on health impacts of natural gas development, and will continue to provide feedback to relevant government departments. The Department will also facilitate research and the dissemination of information as appropriate.</p>
Social and Physical Environments			

No.	Page	Chief Medical Officer of Health's Recommendations	Government Response
2.1	40	Require a Health Impact Assessment, prepared according to Department of Health specifications as part of the project registration process managed by Department of Environment and Local Government.	The Department of Health participates in the work of Technical Review Committees to provide input to projects registered for review under the <i>Environmental Impact Assessment Regulation</i> . It will work with the Department of Environment and Local Government to examine the possible integration of health impact assessment measures into the environmental impact assessment review process.
2.2	41	Develop and implement a protocol for monitoring the health status of persons living, working, attending school or playing in proximity to the industry.	Under Blueprint Action Item 6, the province will ensure ongoing consideration of issues associated with public health and its social determinants over the life span of an oil and natural gas industry. The Department of Health will provide input on new measures which may be developed in this respect, and will continue to provide analysis and input on measures already taken.
2.3	42	Develop and implement methods to link health status information to environmental monitoring data and socioeconomic status data.	Under Blueprint Action Item 6, the province will ensure ongoing consideration of issues associated with public health and its social determinants over the life span of an oil and natural gas industry.
Physical Environment			
3.1	42	Put in place monitoring networks for ambient air and water quality, as well as drinking water quality in areas expected to have an industry presence, in advance of industry development and continuing throughout the lifetime of development, production and post-production.	Section 5.0 of <i>Rules for Industry</i> addresses monitoring requirements. Blueprint Action Items 2, 3 and 4 also outline water and air quality monitoring and a compliance and enforcement strategy to be implemented in a manner consistent with the future pace and scale of oil and gas activities.
3.2	43	Put in place provisions for wastewater handling, testing, transportation, treatment and disposal.	These provisions are incorporated in section 4.0 of <i>Rules for Industry</i> .
3.3	44	Require full and timely disclosure of all chemical compounds (rather than products or compound classes) including identities, concentrations and quantities.	These requirements have been incorporated in section 11.3 of <i>Rules for Industry</i> .
3.4	45	Require that all hydraulic fracturing fluids contain additives that are the least toxic of any available alternatives.	Section 11.3 of <i>Rules for Industry</i> includes a risk assessment that will consider both the toxicity of an additive and the manner in which it will be used. The province will continue to monitor development of hydraulic fracturing technologies.
3.5	45	Develop and implement reasonable, safe setback distances approved by Public Health that consider human health and which are based on exposure risk assessments in addition to established precedents.	The set-back requirements incorporated in section 9.0 of <i>Rules for Industry</i> were developed by reviewing practices in other jurisdictions and are among the most stringent in North America. Blueprint Action Item 3 describes a commitment to continuous improvement. Further changes will be informed by science and experience.
3.6	46	Develop and implement standards approved by Public Health to limit health impacts from noise, vibration and continuous illumination.	The standards and set-backs in <i>Rules for Industry</i> were developed by reviewing practices in other jurisdictions, and are among the most stringent in North America. Blueprint Action Item 3 describes a commitment to continuous improvement. Further changes will be informed by science and experience.
3.7	47	Require site-specific traffic management plans for all projects, including route plans and designated times of day for heavy truck movements.	The issue of vehicular traffic generated by oil and gas activities, including haul route planning, is addressed in section 9.0 of <i>Rules for Industry</i> .
3.8	47	Enhance local and provincial emergency response training, capacity and preparedness to respond to the most likely and most serious emergencies that might pose a threat to human health.	Under section 4.11 of <i>Rules for Industry</i> , oil and gas operators must develop and implement spill prevention and response plans. Under section 8.1 of <i>Rules for Industry</i> , operators must also have emergency response plans, compliant with specific Canadian Standards Association (CSA) standards, in place for all phases of operations. These include measures to address local response training, capacity and preparedness. The Department of Public Safety will be considering provincial implications and implementing any required changes to emergency response mechanisms as appropriate.

