



Interconnected.

Our economy.

Our natural resources.

Our environment.

Our public services.

Our obligation to each other.

New Brunswick's Future.

January 2012

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Foreword: John Herron, President

The Atlantica Centre for Energy was founded in 2005 as an association dedicated to the sustainable growth and economic development of the regional energy sector. The Centre has striven to serve as a bridge between corporations and the community by providing a meeting ground for representatives of the Federal and Provincial Governments, the education and research sectors, and the community at large to foster engagement on energy-related issues and policy development.

In recent years the Centre has tried to fulfill this role through the production of discussion papers on issues related to our regional energy sector and our economy. The Centre, originally conceived as a community initiative, has commissioned or authored papers on topics on a range of subjects including: energy efficiency and renewable energy, regional impacts of the Lower Churchill hydroelectric project, a review of the New Brunswick natural gas distribution model, and a comparative analysis of royalty and regulatory regimes of shale gas in North America. These discussion papers can be downloaded at the Centre's website.¹

One of the first papers issued by the Centre and its founding President Tim Curry discussed citizen engagement and the role of host communities and industrial development. Citizens of host communities understandably want to know how industrial developments will impact — both positively and negatively — their quality of life and surrounding environment. The paper proposed that obtaining a *social license to operate* from the host community is just as vital as obtaining a permit from government for a given industrial development. Governments may issue permits, but communities grant permission.

The Centre has also put forward a series of public policy positions that many may not have been expected to originate from an association of industry representatives. These included: the need to restructure and renegotiate New Brunswick's natural gas distribution system and modeling the province's natural gas royalty regime to the price of natural gas and the productivity of the well source — which would result in increased royalties for New Brunswick compared to the existing framework. One section of this paper suggests that it is necessary that we optimize revenues from our non-renewable resources. For example, the Centre believes the royalties associated with potash mining should increase to be comparable to the royalty regime in Saskatchewan and other potash producing jurisdictions.

These public policy recommendations reflect the Centre's origins and mandate to advance policy in the energy and resource sectors and foster economic development — while at the same time recognizing the need to remain competitive with other jurisdictions to attract investment.

A bridge by its very nature reaches out in more than one direction. In recent months, the Centre has observed an increasingly vocal opposition within New Brunswick to the development of our province's natural resources. The Centre agrees that our economy needs to continue to diversify to include knowledge-based sectors such as aerospace, ICT, and health sciences, along with our agricultural and creative sectors. However, natural resources (renewable and non-renewable) such as forestry, mining, and the energy sector have been the backbone of New Brunswick's economy for decades, and this will likely continue for many years to come. As is the case in the country's leading provincial economies, these sectors remain important — generating tax and royalty revenues needed to fund our public services and infrastructure.

¹ <http://www.atlanticaenergy.org/publications>

Foreword (cont.)

A number of New Brunswickers have been vocal in their opposition to oil and gas exploration (shale gas) and a series of proposed mining projects, including Sisson Brook (tungsten and molybdenum), Bathurst (zinc), and Millstream (potash). A variety of reasons have motivated this opposition, ranging from fears that our regulatory regimes may not protect the public interest and the environment to concerns that such development may affect the way of life for residents in local communities.

Peter Lindfield, Chair and CEO of the Carlisle Institute, recently expressed in his column, that yesterday's mantra from industry, which promised jobs and growth with the expectation that industry will be loved no longer holds when there are other societal values at stake. Industry cannot expect to be loved, but they still need to engage to be understood. Equally, those who push back against economic development (resources-based or other) need to make genuine efforts to fully understand the interrelationship between having a strong economy and sustaining a progressive society — complete with health care, education, and social programming. New and progressive societal partnerships are required in order to find ways that both protect our environment and strengthen our economy. Seeking and earning a social license to operate is vital to the success of a jurisdiction's resource sector. Industry and community partners need to develop this *social contract* together to ensure sustainable progress.

In today's interconnected, online, social media world, people have instant access to enormous quantities of information of varied quality. They feel more informed, empowered, engaged, and able to set or shape the political, social, and economic agenda. This is not a bad thing — it's the new normal. North American society has become more skeptical and distrustful of both industry and government; academia, on the other hand, is still seen as more trustworthy. Academic communities will likely have a renewed and enhanced role in leading and shaping multi-disciplinary dialogues with partners from industry, government, and the community.

The purpose of this paper is to serve as an instrument of discussion to advance the dialogue on how and under what conditions we can responsibly develop our natural resources. The paper aims to pose the question: is there a satisfactory way to develop our natural resources to attract investment and generate wealth to contribute to our province's essential social programs. The interconnection between our natural resources and our economy is explored. The Centre firmly believes we can have both the economic development we need to sustain our economy while at the same time protecting our environment and the concerns of our citizens.

Our province and our economy are facing significant challenges. Our government's short falls in annual revenues, reliance on federal support, and our looming demographic crisis combine for a very daunting forward outlook. Energy and natural resource investments continue to represent an opportunity for New Brunswickers to address a component of this challenge.

1. Introduction: Natural resources, energy & economic development

Moncton-based economic development consulting firm Jupia Consultants was commissioned by the Atlantica Centre for Energy to write a discussion paper on the role of natural resources as an economic driver and opportunities for growth. The paper also considers the broader role of community and government partners in ensuring that resource development can be achieved in an environmentally sustainable way.

A main purpose of the paper is to develop a starting point for a conversation about our natural resources (renewable and non-renewable), our energy sectors, and how these could potentially be a major contributor to the future economic development of the province.

In recent months there has been a growing chorus of voices speaking out against the development of our natural gas resources, potential new potash mining, and other mining projects across New Brunswick. It is important to have a vigorous, candid, honest discussion about how natural resources can benefit New Brunswickers now and in the future. Economic development implications — both short term and long term — must be part of the debate. The Atlantica Centre for Energy believes New Brunswickers — broadly — need to have this conversation now. With the right regulatory and enforcement environment, our natural resources could be used to create a strong economic environment and to generate royalty and tax revenue to pay for our cherished public services for years to come.

In order to support the three objectives of ecological integrity, economic progress, and social development, there are specific roles for the various stakeholders. From industry, we need good corporate citizens. From government, we need robust, timely, and predictable regulations as well as effective enforcement of those regulations. We also need a government that can foster an environment that is attractive for investment. And from citizens we need a willingness to grant a social license to operate as long as the previously mentioned conditions exist.

There is also an important and mature role for community and environmental groups as partners in the development of our natural resources. We need to change the engagement paradigm between industry, government, and these non-governmental organizations from one characterized by polarity to one that is focused on optimal outcomes for the residents of New Brunswick.

1.1 The economic impact of natural resources and energy sectors: New Brunswick

The direct gross domestic product (GDP) generated from natural resources and energy represents close to 15 per cent of the New Brunswick economy. This part of our economy, made up primarily of the forestry sector, mining, and our energy utilities also support considerable employment around the province with more than 30,000 direct jobs in the sectors and an additional 15,000 supported through indirect effects.

In New Brunswick, natural resources (renewable and non-renewable) such as forestry, mining, and the energy sector have been the backbone of the economy for decades. Figure 1 below shows a sample of major investment projects from the 1960s through to the 2000s.

The bulk of industry investment has been tied to these sectors. In the 1960s, private sector investment in New Brunswick was led by mining, pulp and paper, and electricity generation investments. In the 1970s, there were also substantial mining and forest product investments around the province. The 1980s saw rapid growth in potash mining, major energy projects such as oil refining and new nuclear and coal-fired electricity generation

facilities. The 1990s featured further expansions in these areas including the new Maritimes & Northeast Pipeline, which brought commercial scale natural gas to the province for the first time in almost 100 years.

In the first decade of the 21st Century, there were billions of dollars' worth of energy, mining, and forest products investment across New Brunswick. Natural resource-based and energy projects led private sector capital investment in New Brunswick over the past decade. The energy sector led the way including the new Canaport liquefied natural gas terminal, the refurbishment of the Point Lepreau nuclear power generating station, some 350 MW of wind energy investment, upgrades to the Irving Oil refinery, the Brunswick Pipeline, and hundreds of millions worth of investment in Enbridge Gas New Brunswick's natural gas distribution network.

