

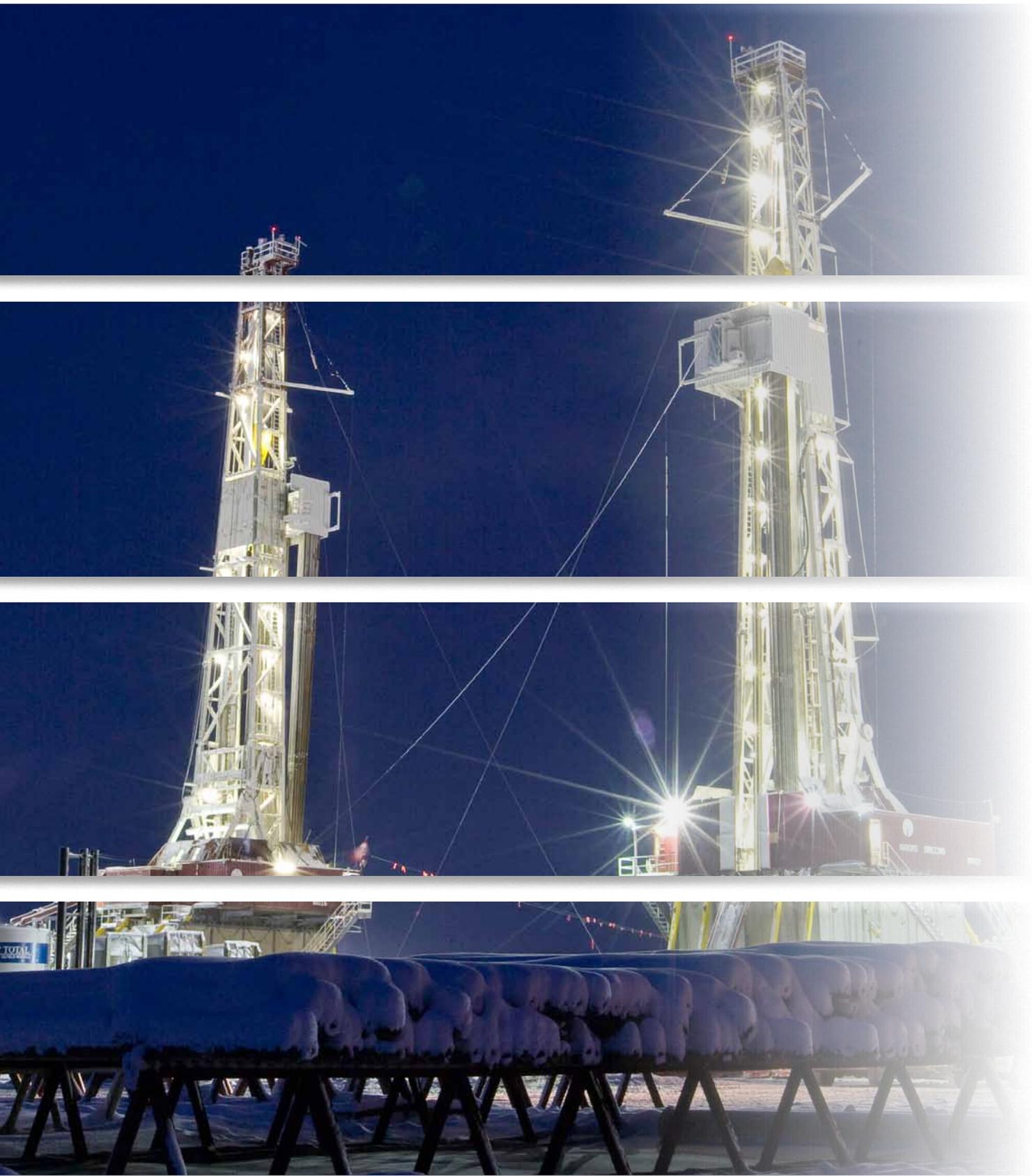


BRITISH COLUMBIA'S
Natural Gas
STRATEGY

Fuelling B.C.'s Economy for the
Next Decade and Beyond



Ministry of
Energy and Mines



Courtesy of Nexen Inc.

Cover photo courtesy of Apache Canada LTD.

Message from the Premier

B.C. WAS BUILT ON ITS NATURAL RESOURCES and our resources continue to fuel our economy. *The BC Jobs Plan* released in September is about using our competitive advantages to benefit all British Columbians. We want to open new markets for our exports, strengthen infrastructure to get our goods to market, and work with employers and communities to help grow and strengthen our economy and create jobs in every region of the province.