No.	Page	Chief Medical Officer of Health's Recommendations	Government Response
3.9	48	Enhance the mechanisms to promote and protect the health of workers in the industry and others who may be at the work sites (government inspectors, support industry workers, emergency responders, etc.).	<p>Enforcement activities are carried out by Occupational Health and Safety Officers designated by the province. Compliance activities include planned and unplanned site inspections as well as investigations of serious workplace incidents. Violations can result in orders being issued to affected parties, suspension of work and prosecutions. WorkSafeNB employs staff specialized in providing occupational health and safety education and training, and consultants who promote the development and implementation of health and safety programs.</p> <p>WorkSafeNB will continue to provide compliance and prevention services as is necessary to promote and protect the health and safety of workers.</p>
Future Generations			
4.1	49	Develop a plan for anticipating and mitigating the "Boomtown Effect".	The province will consider this recommendation, if and when it is determined that New Brunswick has significant amounts of economically extractable oil and natural gas. An economic impacts analysis, as described in Action Item 10, will assist in gaining an understanding of the impacts of a growing industry and assist the province in planning appropriate responses to optimize the benefits.
4.2	50	Undertake a Strategic Health Impact Assessment to estimate the long-term cumulative health and social benefits and costs.	The province will consider this recommendation in the future, if it is determined that New Brunswick has significant amounts of economically extractable oil and natural gas.
4.3	50	Designate areas to be excluded from development, including drinking watersheds and wellfields, sensitive natural areas, specified agricultural lands, and other areas of special significance (scope to be defined).	<p>Legislation administered by the Department of Environment and Local Government continues to prohibit oil and gas facilities within designated watersheds and wellfields which supply municipal drinking water. Section 9.0 of <i>Rules for Industry</i> prohibits the construction oil and gas wells in wetlands, wellfields or watersheds supplying municipal drinking water, and provides protection for flood prone areas and watercourses. In addition, the Department of Energy and Mines does not grant licences to search for oil and gas in National Parks or in existing or proposed protected natural areas designated under the <i>Protected Natural Areas Act</i>.</p> <p>Additional site-specific restrictions may be imposed in order to address issues identified during the review of a proposed oil or gas project under the <i>Environmental Impact Assessment Regulation</i>.</p> <p>The province is committed to continuous improvement and will therefore consider further changes informed by science and experience.</p>
4.4	51	Prepare a strategic land use plan with considerations of health equity and with input from Public Health and other experts and stakeholders.	The Department of Environment and Local Government will work with the Department of Health and other departments to develop a framework that will consider health equity in development and decision making processes.
4.5	51	Implement a process to allow planning and regulatory decisions to consider vulnerable and disadvantaged populations that are at greater risk to environmental contaminants.	These elements will be considered within the work of Technical Review Committees which provide input to projects registered for review under the <i>Environmental Impact Assessment Regulation</i> .
4.6	52	Require that planning and regulatory decisions consider First Nations even if reserve lands are not directly affected.	The Aboriginal Affairs Secretariat and Department of Energy and Mines are working towards a First Nations engagement process beyond the Crown's Duty to Consult.