Figure 1: New Brunswick Natural Resources & Energy Investment Timeline
Selected Major Investments by Decade

1960s

- Lead and zinc smelter (Bathurst)
- Caustic soda plant (Dalhousie)
- Paper mill (Saint John)
- Paper mill (Miramichi)
- Pulp & paper mill expansion (Atholville)
- Heath Steel mine expansion (Miramichi)
- Fraser mill expansion (Edmundston)
- Mactaquac 500 MW hydroelectricity dam

1970s

- Anaconda Copper concentrator (Bathurst)
- 300 MW thermal generating station (Saint John)
- Paper mill (St. George)
- Chip-board plant (Miramichi)
- Integrated saw mill (Plaster Rock)
- Brunswick Mining expansion (Bathurst)
- Pulp and paper mill expansion (Miramichi)

1980s

- Point Lepreau nuclear generating station
- Potash mine expansion (Sussex)
- Irving Oil refinery expansion (Saint John)
- Metal extraction plant (Miramichi)
- Potash mine expansion (Saint John)
- Paper mill expansion (Miramichi)
- Waferboard plant (Miramichi)
- Coal fired generation plant (Belledune)

1990s

- Forest products mill expansion (Chipman)
- Irving Oil refinery expansion (Saint John)
- Pulp & paper mill expansion (Atholville)
- Paper mill expansion (Saint John)
- Paper mill expansion (Miramichi)
- Maritimes & Northeast Pipeline

2000s

- Paper mill expansion (Saint John)
- Enbridge Gas NB distribution network
- LNG plant (Saint John)
- Tissue plant (Moncton)
- Natural gas exploration & production (Sussex)
- Irving Oil refinery expansion (Saint John)
- Potash mine expansion (Sussex)
- Brunswick Pipeline (Saint John)
- Pulp mill expansion (Nackawic)
- Point Lepreau refurbishment
- 350 MW of wind energy investment

2010s

- Potential potash project (Millstream)
- Tungsten mine
- Initial shale gas investments
- Zinc mine

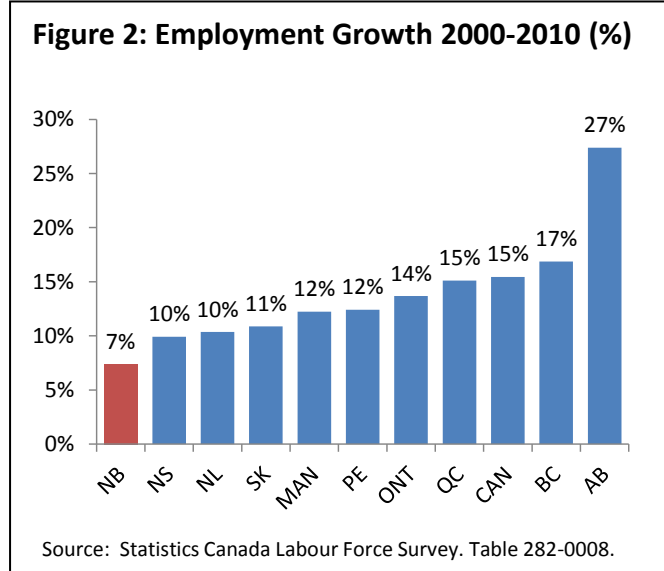
Source: New Brunswick: An Annual Review, 1960-2006. Richard Wilbur. Atlantic Canada Portal & Electronic Text Centre, University of New Brunswick Libraries.

The province also benefited from a \$1.7 billion expansion of the potash mine near Sussex and some \$300 million worth of oil and gas exploration and related investment. There is no doubt that some of these larger projects helped the province avoid a deeper recession after the economic downturn of 2007 and 2008.

While the forestry sector faced considerable headwinds, the decade still featured substantial capital investments at pulp, paper, tissue plants, and sawmills around the province.

Overall, these natural resource sectors of the economy accounted for the majority of private sector capital investment in the province over the 10 year period².

However, despite these billions of dollars in private sector investment and high levels of public spending throughout the decade, structural changes in other areas of the economy meant that New Brunswick still suffered the worst employment growth among the 10 provinces in Canada and underperformed the national average gross domestic product (GDP) growth for eight of the 10 years.



The province's economic performance over the past several decades has led to ongoing out-migration of mostly young people, which has in turn contributed to overall population growth stagnation.

There is no argument that investments in the province's natural resources and energy sectors were vital to the economy over the past decade. Section 2 below will discuss the fact that New Brunswick does not have a similar inventory of large scale investment projects on the current horizon and that could have significant negative economic consequences in the coming year.

1.2 Non-renewable natural resources sectors continue to drive the Canadian economy

Across Canada, the provinces that have a substantial base of non-renewable natural resources revenue are leading the country in economic growth and likewise have the strongest ability to pay for public services and infrastructure. According to the federal Department of Finance, six of the 10 provinces across Canada received equalization payments in 2011-2012. Equalization entitlements are determined by measuring provinces' ability to raise revenues — known as "fiscal capacity" — to pay for public services³.

In total, the federal government distributed \$14.7 billion worth of equalization payments as outlined in Table 1 below.

² Not including residential and related construction.

³ The goal is to ensure Canadians across the country have access to similar levels of public services wherever they live.

Table 1: Equalization Payments in Fiscal 2011-2012

Province:	Equalization Amount (\$ Millions)
Quebec	\$7,815
Ontario	2,200
Manitoba	1,666
New Brunswick	1,483
Nova Scotia	1,167
Prince Edward Island	329

Source: Department of Finance Canada.

There is potential for New Brunswick to also develop its natural gas exploration and production sector over the next decade and beyond. This opportunity has emerged because of investments made in pipeline infrastructure over the past 15 years, and as the result of increased industry interest in the substantial shale gas deposits located in the province. There may also be potential for significant new investment in other non-renewable natural resources such as potash and rare earth metals. This potential is explored further in Section 3 below.

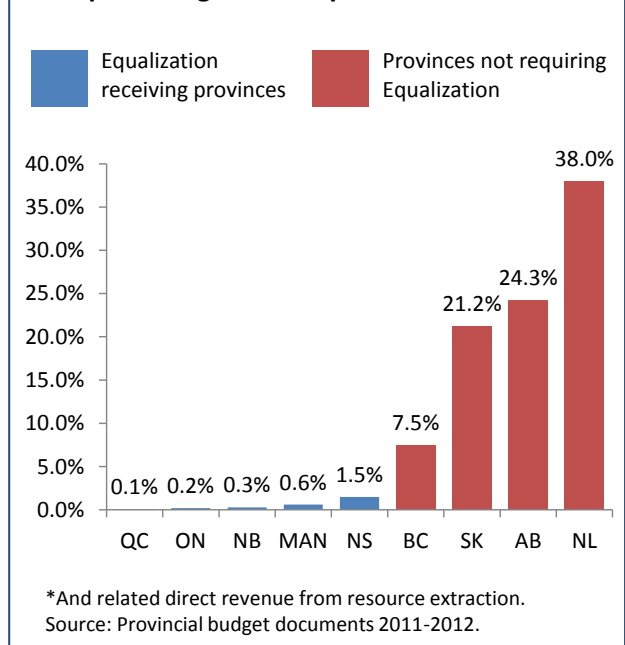
These sectors of the economy are very important to support economic growth and to generate the tax and royalty revenue needed to fund our public services and infrastructure.

All provinces in Canada where the provincial government generates a large portion of its total revenue from non-renewable resource royalties⁴ are also the provinces that have the strongest fiscal capacity (and therefore do not require equalization). Figure 3 shows the impact of non-renewable resource sectors on provincial government finances across Canada.

The impact of these sectors is much broader than just royalty revenue. They tend to offer much higher wages and generate substantial profits and therefore corporate taxes for provincial governments as well.

Economic growth doesn't have to come from natural resources. The province of Ontario has been one of the strongest economies in Canada since Confederation on a limited base of natural resource industries. However, for those provinces endowed with natural resources, they can be a powerful economic foundation for society as a whole.

Figure 3: Non-Renewable Resource Royalties* as a percentage of total provincial revenue



⁴ and related direct revenues.

1.3 The importance of industry clusters

In a global economy, it is important for jurisdictions to have a clear, comparative advantage for specific industries. Investment and labour are more mobile than at any time in history⁵ and provinces without a distinct value proposition for investment will lose to competition from within Canada and from countries around the world.

Natural resources and geography are two permanent features of a jurisdiction that can contribute to the distinct value proposition. Beyond just the natural resources themselves, the importance of having a deep supply chain and a broader cluster of service firms enhances the value proposition and supports a more durable, long term industry.

1.3.1 Forestry in New Brunswick

The forest products cluster in New Brunswick is an excellent example of a durable, long term cluster based on a renewable natural resource. Despite the recent challenges facing the industry, it still contributed over \$900 million worth of direct GDP and 11,600 direct jobs across the province in 2010.

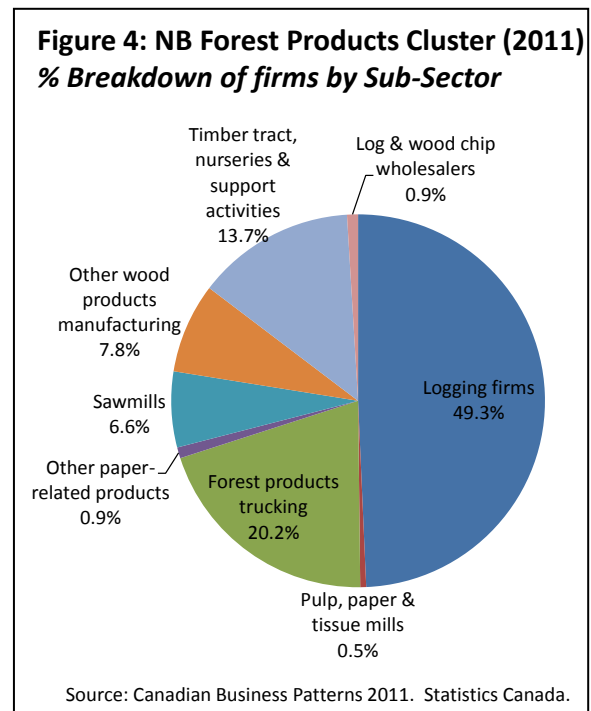
The forest products sector in New Brunswick is the leading private sector employer in rural and small town New Brunswick. Nearly 80 per cent of industry employment in New Brunswick is outside the urban centres of Moncton, Fredericton and Saint John. Further, 87 per cent of jobs in the forestry and logging sector are located outside of the three urban centres⁶.