The natural gas industry is an important revenue generator for British Columbia. With new, undeveloped shale gas deposits in the northeast, there is a real opportunity for growth. In partnership with First Nations and communities we can reach our goals of new investment, job creation and other economic opportunities, while protecting the environment.

Now is the time to adopt a more aggressive approach to environmentally responsible industrial development. I am confident British Columbia can create a prosperous industry that will bring local jobs to communities and economic benefits for all British Columbians for years to come.



*Honourable Christy Clark
Premier of British Columbia*

Message from the Minister

BRITISH COLUMBIA HAS THE POTENTIAL TO BE A GLOBAL LEADER in environmentally responsible natural gas development and export.

We are building partnerships and collaborating with other jurisdictions to ensure B.C.'s natural gas policies and programs provide efficient environmental assessment and regulatory oversight. We will advance natural gas actions and strategies to help fuel B.C.'s economy for the next decade and beyond. These will contribute to our leadership in the transition to a low carbon global economy.

Natural gas is the world's cleanest-burning fossil fuel. Over the next 20 years, global demand for natural gas is expected to rise dramatically, fuelled by rapid economic growth in Asia. With demand growing quickly, prices in Asia are up to four times higher than they are in North America. With the development of liquefied natural gas (LNG) – a shippable form of natural gas – B.C. is ideally positioned to compete for a share of that lucrative market.

Export of B.C. LNG could also significantly lower global greenhouse gas production by replacing coal-fired power plants and oil-based transportation fuels with a much cleaner alternative. In *The BC Jobs Plan*, the province has committed to having B.C.'s first clean energy-powered LNG plant in operation by 2015 and three LNG facilities running by 2020. I am confident that we can meet these bold targets.



*Honourable Rich Coleman
Minister of Energy and Mines
and Minister Responsible for Housing*

Introduction

Natural Gas and Our Low Carbon Future

Natural gas is the world's cleanest-burning fossil fuel. B.C. exports of liquefied natural gas (LNG) can significantly lower global greenhouse gas emissions by replacing coal-fired power plants and oil-based transportation fuels with a much cleaner alternative.

LNG development in B.C. can have lower lifecycle greenhouse gas emissions than anywhere else in the world by promoting the use of clean electricity to power LNG plants.

B.C.'s LNG industry will contribute to our leadership in the transition to a low carbon global economy.

For over 50 years, British Columbia has ranked second only to Alberta in natural gas production in Canada. B.C.'s natural gas sector employs tens of thousands and industry investment has grown from \$1.8 billion in 2000 to \$7.1 billion in 2010.

The natural gas industry has been a significant economic driver and revenue generator for our province. Natural gas revenue in B.C. generated \$1.35 billion in 2009/10 and has been as high as \$2.6 billion, in 2005/06, helping to fund vital social services such as health care and education.

The Province is planning to continue to grow the industry over the next 10 years. In the *BC Jobs Plan* released in September, the Province committed to having our first LNG plant in operation by 2015 and three LNG facilities operating by 2020, assuming all environmental approvals are in place.

B.C.'s natural gas resources contained in shale and other fine grained sedimentary rocks (also referred to as tight gas) are immense, and modern drilling technology is now making this gas accessible.

A May 2011 report from the National Energy Board and the B.C. Ministry of Energy and Mines gave a medium estimate of 78 trillion cubic feet (Tcf) of gas that could be developed from the Horn River Basin alone. Resource estimates for the Montney, Liard and Cordova basins have yet to be compiled and these will add significantly to our marketable resources.

To put this in perspective, B.C. currently produces 1.1 Tcf annually and shale and tight gas now comprise 50 per cent of this volume. A 2011 report from the BC Oil and Gas Commission confirmed that B.C. experienced a 42 per cent increase in year-end natural gas reserves over 2009. This represents the highest level of established natural gas reserves and the largest yearly increase in the province's history, continuing a 10-year trend of increases. Meeting LNG development goals will see annual natural gas production approach 3 Tcf per year by 2020.

Vision: Global Leader in Natural Gas

British Columbia can be a global leader in secure and sustainable natural gas investment, development and export.

To achieve this vision, B.C. needs to:

- Maintain current and develop new markets
- Ensure a reliable, abundant supply
- Maintain competitiveness
- Maximize the benefits of natural gas development
- Ensure environmentally responsible development
- Build partnerships to promote development



Courtesy of Nexen Inc.

Developing Current and New Markets

Keep B.C. Competitive in the Global LNG Market

Demand for natural gas is growing in Asia and Europe, primarily for electricity generation and heating purposes, as well as in transportation. China and Japan are both pursuing new supply options – China to fuel its massive modernization and Japan to diversify its fuel supply. With demand growing quickly, prices in Asia are up to four times higher than they are in North America. Export of B.C. liquefied natural gas (LNG) could significantly lower global greenhouse gas emissions by replacing coal-fired power plants and oil-based transportation fuels with a much cleaner alternative. This is a great opportunity for B.C. and an important part of the *BC Jobs Plan*.