4.7	53	Prepare a strategic water management plan to protect the quality and availability of water for public water supplies, private well water supplies and fresh water in general.	<p>The Department of Environment and Local Government will ensure that water management and protection measures keep pace with oil and natural gas development in New Brunswick. These actions will focus on four key areas:</p> <ul style="list-style-type: none"> • Water Monitoring • Water Exploration and Extraction • Wastewater Treatment • Water-related public information <p>The Department recognizes that water management and protection extends beyond the oil and gas industry, and will undertake the development of a comprehensive Provincial Water Management Strategy for New Brunswick.</p>

No.	Page	Chief Medical Officer of Health's Recommendations	Government Response
4.8	54	Encourage, promote and financially support research in New Brunswick, such as long-term longitudinal health studies and research on potential health effects, social impacts, and other aspects.	<p>The province has announced the creation of the New Brunswick Energy Institute. Blueprint Action Item 14 states that a Scientific Advisory Council will advise on the scientific direction of the institute and oversee the conduct of research and monitoring projects in the areas of engineering, environmental sciences, social sciences, economics and industrial health.</p> <p>Under Blueprint Action Item 6, the Department of Health will monitor the evolving research on the health impacts of natural gas development, and will facilitate research and information dissemination as appropriate.</p>
4.9	55	Periodically review and report to the public on environmental and health monitoring.	<p>Under Blueprint Action Item 14, The Energy Institute will help ensure that New Brunswickers receive factual and unbiased information pertaining to the energy sector, through, science-based research and monitoring activities. One of its requirements will be the communication of information and findings to the public. In the longer term, the province will investigate ways of making project-specific records, reports and plans publically available via the internet.</p> <p>Through Blueprint Action Item 6, the province also acknowledges the centrality of monitoring the environmental and health impacts of natural gas exploration and development activities. The Department of Health will provide input on appropriate measures as these are developed, and will participate in the dissemination of information.</p>
Implementation and Oversight			
5.1	55	Establish sufficient capacity and resources to enable relevant government departments to oversee the development of this industry including conducting project reviews and approvals, inspections, monitoring, enforcement and management of environmental, health or social consequences.	<p>Under Blueprint Action Item 4, the province will release a Compliance and Enforcement Strategy and lay out a process to ensure compliance with requirements. The strategy will be phased in as needed, according to the future pace and scale of oil and gas activities.</p> <p>Blueprint Action Item 5 also outlines the province's commitment to review existing regulatory agency models for managing the oil and natural gas industry.</p>
5.2	57	Establish an implementation group for the recommendations in this [CMOH] report, led by Public Health and include representatives from relevant government departments and other stakeholders.	<p>Blueprint Action Item 5 outlines the province's commitment to review existing regulatory agency models for managing the oil and natural gas industry. Blueprint Action Item 6 reaffirms that safeguarding the health of populations is a key responsibility of the province in relation to resource development. The Department of Health and in particular Public Health staff will continue to contribute expertise to current processes, and will participate as appropriate in any changed regulatory agency models in the future.</p>
5.3	57	Sponsor a series of summits led by Public Health to better understand and communicate public health information and issues and to foster an effective ongoing dialogue among community, government, academics and industry.	<p>Blueprint Action Item 14 describes the mandate of the Energy Institute to provide a venue to discuss significant issues with representatives of First Nations, the energy sector, business, rural an urban communities, provincial departments and the public through the <i>Energy Roundtable</i>. Input from the Public Health division is important in such activities, and the Department of Health will contribute expertise as appropriate.</p>
5.4	58	Create a multi-disciplinary Advisory Committee to Cabinet charged with reviewing government oversight throughout the lifetime of the industry in NB.	<p>Under Blueprint Action Item 3, knowledge gained from all sources will guide on-going management of oil and gas activities, help to validate the effectiveness of its regulatory framework, and inform further enhancements. Under Blueprint Action Item 5, the province will examine governance structures that may be appropriate to high levels of oil and gas activity in New Brunswick. A multi-disciplinary Scientific Advisory Council will be a key component of the New Brunswick Energy Institute (Blueprint Action Item 14), and will play a role in keeping the province informed.</p> <p>Provincial oversight of the oil and natural gas sector in New Brunswick will be an ongoing process of relevant government departments and agencies in accordance with their mandates. Inter-departmental coordination will continue. As such, the Executive Council will be kept informed of material developments in the sector and will respond to the evolution of the industry, as appropriate.</p> <p>Finally, progress on all Blueprint Action Items will be reported on a quarterly basis to Cabinet and on an annual basis to the Legislative Assembly and to the public.</p>