There are 1,370 firms operating directly in the forest products cluster⁷. There are over 670 mostly small-sized logging firms. Excluding the large pulp and paper mills, there are over 100 wood products manufacturing firms. There are 188 firms providing upstream support to the industry through timber tract, nursery, and other support activities. Nearly 300 trucking firms (again, mostly small businesses) work in this sector.

Beyond the direct companies, a host of support services, including engineering, environmental services, education, and research support the sector. Even software firms are part of the cluster. Fredericton-based Remsoft has built a global business from its start developing software for the forest industry in New Brunswick.

1.3.2 Energy in Saint John and South-Western New Brunswick

Over the past decade, there were many large scale energy projects undertaken in the Saint John region, including an expansion at the Irving Oil refinery, the fabrication of the country's first and only Liquefied Natural Gas (LNG) terminal and re-gasification infrastructure, and the building of the Brunswick Pipeline to deliver natural gas from the Canaport (LNG) terminal to markets in Canada and the northeast United States.



⁵ Both within Canada and internationally.

⁶ Based on Census Metropolitan or Agglomeration Areas and using data from the 2006 Census.

⁷ Only 81 of these firms are based in the three urban centres in southern New Brunswick.

The \$2.5 billion refurbishment of the Point Lepreau nuclear energy generating station was also a very prominent important energy project in the region. There was also considerable growth among the community's engineering, legal, and professional services firms as they expanded energy-related activities in Saint John based on these large projects.

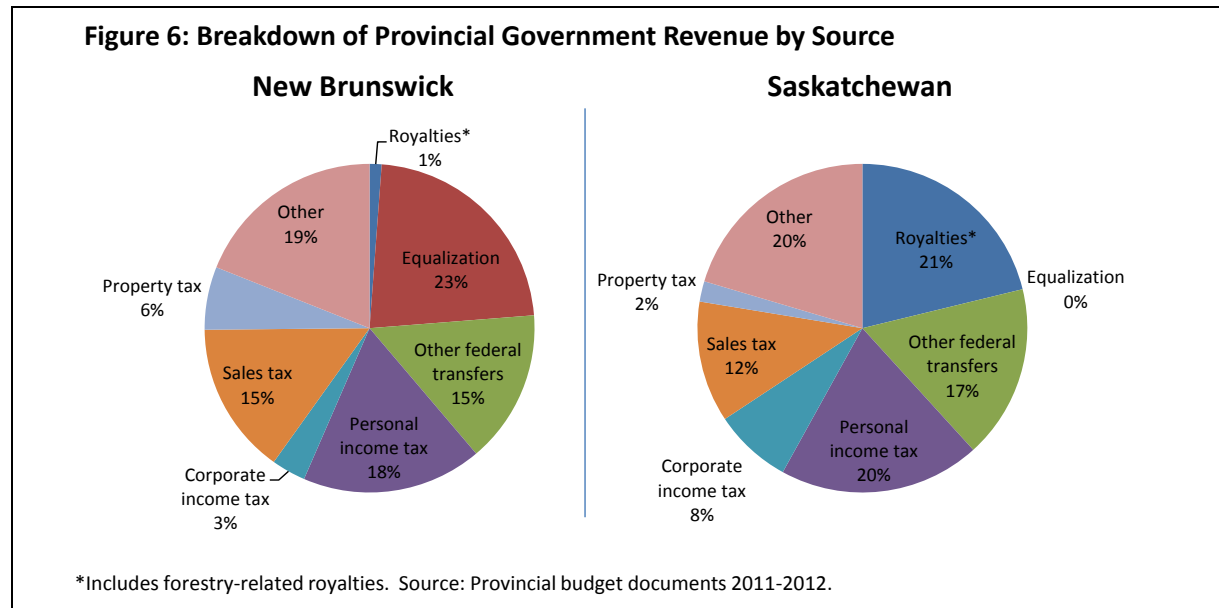
In order to provide broader support for the industry, the New Brunswick Community College expanded its roster of training programs and the industry-funded Atlantica Centre for Energy was established.

1.3.3 The potential of non-renewable resources and energy as a dominant cluster for the future

Section 3 below discusses the potential of specific energy projects in support of New Brunswick's economic development over the next decade — it appears clear that energy could continue to be a major driver of the provincial economy. With the expanding natural gas pipeline infrastructure, New Brunswick may have the potential to see growth in both gas exploration and production. In addition, if the mining sector were to attract new investments, this could anchor provincial growth well into the future.

Over the last decade, Saskatchewan witnessed an economic renaissance largely driven by its natural resource sectors of oil and gas as well as other mining — notably potash. In the 1990s, the province was suffering from a declining population and a weak economy, in the years following, substantial investments in oil and gas development and potash mining turned around the economy. From a province that required equalization payments from the federal government in the early 2000s, by the latter part of the decade Saskatchewan had among the strongest economic performance in Canada and had eliminated its need for equalization⁸.

- Figure 5: The Saint John Energy Cluster**
- Electricity production: nuclear, oil and natural gas-based generation
 - Petroleum products refining
 - Liquefied natural gas (LNG)
 - Gas pipeline infrastructure
 - Skilled workforce with expertise in construction and operations
 - Specialized engineering capacity
 - Industry consulting services
 - Other business services
 - Energy-related education
 - Atlantica Centre for Energy
 - NB Department of Energy



⁸ Newfoundland and Labrador also went through a similar transition based on its offshore oil industry and increasing investments in its mining sector.

One of the most remarkable aspects of the Saskatchewan non-renewable natural resources boom has been the broad cluster that has grown around the industry (Table 2). There are now more than 2,000 firms directly in these sectors, more than 1,000 firms providing general services to the oil and gas industry, and another 345 directly in the oil and gas extraction sector. There are more than 160 firms in the oil and gas pipeline and related structures construction sector.

The population of Saskatchewan is only incrementally larger than that of New Brunswick. Could this province build such a cluster? If our mining sector were to grow, that would necessitate a variety of new firms to support it. If the natural gas industry were to put down roots here, it could lead to dozens, if not hundreds, of new firms setting up or moving here to provide services.

Table 2: Non-Renewable Resources Industry (# of Firms*)

<u>Industry Group:</u>	<u>Saskatchewan</u>	<u>New Brunswick</u>
Oil and Gas Extraction (conventional and non-conventional)	345	8
Mining	86	18
Oil and Gas Contract Drilling	209	3
Contract Drilling (except Oil and Gas)	12	5
<i>Services to Oil and Gas Extraction</i>	<i>1,064</i>	<i>6</i>
Other Support Activities for Mining	64	25
Oil and Gas Pipeline and Related Structures Construction	166	9
Mining & Oil and Gas Field Machinery Manufacturing	17	1
Mining & Oil and Gas Well Machinery, Equipment & Supplies Wholesale-Distributors	<u>82</u>	<u>3</u>
Total Firms:	2,045	78

**This does not include the hundreds of firms that support the sector including construction, engineering, legal, human resources, finance and other business services.*

Source: Canadian Business Patterns (2011). Statistics Canada.

1.4 Achieving public support

It is clear that our natural resources and energy sectors have been a vital part of our economy and could continue to be a major growth driver for the economy in the future. However, because these sectors have the potential to disrupt communities and have environmental implications, broad public support is a necessary precondition for further investment and growth. Section 4 below lays out the framework for an effective partnership between industry, government, and local communities.

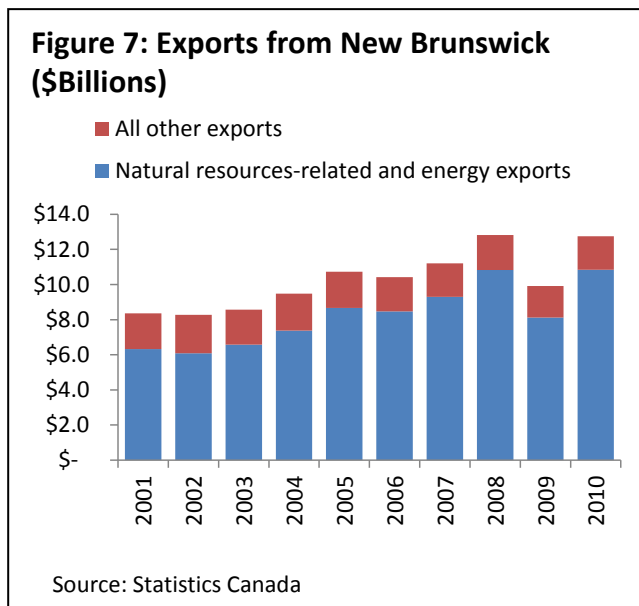
2. Interconnected: Natural resources development and society

Our province is facing a number of challenges on several fronts. Many of our principal industries have been shedding jobs and in turn lowering their impact on the gross domestic product.

At the same time, nearly 80 per cent of the province's municipalities have a stagnant or declining population, creating a looming demographic crunch. These economic and demographic realities are forcing structural provincial government budget deficits where there is insufficient government revenue to pay for our public services. Today just 62 per cent (\$4.5 billion) of the provincial government's budget of \$7.3 billion is generated from revenue sources (taxes and fees) in New Brunswick. The Province relies on Federal Equalization and Canada Health and Social Transfers for the balance. New Brunswick's tax base cannot support our basic health, education, and social programming. Our situation becomes even more precarious given that the Federal Government is now beginning to wrestle with its own fiscal challenges.