B.C. is at the forefront to develop the capacity to export LNG. The first large commercial LNG export facility in Canada is scheduled to open near Kitimat, on B.C.'s central coast by 2015¹. Kitimat LNG has already earned federal and provincial environmental assessment approvals. It has strong support from the Haisla Nation, on whose land it is being built. In October 2011, it was granted the first-ever federal licence to export LNG from Canada.

The smaller British Columbia Douglas Channel LNG plant is seeking approval of an export license from the National Energy Board. Several other B.C. LNG projects are in the early conceptual stage of development. These LNG projects will bring about \$18 billion in investment plus billions of dollars in exploration and development. These projects could also bring substantial revenue to the Province. For example, it is estimated that production from the first phase of the proposed Kitimat LNG plant could result in \$90 million annually in revenue, totalling more than \$1 billion by 2035.

As new opportunities like LNG emerge, the preservation of current markets will ensure industry development continues to support jobs and resource development in British Columbia. B.C. will remain engaged with the National Energy Board so the province's natural gas will continue to benefit and accommodate energy needs across Canada.

Market Diversification

Most of British Columbia's natural gas is exported. Of the three billion cubic feet per day of gas currently produced in B.C., 16 per cent is consumed within B.C., 41 per cent is exported to the U.S. through two pipeline systems and 43 per cent is delivered to other regions of Canada by pipeline.

¹ Kitimat LNG partners are Apache Corporation, EOG Resources Inc., and Encana Corporation.



Courtesy of Nexen Inc.

In addition to global market diversification, there are new and expanded uses of natural gas in North America and British Columbia, including transportation, fuel switching from coal to natural gas for power generation, and as a feedstock to make other products.

Promote Natural Gas as a Transportation Fuel

Natural gas can help reduce greenhouse gas emissions by replacing diesel in heavy and medium vehicle fleets.

Natural gas is 25 to 40 per cent cheaper than gasoline and diesel. A natural gas vehicle produces 20 to 30 per cent fewer greenhouse gas emissions compared to a gasoline or diesel vehicle.

British Columbia is home to world-leading natural gas vehicle industries, including engine and refuelling technology. To assist in transforming the market, the Province's point-of-sale incentives provide up to \$2,500 off the sticker price for qualifying compressed natural gas vehicles. Investments in natural gas vehicles will lead to growth and new jobs in this local industry.

The *Clean Energy Act* provides the framework for a planned five-year, \$62 million program to reduce transportation emissions for heavy duty natural gas vehicles.

Develop New Markets for Natural Gas

Natural gas has great potential in applications that could develop new industries for British Columbia. These include:

- **Gas-To-Liquids:** Natural gas can be converted into high-value liquid products like clean diesel, naphtha, or jet fuel.
- **Methanol:** Synthesized mainly from natural gas, methanol is a key ingredient in the production of plastics, plywood, paints, and permanent press textiles. It also can be used in motor vehicle fuel, solvent, antifreeze and windshield washer fluid.
- **Fertilizers:** Natural gas can be used to produce ammonia for fertilizer production.

These new natural gas-related industries could open up markets, creating new, high-paying jobs for British Columbians.



A natural gas powered school bus



Geological Survey of Canada: Mapping shale gas host rocks

Ensuring a Reliable, Abundant Supply

Shale Gas is a “Game Changer”

Shale and tight gas is natural gas produced from shale and other fine-grained sedimentary rocks.

Over the past decade, the development of horizontal drilling, and improvements to hydraulic fracturing have made abundant shale gas recoverable. This has changed the natural gas industry forever, making natural gas an abundant natural resource.

The development of shale gas resources in northeast B.C. began in 2005 and has rapidly evolved to generate billions of dollars in provincial revenue from natural gas tenure sales and royalties.

With shale gas now in play, it is conservatively estimated that B.C. has at least 100 trillion cubic feet of recoverable gas. This compares with total production of 22.5 trillion cubic feet in the province between 1954 and 2010.

Our enormous resources of natural gas will be a major contributor to our economy.

Just a few years ago, people were bracing for a shortage of natural gas in North America. Supplies of conventionally accessible gas were declining and proposals for importing LNG from overseas were being advanced. That all changed with the advent of technologies allowing for recovery of shale gas in numerous locations in Canada and the United States. This has driven down the price of natural gas in North American markets.

Despite the recent recession and low natural gas prices, development activity has remained robust in B.C., which currently produces roughly three billion cubic feet per day or 1.1 trillion cubic feet per year of marketable natural gas. However, if North American natural gas supply remains high and prices remain low, it may become difficult to maintain this level of activity.

Managing B.C.'s natural gas reserves depends on the collection, interpretation and public delivery of natural gas geoscience data. This information reduces investment risk in the exploration and development of B.C.'s natural gas resources. Knowledge of the province's resources supports a competitive royalty structure that maximizes the financial benefit to British Columbians.

B.C. needs to continually assess our geological resources to maintain an effective regulatory system that maximizes responsible, sustainable resource development.

Maintaining Competitiveness

Ensure an Effective Royalty Regime

Approximately 90 per cent of oil and gas resources in British Columbia are owned by the Province. The Province sells exploration and production rights to industry. Industry produces and markets the oil and natural gas it finds in exchange for royalty payments to the Province.

The oil and gas sector is a significant source of revenue for B.C. In 2009/10, total revenue from oil and gas, including petroleum and natural gas rights sales, totalled \$1.35 billion – almost 60 per cent of total direct revenues from B.C.'s resource industries and four per cent of total provincial revenues. This helps to fund vital social services such as education and health care.

Our royalty programs help encourage oil and gas development in B.C. by providing incentives designed to meet B.C.'s unique resource challenges such as infrastructure development in remote northern locations. B.C. royalty programs are competitive with other North American programs and reflect the cost to extract the resource.

Ensure Infrastructure is Available to Encourage Investment

Ensuring adequate road and pipeline infrastructure is an essential component of maintaining B.C.'s investment competitiveness. B.C.'s innovative natural gas infrastructure programs encourage new, incremental investment that would not otherwise be carried out. The Province offers three natural gas infrastructure programs:

- **The Infrastructure Royalty Credit Program** facilitates all-season road projects and new pipeline projects.
- **The Oil and Gas Rural Roads Improvement Program** invests in the upgrade of public roads and bridges heavily used and required by the oil and gas industry.
- **The Sierra Yoyo Desan (SYD) Road project** is a public-private partnership to upgrade the SYD Road located near Fort Nelson, providing reliable year-round access to the Horn River and Cordova Basins.

Continuing and expanding these programs is vital to the development of B.C.'s emerging LNG industry. Exploring collaborative approaches to the development of pipeline infrastructure to support LNG projects is also key to ensure our natural gas reaches markets.

Amend Natural Gas Act and Regulations

The B.C. Government is reviewing the tenure provisions of the *Petroleum and Natural Gas Act* and its regulations. This is in response to significant technological advances allowing the development of unconventional natural gas resources, the implementation of the *Oil and Gas Activities Act* and emergent environmental issues.





Courtesy of Nexen Inc.

New Jobs for B.C.

The rapid expansion of B.C.'s energy sector over the past decade has resulted in a growing number of permanent, well-paying jobs for British Columbians. Over the next five years, an additional 1,000 to 2,000 job openings – mostly in the province's northeast – are expected, due to expanded natural gas exploration and production required to supply new LNG projects. Further jobs will be created to construct and operate the clean energy projects to power them.

New Skills Training

British Columbia's Jobs Plan and the BC Energy Plan have identified strategies for skills training and labour, including:

- * Increasing access to skills and apprenticeship training
- * Refocusing Provincial investments to meet regional labour market needs
- * Improving First Nations access and outcomes in our education system

First Nations communities are an important part of the future workforce in northern regions.

The Kitimat LNG terminal alone is expected to provide 1,500 construction jobs and 125 permanent jobs. An additional 1,500 pipeline construction jobs will be required for the Kitimat to Summit Lake pipeline project. Additional LNG projects and pipelines will expand on this.

Through the Labour Market Partnerships program, the Province has funded the development of a comprehensive human resource strategy for the resource sector in northern B.C., focusing on four industries, including the oil and gas sector.

Post-secondary institutions in B.C.'s north provide a wide array of training in support of the sector. Additionally, several labour market programs include skills training for the natural resources and construction sectors in the north.

Attracting and retaining a skilled work force also requires the municipal infrastructure to support economic activity and housing. This includes schools, health, recreation and cultural facilities.

The BC Jobs Plan also calls for the creation of Regional Workforce Tables as a new platform for educators, industry, employers, local chambers of commerce, First Nations, labour and others to plan how best to align training programs with regional needs. This will inform how the Province delivers regionally based skills development programs, including \$15 million to further support regional post-secondary institutions to address local labour needs.

Engaging and Consulting B.C. Communities and First Nations



Protect Health and Air Quality

Natural gas is a safe fuel. However, there are some public concerns about potential health issues as a result of oil and gas development. These concerns relate to air quality, water use, exposure to sour gas and emergency response.