We need to find new sources of stable and long term economic activity.

As discussed in the previous section, large scale energy, mining and other natural resources-related projects drove much of the private sector economic growth over the past decade (Figure 7 shows the impact of these sectors on the province's exports). We are not currently able to forecast this kind of growth over the next decade from any source.



While it is difficult to predict with certainty where the New Brunswick economy will be in 2022, it's likely that without new sources of economic growth, we can expect a decade of weak economic performance and all of the related impacts on our communities and on the provision of public services and infrastructure.

2.1 New Brunswick needs growth industries

Some suggest we should delay the exploration and production of natural gas and other non-renewable resource projects. The argument put forward is that the resources are not going anywhere and could be accessed by future generations. When suggesting alternatives, these proponents suggest focusing on alternative sectors such as tourism and information and communications technology (ICT).

Both tourism and ICT have an important role to play in the New Brunswick economy, but are unlikely to provide the economic lift required to support an economic growth agenda for the province. Tourism revenues are down from their peak in the 1990s, and are unlikely to grow substantially in the coming years if it continues to be hampered by the high value of the Canadian dollar. The prospects for ICT are much greater, but competition for investment is significant and a large bidding war has broken out among governments across North America, which are all eager to attract their share of industry investment.

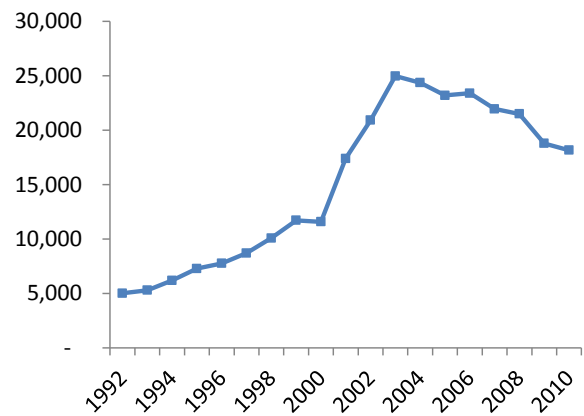
New Brunswick's customer contact centre industry, which has been by far the largest contributor to private sector job growth since the early 1990s is now starting to shed employment. Using the Administrative and Support Services (NAICS 561) as an indication of customer contact centre employment, the trend is quite remarkable⁹. In 1992, there were 5,000 working in this sector in New Brunswick. By 2003, there were 25,000 – by far the fastest growth in this sector of any province or U.S. state across North America. However, since 2003, the industry has shed an estimated 6,800 jobs and further reductions are likely as customer contact activity increasingly moves online.

One of the biggest reasons why New Brunswick needs growth industries is our need to build a younger workforce to balance the increasingly aging one. In 1971, New Brunswick had the second youngest population with a median age of 23.9 years in Canada. By 2010, New Brunswick and Nova Scotia were essentially tied with the second oldest median population (47.2 years). Saskatchewan's natural resource industries are attracting a new cohort of young, skilled workers from across Canada and beyond.

There are other reasons why New Brunswick needs to identify new private sector growth opportunities. Public sector spending in the province has been growing much faster than the private sector over the past decade and a half since the last time governments were forced to undertake austerity measures. Now, as governments at all levels look to rein in spending, without new private sector investments the prospect of a lost decade is a real possibility.

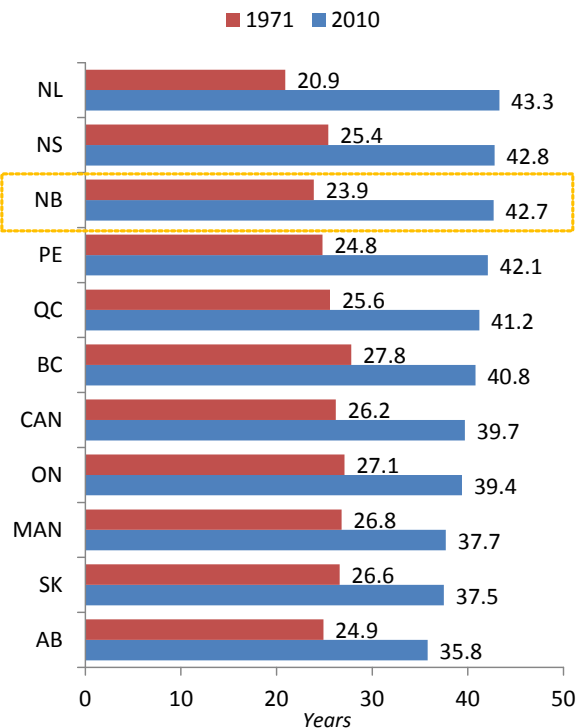
The bottom line is that New Brunswick should pursue economic growth where it can develop a clear and compelling value proposition for investment. This could include the Web-based customer contact centre industry. It could include more ICT industry investment in targeted areas and it could include other sectors of the economy. Equally, it could and should include consideration of further development of resource based industries.

Figure 8: 20 Year Employment Trend Administrative and support services sector



Source: Statistics Canada. Table 281-0024.

Figure 9: Median Age of the Population



Source: Statistics Canada. Table 051-0001

⁹ Most call centre activity is found in this sector. Source: Statistics Canada Survey of Employment, Earnings and Hours.

2.2 Natural resource industries are high value economic drivers

As discussed in Section 1.2, the non-renewable natural resources sector contributes to the provincial finances in an important way most others do not - through royalty and other direct payments¹⁰.

This can have substantial implications for the public finances. In the 2011/2012 provincial budget, Newfoundland and Labrador predicted it would take in \$2.6 billion in oil and mining royalties and Saskatchewan forecasted \$2.1 billion in royalties and related payments. For both provinces, this was down considerably from previous years.

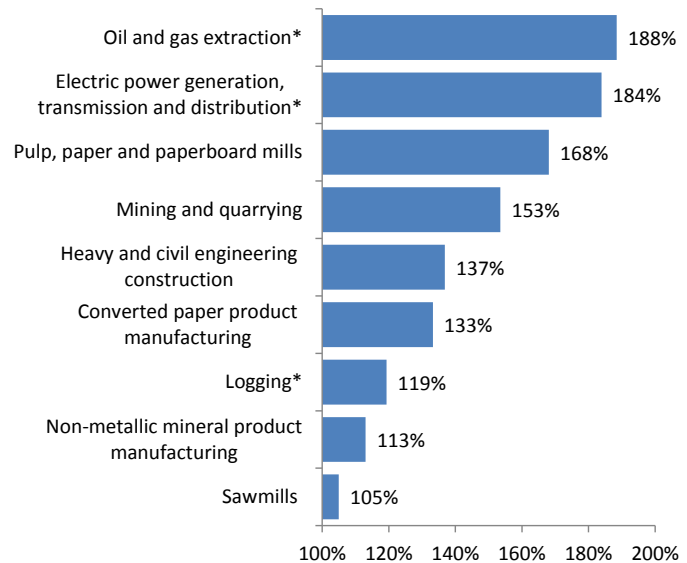
To put this into comparative context, New Brunswick is expecting to raise \$2.6 billion in 2011/2012 from income tax (personal and corporate) and HST combined. Provincial expenditures in 2009 on health care alone totalled \$2.65 billion.¹¹

Beyond royalties, the industry generates a considerable amount of high value economic activity which translates into good paying jobs and substantial work for small and medium sized companies. Average weekly wages in the oil and gas extraction industry across Canada are 88 per cent higher than the all-industry average. The average mining job pays a 53 per cent premium in New Brunswick.

There is evidence that non-renewable resource activity can also generate considerable wealth across an economy. As an example, in 2000 as the offshore oil industry was starting to take root in Newfoundland and Labrador, that province had 15 per cent fewer persons compared to New Brunswick reporting total income of at least \$100,000. Nine years later, there were 27 per cent more people in Newfoundland and Labrador compared to New Brunswick reporting total income at that level or higher¹².

A sizable portion of this income gets translated into the tax revenue that pays for public services and infrastructure.

Figure 10: Average Weekly Wage Premium Natural Resources and Energy Industries Expressed as a % of Overall Industry Average
New Brunswick except where noted



*New Brunswick data not available. Canada wide wage premium shown. For 2008. Source: Statistics Canada

¹⁰ Renewable resources can also provide substantial royalty revenue. For example, New Brunswick's forest sector was forecast to generate \$65 million in royalty payments in the 2011/2012 budget.

¹¹ <http://www40.statcan.ca/l01/cst01/govt08a-eng.htm>

¹² As a per centage of total income earners. Source: Statistics Canada. Table 111-0008.

2.3 Understanding the link between natural resources investment and public services

The main argument in favour of support for investment in our natural resources and energy sectors is our desire to maintain acceptable levels of good public services and infrastructure in the province. For some New Brunswickers, the link between our economy and the cost of public services is not fully appreciated. Table 3 shows an example of what \$100 million dollars' worth of revenue for the New Brunswick government will pay for.

One hundred million dollars will cover the salaries of more than 1,400 nurses or 1,500 secondary school teachers. It also covers almost half of the entire Department of Transportation budget used to keep our highways in good shape.

As the province grapples with a revenue shortfall of close to \$500 million dollars in fiscal 2011/2012 it is important to understand how government revenue is generated in the economy.