The Province is conducting a health study of the oil and gas sector to address these concerns. This study includes stakeholder engagement and is expected to be complete by mid-2012. The Province is also initiating work with industries and local communities to establish an airshed monitoring association for the Peace area. In addition, regional water studies are already well underway, including work with GeoScience BC. Both of these initiatives will complement the health study.

Engage with Communities

People who live near oil and gas operations may have some concerns about how this work may affect them. The Province is working with local governments to find out what the concerns are in each community, and exploring new ways to work directly with groups and communities. B.C. is also exploring creative solutions to ensure local communities reap the benefits of natural gas development.



Continue Consulting with First Nations

Many First Nations live in areas where oil and gas development is underway. It is essential the Province consult and accommodate their interests when developing resources to open new areas of B.C. to longer-term economic certainty and stability.

To further improve the investment climate, the Province, in partnership with First Nations, will create a new Aboriginal Business and Investment Council to promote First Nations opportunities with investors and stimulate new economic prospects for communities around B.C.

Northeast British Columbia First Nations

The Province has had a long and collaborative relationship with Treaty 8 First Nations whose communities are impacted by exploration and development of oil and gas resources.

Since 1998, the Province has negotiated Consultation Process Agreements (CPAs) between the Oil and Gas Commission (OGC) and Treaty 8 First Nations. These CPAs have provided significant consultation resources directly to First Nation communities.

The Province and several Treaty 8 First Nations also have Economic Benefit Agreements (EBAs) which provide a framework for relationship building and financial benefits.

The EBAs are 15 year agreements which provide one-time up front disbursements by the Province, along with annual payments based on resource development activity within Treaty 8. Approximately \$43.6 million has been provided to Treaty 8 First Nations through the EBAs. The EBAs also include a framework for an ongoing relationship between the Province and First Nations through Long Term Oil and Gas Agreements (LTOGA).

Northwest and Interior British Columbia First Nations

First Nations strongly support the recently approved Kitimat LNG terminal and connecting pipeline. The Province worked with First Nations along the pipeline route to address interests from those communities to become partners in the development. This resulted in an agreement between the Province and the First Nations Limited Partnership comprising 15 potentially affected First Nations along the pipeline route. This agreement will provide up to \$35 million to the First Nations, \$32 million of which is intended to assist in securing equity participation in the project.

The Kitimat LNG facility is proposed to be built on the Haisla Nation Indian Reserve at Bish Cove near Kitimat. The Haisla Nation is also a partner in the proposal to establish a smaller LNG facility through the Douglas Channel Energy Partnership.

Ensuring Environmentally Responsible Development

Oil and gas activities in British Columbia are regulated by the BC Oil and Gas Commission (OGC), a Crown Corporation and agent of the Crown. The OGC is a “single-window” regulator that works with industry, First Nations, communities and stakeholders to provide efficient and effective oversight of oil and gas activity. The OGC reviews applications and, once approved, inspects and monitors construction, operation and reclamation. The OGC is also responsible for reviewing and approving land tenure, water use, forest harvesting, waste disposal and potential heritage impacts.

B.C.’s environmental assessment process, managed by the Environmental Assessment Office, reviews major projects to ensure they meet the goals of environmental, economic and social sustainability. The assessment process considers issues and concerns to the public, First Nations, interested stakeholders and government agencies.

Natural Gas is a Climate Solution

Natural Gas is a climate solution – it is widely recognized as a transition fuel to a low carbon global economy.

We have an important role in helping to lower global greenhouse gas emissions. B.C. can make a significant contribution to global reduction targets when B.C. gas is exported to Asia as LNG and replaces coal and/or diesel as fuel for electricity production or transportation.

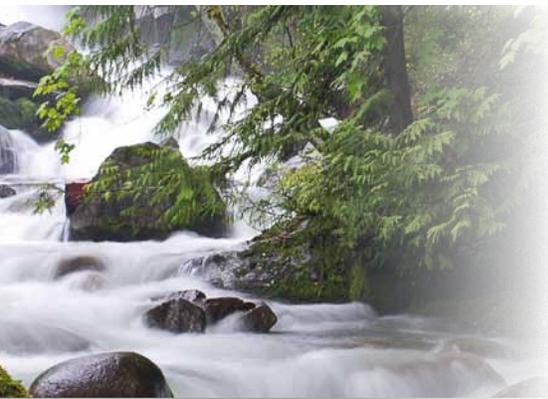
The Natural Gas Climate Action Working Group, which includes members from industry and government, is developing strategies to balance natural gas development with climate objectives with minimal economic impact. Some options include electrification of gas-fired equipment, energy efficiency measures, carbon capture and storage, and enhanced oil recovery.