Table 3: Spending \$100 million on public services in New Brunswick

This amount of tax/royalty revenue would cover¹³:

- ⇒ The salaries of more than 1,400 nurses
 - ⇒ The salaries of more than 1,500 school teachers
 - ⇒ The salaries of 650 doctors
 - ⇒ The salaries of 1,700 social workers
 - ⇒ Almost the entire Department of Natural Resources budget
 - ⇒ Two thirds of the entire Department of Public Safety budget
 - ⇒ One third of the entire Post-Secondary Education, Training and Labour department budget
 - ⇒ Over half of the total amount paid out to New Brunswick families each year through Social Assistance
-

According to media reports, the New Brunswick government believes that if the shale gas industry were to take off in the province, it could end up providing some \$200 million per year in royalty revenue alone. At that level of royalty payments, the industry would also be generating tens of millions of dollars' worth of government revenue from other forms of taxes in the provincial economy.

¹³ Using median annual income from the 2006 Census adjusted to 2011 dollars. Budget amounts are taken from the New Brunswick Government 2011-2012 Main Estimates publication. The amount paid in Social Assistance is taken from Statistics Canada's Survey on Neighbourhood Income.

2.4 Maximizing long-term economic benefits

It is important to ensure that New Brunswickers get the maximum economic benefit out of its natural resource industries and to take a long term view. A typical mining project will have a 30-40 year time horizon. The development of non-renewable resources in particular needs to be viewed from a long term perspective and with a clear sense of the impact on future generations.

2.4.1 Maximizing royalties

The Saskatchewan government has done a good job of both stimulating new investment in the potash industry and also ensuring that a high rate of royalties flows back to the provincial coffers. It levies a royalty on all potash mined in the province and also charges a profits tax to ensure the province benefits when the producers are generating large profits.

At the same time, the province allows producers to write down capital investments in new mining capacity against royalties payable. This policy change in the 2000s resulted in the first potash mining shaft sunk in Saskatchewan in nearly 40 years in 2009 and there are more projects underway. As a result of these capital investments (and the tax credit), royalty payments are down in the past few years but are expected to rise again to substantial levels in the near future. By one estimate, with potash priced at \$550/tonne, potash royalties are set to rise in Saskatchewan to nearly \$1.8 billion per year.

New Brunswick's potash deposits are closer to end markets (such as Brazil) than those in Saskatchewan yet it generates less in royalty revenue compared to that province. The royalty rate in New Brunswick is 6.25 per cent compared to an effective rate in Saskatchewan of nearly 11 per cent¹⁴.

The New Brunswick government provided a number of incentives to convince the Potash Corporation of Saskatchewan to expand its mine near Sussex in 2007¹⁵ including:

- a royalty holiday for all potash and salt produced from the new shafts for a period of three years;
- a royalty reduction from 6.25 per cent to 5.25 per cent for all potash production for a period of five years after the royalty holiday; and
- a royalty reduction from 3.5 per cent to 2.5 per cent for all salt production for a period of five years after the royalty holiday.

The government estimated this would reduce royalties by \$35 million per year over the next twenty years but that the province will still collect over \$330 million in royalties over the period.

The New Brunswick government has specifically included profit sharing as one of the elements of the Millstream potash deposit project. In 2011, Atlantic Potash Corp. was given the right to explore and develop the confirmed potash deposit near Millstream.

It is important to foster new investment and good paying jobs but royalty rates for oil and gas as well as minerals should be competitive with other jurisdictions.

¹⁴ Using total provincial royalties collected as a percentage of industry revenue from 2000 to 2009.

¹⁵ The full press release: <http://www.gnb.ca/cnb/news/nr/2007e0938nr.htm>.

2.4.2 Adding value to the resources in New Brunswick

Where possible, we should be trying to find ways to add more value to the natural resources we are developing in New Brunswick. For example, in the forestry industry the pulp and paper industry is a complementary value added activity that supports sawmills and other downstream activity. The industry could have been designed to export raw logs for processing in other markets but instead much of the economic value-add accrues in New Brunswick.

The Request for Proposals (RFP) related to the Millstream potash deposit discussed above explicitly included a bias towards proponents “that agree to carry out additional refining or value-added production within the province.” This is a good example of adding value to the resources in the province before shipping to export markets.

Beyond just the exploration and production, we should also look to find ways to use our own natural gas for our economic development. New Brunswick still has a very low penetration of households and businesses using natural gas. For example, natural gas is a critical component in the development of potash into fertilizer.

2.4.3 Maximizing supply chain benefits

As discussed in Section 1.3.3 above, the supply chain benefits from these sectors can be considerable. The natural gas industry, for example, requires a long supply chain of activities such as engineering, construction, pipeline development, environmental services, etc. While the direct multipliers for these sectors are not available in New Brunswick¹⁶, other jurisdictions provide a good indication of the direct and indirect effects.

A good example is British Columbia which has a growing oil and gas industry as well as other forms of mining. In that province, for every direct job in the oil and gas extraction sector, another 2.5 jobs are supported up and down the supply chain and in the wider economy (Table 4). Mining and related engineering construction industries also offer large employment multipliers in the province.

**Table 4: Employment Multipliers: Total Employment Across the Province for Every Direct Job
British Columbia**

<u>Industry:</u>	<u>Total Jobs:</u>
Oil and Gas Extraction	3.5
Copper, Nickel, Lead and Zinc Ore Mining	2.5
Stone Mining and Quarrying	1.9
Oil and Gas Engineering Construction	1.7
Electric Power Engineering Construction	2.2

*Full Time Equivalent. Source: Statistics Canada Input/Output Tables (2007)

It is important for the provincial government and local stakeholders to put a priority on building supply chain and skilled labour capacity in the province. Many companies will import labour and use out-of-province suppliers when they enter a new or immature market. This means much of the economic benefit will leave the province. It is only when a deep, local supply chain is developed that the province will maximize the economic benefits for New Brunswickers.

¹⁶ For most of these sectors the industry in New Brunswick is too small and the data is suppressed by Statistics Canada.

3. Potential areas for natural resources and energy investments over the next decade

3.1 Peering over the horizon

Most capital intensive natural resource-based or energy projects have a long development cycle. Early into the last decade, many of the large projects that would lead private sector investment for the short to medium term were already known including the refurbishment of the Point Lepreau nuclear power generating station, the natural gas pipeline investments, the encouragement of wind energy investments, the LNG project in Saint John, among others.

When we peer over the horizon now – looking out five to 10 years – we see very little private or public sector investment potential of this magnitude. The public sector will be scaling back its spending to address a large fiscal deficit. At the same time, there are no identifiable large investment projects on the table for New Brunswick. There are a few natural resources projects with potential including the Sisson Brook tungsten mine and a possible zinc mine near Bathurst. The shale gas industry has some potential but it is still in the earliest phase of exploration.

The Atlantic Provinces Economic Council (APEC) prepares an annual inventory of forecasted large capital projects across the region. There are many large-scale projects on the books for Newfoundland and Labrador including the Muskrat Falls hydroelectricity generation station and transmission infrastructure as well as large mining investments. In Nova Scotia, there are also a number of large projects on the books with the most notable being the \$30 billion shipbuilding project for the Halifax Shipyard.

In the APEC report, there are few large scale projects identified for New Brunswick. The report mentions the shale gas industry and a potential second potash mine in southern New Brunswick but both of those are at the speculative stage (the potash mine is undergoing a feasibility study in 2012). This lack of large scale investment will have short and longer term implications for the economy. According to APEC, real GDP is forecast to grow at only 1.3 per cent in 2012 as “weak capital investment and fiscal restraint limit growth potential”¹⁷.

However, trends in global demand coupled with New Brunswick assets such as its geographic position and its natural resources point to some areas of potential investment over the next few years.

¹⁷ Atlantic Provinces Economic Council Outlook 2012 Report.

3.2 Potential energy-related projects

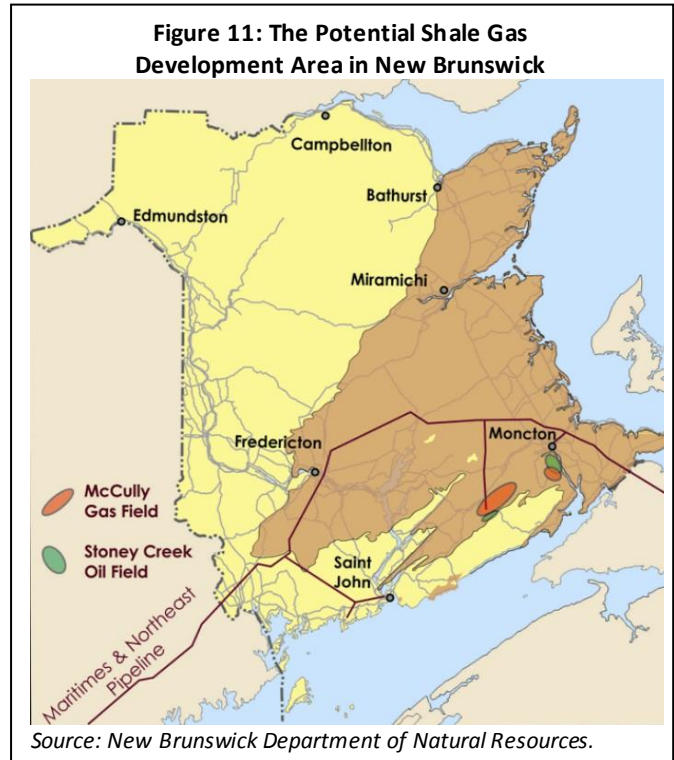
3.2.1 Shale gas

The energy-related opportunity with the most obvious economic potential is shale gas. According to government data, there is an estimated 80+ trillion cubic feet of natural gas trapped inside New Brunswick shale beds in the McCully and Stoney Creek fields alone (Figure 11). The potential for shale gas extends from Charlotte County through to the northeastern part of New Brunswick.