One area where considerable progress is being made is with flaring – the controlled burning of natural gas that cannot be processed or sold – at oil and gas production sites. The 2007 *BC Energy Plan* committed to eliminating routine flaring by 2016, limiting flaring to short-term well testing, well work-overs, or during maintenance or emergency situations. The Oil and Gas Commission reported in 2010 that the interim goal to cut flaring in half by 2011 had already been achieved.

Another area with considerable potential is carbon capture and storage, an emissions mitigation technology that involves capturing, transporting and storing industrial sourced carbon dioxide in the pore space of rock formations deep underground. This internationally promoted measure can contribute significantly to reducing emissions.



Courtesy of Nexen Inc.



Optimal underground storage sites exist in northeastern British Columbia. Close proximity to current natural gas industry activity make these sites excellent candidates for carbon capture and storage projects.

British Columbia also has projects that are producing biomethane from landfills and biomass. The biomethane is sold either directly into the natural gas distribution network or is used to generate clean electricity.

Clean energy is an important part of LNG development in B.C. For instance, once operational the Kitimat LNG plant will be the first in the world to use clean electricity. As a result, LNG development in B.C. can have a lower lifecycle for greenhouse gas emissions than anywhere else. This will differentiate B.C. in the global LNG export market.

B.C. is a clean energy leader, supported by the *BC Energy Plan* and the landmark *Climate Action Plan* with the most comprehensive carbon price in North America under the Revenue Neutral Carbon Tax. Reaching \$30/tonne in 2012, the carbon tax creates a price incentive to eliminate waste and reduce the consumption of fossil fuels. By legislation, all of the revenues must be returned into the B.C. economy through tax cuts that improve economic competitiveness and productivity. The benefits include a competitive corporate tax rate, the lowest personal income tax rates in Canada, and incentives like the Northern and Rural Homeowner Benefit.

Using natural gas efficiently in B.C. not only reduces emissions; it also reduces the cost of doing business, increases productivity and improves the standard of living that British Columbians have come to expect. Government and utilities are pursuing opportunities to increase the efficiency of buildings and industrial processes through policies and programs.

Effectively Manage Water Quality and Sustainability

Water quality and sustainability are critical to natural gas development. The Province is modernizing the *Water Act* to keep drinking water safe. This Act will consider industry's use of water, current groundwater protection and evaluate hydraulic fracturing operations to ensure sustainable water management.

B.C. also has a regulatory framework to manage water use for natural gas development. The *Oil and Gas Activities Act* and associated regulations, which were brought into force in 2010, were designed to encompass the technologies now being employed in natural gas development, including hydraulic fracturing and the use of water. The Act and regulations will continue to be monitored to ensure that they are effective, community concerns are addressed and industry's need for water is met. A B.C.-led New West Partnership (involving B.C., Alberta and Saskatchewan) working group has been established to develop and share information on best practices related to water use in shale gas development.

As a first step to address First Nation and public concerns, B.C. requires mandatory disclosure of the hydraulic fracturing fluids injected into the subsurface by industry. A public disclosure registry for hydraulic fracturing additives was launched in early 2012. The FracFocus.ca registry provides British Columbians with additional information about hydraulic fracturing and water management in shale gas development.

Continue Managing Boreal Caribou

Approximately 1,300 Boreal Caribou live in northeast British Columbia, members of a population believed to be in decline. This may be due to habitat loss, fragmentation of the herd, alteration of their habitat and increased predation.

Boreal Caribou are listed as 'threatened' under the federal *Species at Risk Act*, are provincially red-listed (Threatened to Endangered) and are identified as Priority 1 under the BC Conservation Framework.

The Province is taking action to slow this decline and ensure Boreal Caribou are maintained in British Columbia for future generations. The Province has developed an implementation plan to manage Boreal Caribou.

The plan balances habitat protection and management of Boreal Caribou with oil and gas development. Actions supporting the implementation plan include establishing areas where oil and gas tenures will not be offered for a minimum of five years, establishing management practices for activities that are proceeding within certain caribou habitat areas and collaboration with industry on funding habitat restoration and research into Boreal Caribou and their habitat.



Building Partnerships to Promote Development



Collaborate with Other Jurisdictions

Under the *Canadian Constitution Act*, provincial governments are responsible for natural resources within their jurisdictions and the federal government is responsible for natural resources in the territories and has authority in other areas affecting the natural resource sector, such as international trade, transportation and external relations. As a result, government policies and programs affecting natural gas development result from an integrated and sometimes overlapping set of authorities.

Canada's federal, provincial and territorial ministers responsible for energy and mines meet annually to discuss and take collaborative action on issues of common interest.