Although the sector is still in an exploration phase to validate whether there is a commercially viable discovery, there is substantial potential for this resource industry to be the largest driver of the New Brunswick economy over the next 10-20 years and further. There are already several firms committed to exploration in New Brunswick. The economic activity would come from the exploration and production of the natural gas as well as the pipeline and associated infrastructure needed to get the gas to the main pipeline. In addition, a host of companies up and down the supply chain from environmental consultants to the training sector benefit from this industry.

The provincial government itself is the largest beneficiary from this industry as a result of royalties paid from the natural gas and tax revenue generated from the economic activity required to extract the gas and get it to markets. According to a recent report in the media, the government estimates a “major find” of natural gas could net the province more than \$200 million in annual royalties¹⁸. This would be on top of the tens of millions of dollars’ worth of potential tax revenues.

The Marcellus shale gas industry in Pennsylvania is a good example of the ultimate potential of the industry in New Brunswick. According to a recent report¹⁹, the shale gas industry in Pennsylvania generated more than \$11 billion in economic value added during 2010, supported nearly 140,000 jobs and generated \$2.5 billion in taxes to local, state and federal governments. In addition, the industry paid out some \$346 million in royalties to local landowners (Table 5). Even if New Brunswick shale gas supported a fraction of that level of economic activity it would be a game changer.



¹⁸ The importance of royalty payments within the United States market is a major difference with New Brunswick. Royalty payments are typically paid to landowners in the United States who also own the mineral rights to areas beneath their land. In New Brunswick, mineral rights are the property of the Crown.

¹⁹ The Pennsylvania Marcellus Natural Gas Industry. The Pennsylvania State University College of Earth and Mineral Sciences.

The estimated shale gas reserves in New Brunswick are currently about 10 per cent of the size of the Marcellus shale formation in Pennsylvania. As a basis for comparison, if New Brunswick's shale gas industry generated only 10 per cent of the current activity in Pennsylvania, it would support 14,000 jobs across New Brunswick and generate a minimum of at least \$200 million tax revenue for government²⁰.

Table 5: Pennsylvania Marcellus Economic Impacts (2010)

	<u>Direct</u>	<u>Indirect</u>	<u>Induced</u>	<u>Total</u>
Economic Value Added (\$Millions)	\$5,333.0	\$2,375.5	\$3,452.3	\$11,160.8
Employment Impacts	67,739	26,234	45,916	139,889
Tax Impacts - State and Local (\$Millions)				\$1,084.9
Tax Impacts - Federal (\$Millions)				\$1,438.9

Source: The Pennsylvania Marcellus Natural Gas Industry. The Pennsylvania State University College of Earth and Mineral Sciences.

There is considerable opposition to the shale gas industry in New Brunswick. Without the social license provided by the support of a majority of New Brunswickers, it will be difficult for this industry to achieve its potential. Rigorous environmental regulations that address public concerns and promote the economic potential of this industry will be key to garnering public support.

3.2.2 Converting Coleson Cove to a natural gas-fired generation facility

The 978 MW Coleson Cove electricity generating station in Saint John is an underutilized facility used exclusively for peak demand periods due to its costly fuel source being oil. The plant still has economic value to NB power in its current state as its capacity fulfills NB Powers reliability (back-up generation) requirements as part of the North American grid. There is potential to convert the facility – for relatively limited investment – into a natural gas fired generating station. In May 2011, NB Power announced that it was considering this alternative.

This project is interesting for several reasons. First it could be used to load balance with wind energy around the Maritime Provinces. There is a growing stock of wind energy infrastructure in the Maritime Provinces that only generates electricity when the wind is blowing. This forces utilities to have other sources of electricity available to balance when the wind is not blowing. It is easier to balance wind energy with natural gas-fired generation or hydroelectric than with coal or other conventional sources of electricity. The power from a converted Coleson Cove could also be used to provide an economic development incentive rate for large, industrial users. With the low price of natural gas and the limited conversion investment, the direct cost to generate power from Coleson Cove (without accounting for the rest of NB Power's cost structure) would be very competitive and could be attractive for large industrial projects.

This opportunity would need to be studied further. There are numerous business models that could be deployed to develop this investment. NB could develop this opportunity itself, enter into a joint-venture with another enterprise, sell the facility or allow it to be operated by a third party merchant.

²⁰ This comparison is only to show potential scale. Actual employment and tax impacts would vary in New Brunswick because of the different dynamics associated with the industry.

3.2.3 Electricity transmission grid upgrades

Once the 824 MW Muskrat Falls hydroelectric project in Labrador proceeds to its development stage further investments in transmission will be required throughout the Atlantic Provinces. Given that New Brunswick's electricity transmission grid will require further investment to support Newfoundland and Labrador's need to meet North American reliability standards, negotiations are apt to emerge on who should pay for this investment.

It would seem New Brunswick is in a good bargaining position. These negotiations could serve as a catalyst for a broader regional discussion about energy load balancing and sharing. The enabling transmission infrastructure for Muskrat Falls could also provide a path to markets in Nova Scotia and Maine for surplus energy generated from Coleson Cove should it undergo the aforementioned conversion to natural gas.

It should also be noted that the New Brunswick Energy Commission (2010-2011) report suggested there is potential for the refurbishment of the Eel River interface between Quebec and New Brunswick.

3.2.4 A second nuclear reactor

In July 2010, the New Brunswick government and NB Power signed a letter of intent with AREVA, the world's largest nuclear vendor company, to examine the feasibility of building a second nuclear reactor in New Brunswick. The government estimated at the time the construction of a second facility would create some 8,500 direct and indirect jobs across the province. However, the New Brunswick Energy Commission dismissed the opportunity and the New Brunswick Energy Blueprint (October 2011) makes no reference to the proposed project.

3.2.5 More wind and other renewable energy investment

The New Brunswick Energy Blueprint sets NB Power's Renewable Portfolio Standard to 40 per cent of total sales by 2020. While there is a strong focus on demand side management (DSM), the blueprint also promises to support local and First Nations small-scale renewable projects and includes "a commitment to support the development of solar, bio-energy and other emerging renewable energy technologies". It is not likely that this focus on renewable energy will be a significant new source of economic activity for the province. There is nothing in the blueprint to suggest there will be large scale investment in new wind generation infrastructure.

3.3 Non-renewable natural resources

While shale gas (discussed above) is considered to be the non-renewable resource with the potential for the greatest economic impact, there are other non-renewable natural resources in the province that also have the capacity to generate significant investment and economic activity over the next decade.

Despite the current economic challenges in North America and Europe, the demand for many categories of minerals around the world is expected to rise in the coming years. World demand for potash is steadily increasing. The opportunity for rare earth metals mining rose significantly after the 2010 decision by the Chinese government to stop exports of that country's rare earth metals so they could ensure supply for local industries. China produces more than 80 per cent of the world's rare earth metals. Molybdenum and indium are both used in electronics and other products whose world demand is on the rise.

The New Brunswick government issued a request for proposals (RFP) in April 2011 relating to the development of the potash deposit near Millstream in the southern part of the province.

In December 2011, the provincial government signed an agreement awarding Atlantic Potash Corp. of Saint John the right to explore and develop this potash deposit. Given the scale of investment required to develop a potash mine and processing facility, this could provide a large economic boost to the province²¹.

At the same time, the Brunswick Mine located 20 kilometres southwest of Bathurst, is slated to close in the near future. The mine directly employs 800 people at well above average wages. In addition, the company's supply chain will be substantially impacted including the bulk-handling facility located in Belledune.

Table 6: Exploration and Mining Properties in New Brunswick (2011)

<u>Mineral Commodity:</u>	<u>Number of Exploration and Mining Properties</u>
Tungsten, Tin, Molybdenum & Indium	7
Gold and Antimony	7
Nickel and Copper	1
Potash and Salt	1
Manganese	1
Base Metals	12
Rare Earths	4

*Not including oil and gas. Source: New Brunswick Department of Natural Resources (2011)

It is not clear what the strategy is for the development of the rest of New Brunswick's mineral resources. In fact, the revenue generated by mining (excluding gas and potash) is on the decline. There are some positive developments such as the Halfmile polymetallic sulphide project near Bathurst. The company is slated to begin mining activities in early 2012. The Sisson Brook tungsten mine also holds serious potential to being mined in the near future.

Invest NB, the agency tasked with promoting New Brunswick for investment, is working to attract mining companies to New Brunswick.

3.4 Renewable natural resources

New Brunswick's most important renewable natural resource is its forests. In 2000, the forest products industry accounted for more than 10 per cent of the provincial gross domestic product (GDP)²². By the late 2000s, that had dropped to around five per cent and by 2010 was back up to around seven per cent of the provincial GDP.

Despite the many forest products mill closures in the middle of the last decade, the remaining firms were making substantial investments to improve productivity and energy efficiency as well as to diversifying into new markets. For example, the AV mills in Nackawic and northern New Brunswick provide pulp that is used in Asian textile factories. The outlook for future investment in this sector is uncertain. Access to the wood supply (Crown and private woodlots) as well as general market conditions and international competition continue to be problems for the industry and a restraint on future growth. The new provincial focus on wood pellets and the use of biomass as energy could result in some limited new investment.

²¹ The potash mine expansion near Sussex featured an estimated \$1.7 billion capital cost.

²² Including the following NAICS industry groups: forestry and logging; support activities for forestry, wood product manufacturing, pulp, paper and paperboard mills and converted paper product manufacturing.

4. Partners for sustainable resources and energy development

In order to support the three objectives of ecological integrity, economic progress and social development, there are specific roles for the various stakeholders. From industry, we need investment by efficient, competitive, profitable firms who are also good corporate citizens. From government, we need robust, timely and predictable regulations as well as effective enforcement of those regulations. We also need a government that can foster an environment that is attractive for investment.

There is also an important and mature role for community and environmental groups as partners in the development of our natural resources. We need to change the engagement paradigm between industry, government and these non-governmental organizations from one characterized by polarity to one that is focused on optimal outcomes for the residents of New Brunswick.

4.1 Sustainable resources development is possible

The complexities of development are greater when it comes to developing renewable and non-renewable resources as well as the energy sector. Wind energy projects, for example, are now generating many of the same perceived negatives associated with traditional non-renewable energy development (e.g. concerns over noise and sight lines).

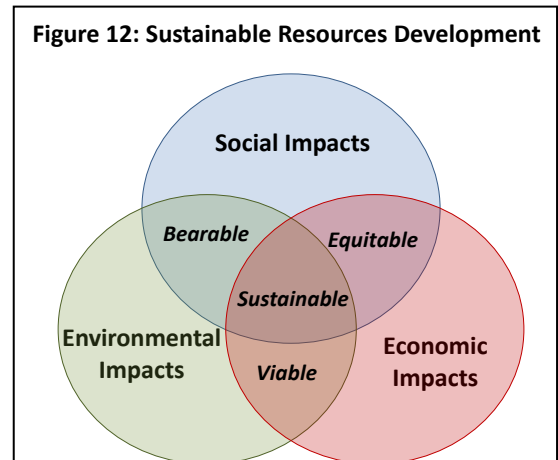
The standard sustainable natural resources development model is based on the premise that there is a middle ground where the environmental impacts are limited, the economic benefits are strong and there is a clear understanding among the public that the economic benefits are flowing back to support local communities. At this optimal point, there will be a durable social license to develop natural resources as well as the energy sector.

For this sustainable resources development model to work, all of the major stakeholder groups should be committed to working together to forge a shared set of desirable outcomes.

4.1 The important role for industrial anchor companies

From mineral mining to large scale energy projects, oil and gas exploration and the forest products sector, this type of development is almost always anchored by large firms. This is because larger firms have access to the level of capital required for long term investments, they have market reach and they have built the internal capacity to address sophisticated regulatory regimes.

From industry, the province should be looking for good corporate citizens that are committed to be long-term partners in the development of the industries and the communities in which they operate.



These firms should:

- Commit to paying competitive and fair royalties/taxes on the natural resources they are developing.
- Work closely with local communities to build broader support for the development.
- Adhere to regulations and quickly address any problems as they arise.
- Commit to working with local stakeholders to build durable industries in the province for the long term benefit of citizens. This should include helping to build local capacity, hiring local workers and suppliers and working with other local partners.
- Create value added exports that support local employment and economic well-being.

4.1.1 Responsibility in the supply chain

While these industries need large industrial anchors, hundreds of New Brunswick firms benefit directly from work in the supply chain. As mentioned above, there are nearly 1,400 firms directly involved in the forestry industry supply chain not including the many high salary engineering, consulting, education and other professional services firms that are not in the primary supply chain. A large mining project will typically have several hundred supplier relationships as will a large energy project.

It is important for firms large and small that are involved in these projects to understand their role regarding environmental stewardship, regulatory adherence and community engagement. In many cases, the large firm with the supplier relationships can integrate these commitments into agreements.

4.1.2 Attracting good corporate citizens

Spain-based Repsol is a good example of the kind of industrial anchor company that we need to support our economic development in New Brunswick. The company is a large, global energy firm with operations in more than 30 countries and annual operating revenues of more than \$10 billion (CDN).

Repsol is the majority partner (75 per cent) in the Canaport LNG terminal project in Saint John. Canaport LNG has three liquefied natural gas (LNG) storage tanks and the capacity to hold 10 billion cubic feet (BCF) of natural gas. The company says the Saint John LNG terminal is “the most technologically advanced LNG receiving and regasification terminal in the world”²³.

When the project was first proposed, there was some concern among local community groups about the safety and security of the project. The company worked with local stakeholders at every stage in the project to ensure these concerns were addressed. The company credits the support of the local community as critical to the success of the project.

Repsol has a strong sense of its social responsibility in the communities in which it operates. In Saint John, Canaport LNG has a social responsibility plan based on three specific areas where the firm wants to make a difference in the community: Education, Environment and Recreation.

²³ From a recent corporate press release. Visit <http://www.canaportlng.com> for details.

On the environmental front, the Canaport Community Environment Liaison Committee (CCELC) meets on a quarterly basis to discuss important issues with members of the community and to provide the community with updates on Canaport LNG. These meetings are a two-way dialogue: They are the community's opportunity to gain information from the firm and then provide their feedback. Members of this committee include local residents, community groups, business leaders and environmental group representatives.

In support of its focus on education, environment and recreation, the firm has committed significant financial resources and personnel time throughout the community. The table provides an example of some of the dozens of events and activities the firm has sponsored in recent years.

When looking for industrial anchor partners, Repsol meets the expectations through broad and ongoing public engagement, a strong commitment to environmental responsibility and safety and through building deep roots into the community from considerable investments of time and money.

Sample Recent Canaport LNG Community Investments

- Kids Come First Saint John Mill Rats Program
- Get FANatical About Math Program (five years running)
- Pavilion Cup Pond Hockey Tournament
- One Life program through the Teen Resource Centre
- Dalhousie Medicine New Brunswick Scholarship
- PeeWee AAA Sea Dogs Hockey Team
- New Brunswick Special Olympics
- Dr. A.T. Leatherbarrow Playground Restoration
- 31st Annual Acadian Games
- Marsh Creek Clean Up
- Junior Achievement Futures Unlimited Banquet

Source: Canaport LNG.

4.2 The important role for government

Government has an obligation to foster a strong economy but not at the expense of either the environment or social progress. As a critical partner in the sustainable development of the natural resources and energy sectors, the provincial government needs to have a robust regulatory framework that protects the public interest and environment. Critical to any reasonable development of our natural resources and energy sectors is public confidence in our regulatory framework.

However, in fairness to the industrial partners – firms that are making long term investment decisions, the regulatory framework must be clear, predictable and timely. A stable environment provides both the companies making the investments and the communities and residents with clarity of expectations.

The provincial government must also have the resources in place to assure enforcement of regulation and timely redress for any violations. Not having the right regulatory framework, enforcement and compensatory regimes in place betrays the social license given to develop our renewable and non-renewable resources.

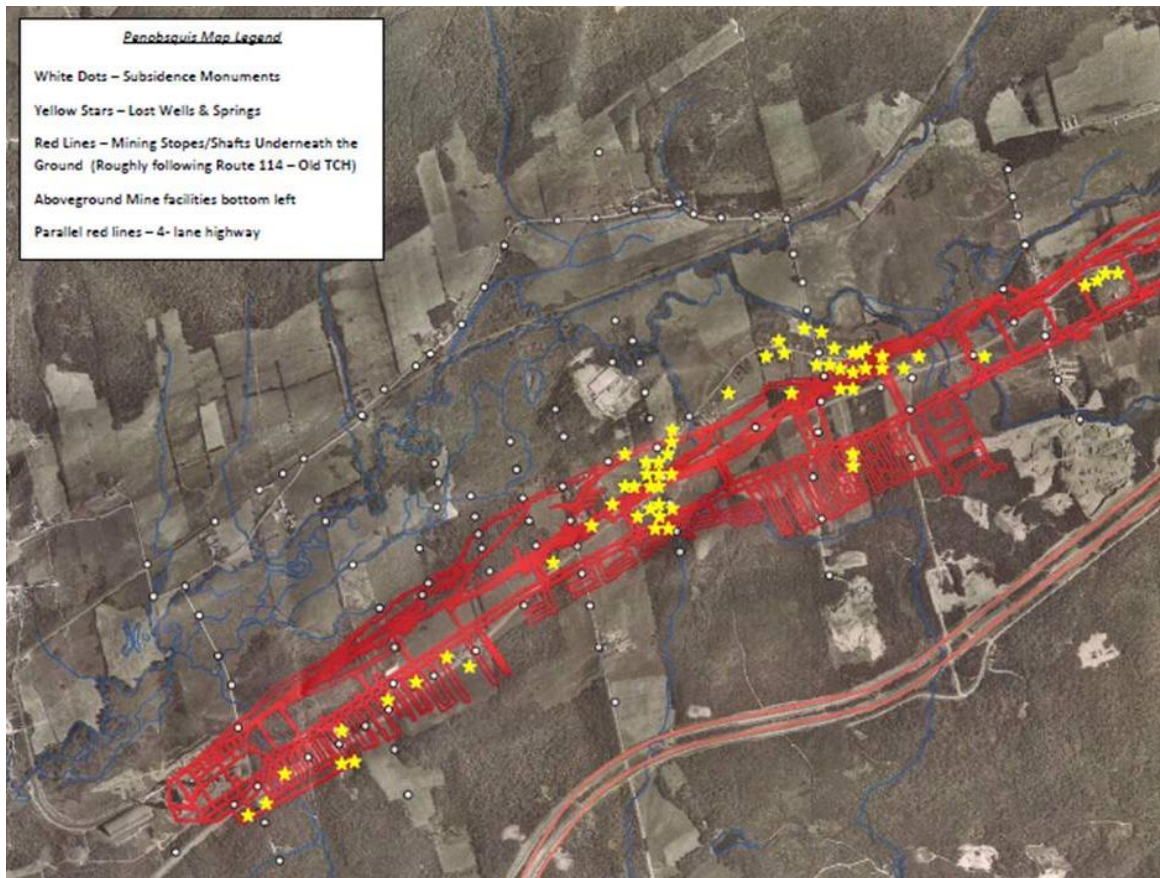
Local government also has an important role to play. Residents look to local mayors and councils to advocate on their behalf but this advocacy must also be based on the three objectives of economic impacts, environmental sustainability and positive social outcomes. Taking the side of narrow protest movements because of their visibility is not necessarily in the best interest of the public at large. Leadership requires a balanced approach from local governments.