In 2011, energy ministers agreed on a pan-Canadian energy framework with a shared vision for Canada as a recognized global leader in secure and sustainable energy supply, use and innovation.

Within this framework, there are three key initiatives relating to B.C.'s Natural Gas Strategy:

1. Diversifying international export markets and attracting investment for the energy sector.
2. Improving the alignment of federal-provincial regulatory systems.
3. Building on past energy efficiency accomplishments.

British Columbia, Alberta and Saskatchewan launched the New West Partnership in 2010, creating an economic powerhouse of nine million people. This ambitious agreement creates Canada's largest interprovincial barrier-free trade and investment market. An energy memorandum of understanding was signed by the three provinces in 2010, establishing a collaborative framework to strengthen and expand the region's energy sectors.

The Province is also working with the federal government to achieve greater efficiencies in environmental assessments of major projects. For example, the BC Environmental Assessment Office and the National Energy Board signed an Environmental Assessment Equivalency Agreement in 2010, which specifies that where a proposed project requires

both a B.C. Environmental Assessment Certificate and approval under the *National Energy Board Act*, the assessment completed by the National Energy Board is considered equivalent to the B.C. process.

To further streamline regulatory processes and to provide investment certainty, B.C. recommended in November 2011 that the federal *Environmental Assessment Act* be amended to include an option to eliminate the need for a separate federal environmental assessment of projects where a provincial environmental assessment is required. The “one project – one environmental assessment” would replace two overlapping review systems with a single system that is rigorous, comprehensive, efficient and timely. Many major natural gas development projects are subject to National Energy Board review; however, for those projects subject to separate provincial and federal environmental assessments, the one project – one assessment approach offers greater efficiencies without reducing environmental standards or the rigour of the review process.

Pacific Northwest Economic Region (PNWER)

PNWER is a regional non-partisan U.S.-Canadian forum dedicated to encouraging global economic competitiveness and preserving the world-class natural environment of the region. Its member jurisdictions are British Columbia, Alberta, Saskatchewan, the Yukon Territory, the Northwest Territories, Alaska, Washington, Idaho, Montana and Oregon. It is recognized by both the American and Canadian federal governments as the model for regional and bi-national cooperation because of its proven success. Energy is a key topic at PNWER conferences and workshops, where delegates share information on best practices, new policies and technologies, and resource development and infrastructure projects.

Pacific Coast Collaborative

With a combined population of 52 million and a GDP of \$2.5 trillion, Alaska, British Columbia, California, Oregon and Washington are poised to emerge as a mega-region and global economic powerhouse driven by innovation, energy, geographic location and sustainable resource management, attracting new jobs and investment while enhancing an already unparalleled quality of life.

On June 30, 2008, the leaders of the five jurisdictions signed the Pacific Coast Collaborative Agreement, the first agreement that brings together the Pacific leaders as a common front to set a cooperative direction into the Pacific Century. Out of this agreement was born the Pacific Coast Collaborative – a formal basis for cooperative action, a forum for leadership and information sharing, and a common voice on issues facing Pacific North America.

Summary of Actions/Strategies

Keep B.C. Competitive in the Global Liquefied Natural Gas (LNG) Market

1. Coordinate permitting and approval processes among agencies to ensure timely project construction.
2. Contribute to trade missions and other marketing initiatives that demonstrate government support for LNG exports.
3. Invest in critical infrastructure to power future LNG facilities in balance with the need to keep electricity rates affordable for the people of British Columbia.
4. Ensure the availability of sufficient clean and renewable electricity to make possible the development and operation of an LNG industry.
5. Explore collaborative solutions for natural gas pipeline development.

Current Markets:

1. Remain engaged with the National Energy Board on proposals that effect access to current markets.

Promote Natural Gas as a Transportation Fuel

1. Work to introduce a regulation under the *Clean Energy Act* to advance a proposed natural gas vehicle program.
2. Work with the business community, fuel suppliers and natural gas producers to increase the use of natural gas in the transportation sector.

Develop New Markets for Natural Gas

1. Attract investment for new value-added projects to B.C. by providing a stable, supportive development framework.
2. Encourage value-added industries through innovative government programs that reward industry for creating new applications for B.C.'s natural gas.
3. Promote the use of high efficiency natural gas electricity generation in export markets, and in specific markets in B.C., to meet the demand for capacity.

Ensuring a Reliable, Abundant Supply

1. Improve B.C.'s resource estimates by completing resource assessments of the Montney Play, the Liard Basin and other significant areas.
2. Identify, evaluate and provide the geological and hydrological context for surface, subsurface, and deep saline water resources in Northeast British Columbia.
3. Conduct regional, basin-scale studies directed at enhancing the understanding of the geological framework that hosts British Columbia's oil and gas resources.
4. Investigate, evaluate and promote new conventional and unconventional natural gas opportunities to increase investment and encourage exploration.
5. Continue to host the BC Unconventional Gas Technical Forum to facilitate information sharing about development activities and technical advances in the industry.