4.2.1 Penobsquis lost wells and springs

The recent example in the Penobsquis area is a good example of where the government should have intervened sooner to redress the situation. There is a small cluster of homes in the Penobsquis area close to the potash mine infrastructure that had problems with their well water and local springs (Figure 13).

Not resolving this public and limited case expeditiously has eroded broader community support for mining at large and is influencing the view on oil and gas and other resource based development. Opponents to shale gas development are using Penobsquis as an example to prove that government can't be trusted to protect the public interest.

Figure 13: Penobsquis Lost Wells and Springs



Source: Concerned Citizens of Penobsquis

Where there is a weight of evidence that shows that industrial activity caused something to go wrong - the public interest must be protected. Citizens should not be forced to take their own government to court to right a wrong perceived to have been brought on by industrial development.

In June 2011, the government announced the development of new regulations for natural gas exploration that will require mining companies to conduct water tests prior to work starting and to set up a security bond to protect homeowners from any potential accidents.

In addition, in the November 2011 Speech from the Throne, the government reiterated its commitment to provide a “strong and parallel focus on the protective measures necessary to ensure responsible development”. Further, the government says it is “developing a comprehensive action plan to ensure that New Brunswick has a strong regulatory regime in place that includes robust monitoring and enforcement mechanisms”.

The same thoughtful approach should be taken for other types of mining, the forestry sector and the energy sector where issues such as the siting of wind turbines have the potential to cause concern.

4.3 A New Model for the NGO: The important role for non-governmental organizations

Often environmental and community organizations in New Brunswick and elsewhere have spent considerable effort framing the natural resources development debate as right versus wrong. A version of this debate could be described as “You can’t mine for tungsten-molybdenum in central New Brunswick without doing serious harm to the local environment. You can’t have shale gas development without spoiling the water supply. You can’t develop the forest products industry without decimating animal and plant populations.”

Essentially, they see their role as one of vigorous opposition to the industrial development of natural resources. They fight against development knowing they will win some battles (such as uranium mining) and lose others (such as the allowable timber cut on Crown land forests). They believe that fighting hard against development is the best way to limit environmental damage. A better model is less adversarial. Instead of an approach where industry, community, governments and NGOs are competing on opposite sides of development, the better model has them working collaboratively to fight for the conditions under which a sustainable development model can be achieved. This means there will be cases where the risks are too great and the development opportunity would be halted.

New Brunswick is a small jurisdiction in size and population. Our closeness and numbers provide us with an opportunity to be more agile in developing mutual understandings on a range of issues including on how we develop our resource based sectors.

There are precedents for us to learn from:

- The Federal Species at Risk Act (SARA) was largely inspired by framework legislation developed by the Canadian Nature Federation, Sierra Legal Defence, Sierra Club of Canada, the Canadian Mining Association and the Canadian Pulp and Paper Association. Together they agreed on methods to protect critical habitat and the scientific listing of species.
- The Pennsylvania Environmental Council is a good example of an organization that is attempting to address environmental concerns associated with the development of Marcellus Shale. The Council is currently calling for stringent new measures on shale gas drilling in that state but at the same time its CEO is clearly stating the Council’s view of the importance of the resource to Pennsylvania’s economic development. He is quoted as saying that shale gas is “a once-in-a-generation energy and economic opportunity for Pennsylvania [and] we have a deep historical, political and fiduciary responsibility to get this right for the citizens.”²⁴

²⁴ From a PEC press release - <http://www.senatormjwhite.com/PDF/2010/marcellus-shale-report.pdf>.

New Brunswick needs NGOs such as the Pennsylvania Environmental Council that are passionate advocates for environmental stewardship but that understand the economic implications of their efforts. The PEC's vision statement reflects this reality:

“The Commonwealth of Pennsylvania will be a model for implementing collaborative solutions to environmental protection and restoration. This success is built from the work of partners that recognize the inextricable links between the environment, the economy and our quality of life.”²⁵

The challenge to New Brunswickers and specifically to our NGO community is to move beyond the 1970's model of mere confrontation and protest as a default response. In many cases the objective should be to make a difference - not only to make a point - by helping shape holistic solutions.

4.4 Legislative and political responsibilities

Political legislators have a responsibility to steward the discussion of controversial issues. The highly visible shale gas debate is one case where legislative leadership is urgently required. It is true that this potential sector is still in its infancy. New Brunswickers do not know whether there is in fact a commercially viable discovery in the Province as we are still at the stage of exploration. Many New Brunswickers do know that the sector exists in other jurisdictions on the continent and that over 25 per cent of the natural gas consumed today in North America comes from shale. Many New Brunswickers also know that the industry does not have a perfect record in some jurisdictions. They have heard from their political leaders that New Brunswick will have the most rigorous regulations in North America. The timely development of such regulations is vital to advance the discussion on whether such regulations can address public concern and protect the public interests.

It is the government's role to advance the discussion. It is also the role of opposition parties as they have the duty to propose ideas and solutions - not only to oppose initiatives of government.

The development and release of regulations for public review has the potential to constructively advance the debate, and to provide more clarity to the discussion. It is possible that the public will conclude that the proposed regulations are insufficient to protect water and the environment. If such regulations are as rigorous as the government suggests then the sector can proceed if there is a commercially viable discovery.

Let's produce the regulations and have the discussion.

4.5 The best role for the public

It is the New Brunswick public, its residents, who give the permission – the social license – for natural resources development and the energy sector. In an age where people have access to massive amounts of information at their fingertips, it is important to seek out knowledge and wisdom on these issues. To truly feel empowered – to have the comfort that decisions are being made fairly and wisely – people need to do their homework. As has been pointed out here throughout this report, natural resources are widely used around the world as a source of economic development. Fundamentally, the public needs to have faith that their government will protect the province's natural environment while using our natural resources to build strong communities – economically, environmentally and socially.

²⁵ Source: The Pennsylvania Environmental Council.

5. The Way Ahead: Supporting the environment, economy and our quality of life

This report was prepared to help industry, government, community groups and the general public understand the important role that our natural resources (renewable and non-renewable) and our energy sectors have played supporting the provincial economy over the years. It was also meant to show that these areas of our economy could continue to play a critical role in our economic development moving forward.

The Province's deposits of potash and other minerals hold great economic potential given their increasing demand around the world. Our forestry sector remains a vital component of our economy. Potential large deposits of shale gas, developed responsibly, could possibly lead to an exciting new industry.

At the same time, it is recognized that natural resources development can impact the environment and hosting communities. Therefore, a strong partnership is required between companies in the role of good corporate citizens, attentive governments and community groups.

It is important to develop a balanced approach to development. Other provinces such as Saskatchewan have put in place relatively high royalty regimes but at the same time share market risk with the resource developers. They also use short term royalty reductions as a means to incentivize new investment.

It is unlikely these sectors of the economy can be developed without broad public consent. There will always be groups in society that are deeply opposed to a particular natural resource development on ideological grounds. In a democratic society, this is to be expected. However, most residents have a stronger intuitive sense of the important role that natural resources have for the economy in a place such as New Brunswick but they want to be sure the risk of major environmental problems is avoided. Further they want to feel assured that if something does go wrong the government will act in the public interest and work diligently to address the situation in a timely and effective fashion.

The social license to operate becomes as important as the physical permits required by government. New and progressive societal partnerships are required in order to find ways that both protect our environment and strengthen our economy. Seeking and earning a social license to operate is vital to the success of a jurisdiction's resource sector. Industry and community partners need to develop this *social contract* together to ensure sustainable progress.

Both economically and demographically, New Brunswick is facing a hard road ahead. Beyond the short term fiscal challenges facing the government, in the medium to longer term the economic foundation of the province is weakening. It is imperative that we foster new growth industries that will provide the jobs and tax base required to have dynamic and sustainable communities.