Ensure an Effective Royalty Regime

1. Monitor and evaluate B.C.'s royalty system and recommend expanded or new programs, as necessary, to make sure the province remains highly competitive.

Ensure Infrastructure is Available to Encourage Investment

1. Continue to offer the \$120 million royalty credit allocation through the Infrastructure Royalty Credit Program, to enhance industry capital planning and investment in emerging or under-explored areas.
2. Continue the Oil and Gas Rural Road Improvement Program to target investments in public road infrastructure required for natural gas development.
3. Complete improved road access investments that will enable development of the Horn River Basin and Cordova Embayment shale gas areas.
4. Explore collaborative approaches for pipeline infrastructure development to ensure B.C.'s gas is available to supply LNG export plants.

Amend Natural Gas Act and Regulations

1. Amend the *Petroleum and Natural Gas Act* and regulations to improve and update administration for Crown-owned natural gas subsurface resources.

New Jobs for B.C.

Skilled Workers:

1. Promote greater use of the Employment Skills Access program, which provides free skills training at public post-secondary institutions across the province for entry or re-entry into the labour market.
2. Implement a Northeast Regional Workforce Table, as outlined in the *BC Jobs Plan*.
3. Provide leadership to the post-secondary system to support the education and training needs of the natural gas development sector.
4. Create a Labour Market partnership to develop strategies that address the natural gas sector's future needs.

Engaging and Consulting B.C. Communities and First Nations

Health and Air Quality:

1. Develop and implement a three-phase health study of oil and gas development.
2. Work with communities and industries to develop and implement an airshed monitoring association.
3. Complete and publish scientific studies on water resources in the northeast.

Engaging Communities:

1. Work with communities and stakeholders to develop a "made in B.C. approach" to local engagement.
2. Work with communities to support job development and service sector opportunities, including an evaluation of current grant programs to consider the economic benefits of natural gas development.

First Nations:

1. Negotiate new Oil and Gas Commission Consultation Process Agreements with Treaty 8 First Nations.
2. Implement Economic Benefit Agreements with four Treaty 8 First Nations.
3. Continue to build partnerships and support with Northwest and Interior British Columbia First Nations.
4. Continue to engage with the First Nations Limited Partnership to implement the Partnership Agreement.

Natural Gas Is a Climate Solution

Addressing Emissions Targets:

1. Continue to implement emission reduction measures while allowing the natural gas sector to maintain its competitive position.
2. Continue to reduce natural gas flaring using innovative solutions, practices and emission reduction technologies designed to reach *BC Energy Plan* goals.
3. Promote the use of carbon capture and storage in B.C. by:
 - Completing development of a regulatory framework.
 - Amending legislation, if required.
 - Working with the BC Oil and Gas Commission to develop regulations.
 - Evaluate potential projects.
4. Establish a BC Energy Efficiency Network to promote improved productivity of B.C.'s industrial sector through the efficient use of natural gas.
5. Develop a revised Energy Efficient Buildings Strategy in 2013 with an emphasis on natural gas efficiency.
6. Encourage biomethane opportunities, including offering consumers low-carbon natural gas.

Effectively Manage Water Quality and Sustainability

1. Continue to develop the FracFocus.ca registry, recently created by the BC Oil and Gas Commission, to ensure it provides public disclosure of ingredients injected into the subsurface for natural gas development.
2. Further protect B.C.'s water resources by developing a comprehensive northeast BC Shale Gas Hydraulic Fracturing Water Strategy by 2013.

Continue Managing Boreal Caribou

1. Continue consulting with First Nations and stakeholders on the Boreal Caribou implementation plan.
2. Monitor and evaluate the effectiveness of implementation measures, including tenure deferrals, management practices, habitat restoration and research.
3. Work with other provinces on a coordinated response to Environment Canada on the federal recovery strategy for the Woodland Caribou, Boreal population.

Collaborate With Other Jurisdictions

1. Collaborate on and improve natural gas and LNG market information gathering and monitoring with the National Energy Board, and through the New West Partnership.
2. Continue working with the federal government to eliminate the need for duplicate federal and provincial environmental assessments and decisions on proposed projects.
3. Continue to engage in intergovernmental and regional forums.
4. Complete negotiations with Haisla Nation and Canada on the regulatory regime for the Kitimat LNG facility on the Haisla Nation reserve near Kitimat.



Courtesy of Nexen Inc.



THE BC
JOBS PLAN

