LNG CANADA PROJECT: ESTABLISHING CANADA AS A KEY GLOBAL LNG PLAYER

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ABSTRACT
Scalable supplies of unconventional gas in North Eastern British Columbia, coupled with an increasingly supportive investment climate, provide a significant stimulus to Canadian LNG export projects. This project will help Western Canada market 30-plus TCF of otherwise stranded gas escape an increasingly saturated North American market. While a multitude of LNG export plans are in the works, only a small subset are expected to prevail given scarcity of quality sites, tough terrain challenges for pipeline infrastructure, multiple stakeholders and savvy LNG buyers benchmarking Canadian offerings versus tried-and-tested more established Australian or Qatari alternatives. The [project name] export project has positively distinguished itself from several perspectives, not least that all four companies engaged in this project are leaders in the LNG industry. Shell's Project Director will walk us through the unique aspects of this project, including the partnership, its aboriginal neighbors, plant site, scale, pipeline approach, power source and more. Shell has been a global leader in natural gas liquefaction since 1964, with seven LNG projects in operation and three new projects under construction. KOGAS is the world's largest importer of LNG and South Korea's principal LNG provider. Mitsubishi Corporation is Japan's largest trading company and handles approximately one half of Japan's LNG imports. Petro-China is China's largest oil and gas producer and supplier. Shell is also working bilaterally with each of these parties on various LNG projects globally. [Note: We will submit the name of the project post-April 17.]

INTRODUCTION
Growing and scalable supplies of unconventional natural gas in northeastern British Columbia (B.C.), coupled with a supportive investment climate, provide a significant stimulus to Canadian liquefied natural gas (LNG) export projects.

Whilst a multitude of LNG export plans are in the works, only a small subset are expected to prevail given scarcity of quality sites, tough terrain challenges for pipeline infrastructure, and savvy LNG buyers benchmarking Canadian offerings versus more established Australian or Qatari alternatives.

The proposed LNG Canada project [1] is a joint venture comprised of Shell Canada, Korea Gas Corporation (KOGAS), Mitsubishi Corporation and PetroChina that is proposing to build and operate a natural gas liquefaction plant and marine terminal export facility near Kitimat, B.C. LNG Canada has positively distinguished itself from several perspectives, not least that all four companies engaged in this project are leaders in the LNG industry, with extensive experience in developing and operating LNG projects around the globe.

For example, Shell has been a global leader in natural gas liquefaction since 1964, with LNG projects in operation in seven countries and three new projects under construction, and has operated as an energy company in Canada for 100 years. KOGAS is the world’s largest importer of LNG and South Korea’s principal LNG provider. It currently operates three LNG import terminals. Mitsubishi Corporation is Japan’s largest trading company – responsible for 57% of Japan’s LNG imports – and is participating in nine global LNG projects. PetroChina is China’s largest oil and gas producer and supplier. It launched three LNG import facilities in China, and is increasingly an investor in global unconventional gas production and LNG export facilities.

THE OPPORTUNITY FOR WESTERN CANADA NATURAL GAS
Natural gas provides approximately one-fifth of the world’s energy. In the last 10 years the world’s population has increased by over 10% and in the last year has reached 7 billion people. It is predicted that by 2020 there will be nearly 8 billion people on the planet. This population growth, together with improving living standards in countries such as China, India, and Brazil, has led to a relentless rise in demand for energy.
With global energy demand expected to double by 2050, Shell believes the world will need to develop all energy types – from fossil fuels to renewable. Natural gas and LNG will play a prominent role in meeting growing energy demand and bridging to renewables in the decades to come.

This rising energy demand presents a significant opportunity for western Canada to take its relatively low cost, clean burning natural gas from the North American market and supply it to Asian customers looking for long term clean energy security.

The LNG market has doubled every 10 years in the last two decades from 50 million tonnes per annum (mtpa) in 1990 to over 240 mtpa in 2011. The global market increased by 20 mtpa in 2011, nearly 10%, with robust demand overall [2].

Demand growth in the last decade has been dominated by customers in Japan, South Korea, and Europe and this growth primarily comes from demand from power generation and industrial use, with smaller contributions from residential demand. According to Shell, Asian demand for LNG is likely to grow by more than 80 mtpa between now and 2020.

China is also forecast to have strong growth in natural gas demand across all sectors including power, industrial and transport [3] and has indicated that it will more than double natural gas as a percentage share of its primary energy demand from 4% to 10% by the end of 2030. To meet its demand projections, China is looking to expand its domestic natural gas production and import natural gas by pipeline from the Caspian region, but it will also need LNG. Shell sees China driving 25% of the world’s growth in natural gas demand for the next 15 plus years.

Ready gas supply in the U.S. and from the U.S. to Ontario and Quebec, leaves western Canadian suppliers on the fringe of an over-supplied market so Canadian natural gas producers are increasingly looking to the fast growing markets of Asia as an alternative market for their natural gas in the form of LNG.

Figure 1: Major LNG Importing and Exporting Countries in the Pacific Basin
Data Source: PFC Energy 2011
A WINDOW OF OPPORTUNITY FOR CANADA

Canada has a long history of exporting natural gas, and for good reason. Canada produces more natural gas than it uses. Canada is the world’s third-largest producer and second largest exporter of natural gas and B.C. is Canada’s second largest natural gas-producing province. In B.C., the energy industry alone accounts for more than C$20 billion in annual Gross Domestic Product and is expected to account for nearly C$600 billion over the next 25 years [4].

Traditionally, the U.S. has been Canada’s primary export market. In 2009, Canada supplied 87% of all U.S. natural gas imports. But, the U.S. markets have been declining in the last 10 years due to the development of natural gas reserves in shale reservoirs. And, as a result, Canada’s exports to the U.S. are declining as well, reducing the need to import gas from Canada. This has created an over supplied market with Canadian gas on the geographical fringe. With more U.S. supply, it’s prudent for Canada to look for new export markets. The proposed LNG Canada project would provide access to these markets.

LNG export to Asia would open an LNG market for Canada worth billions of dollars. However, Canada is not alone in looking for new markets for our natural gas. Current exporting countries such as Australia, Malaysia and Indonesia are also looking for opportunities to create value for their natural resources. A window exists for Canada to connect with customer nations who look for long term stability and security of supply – criteria Canada meets in abundance.

The proposed LNG Canada project would connect the abundant supply of competitively priced Canadian natural gas to the growing economies of the world.

ABOUT LNG CANADA

The proposed LNG Canada project includes the design, construction and operation of a natural gas liquefaction plant, and facilities for the storage and export of liquefied natural gas, including marine LNG facilities and shipping, near Kitimat, B.C. Natural gas from the Montney and Horn River areas in northern B.C. would be transported via a newly constructed pipeline to the proposed LNG facility.

Kitimat is a coastal community in northern B.C. with just over 9,000 residents. It is located about 650 kilometres (km) northwest of Vancouver, 60 km south of Terrace and 110 km east of Prince Rupert. Kitimat sits at the head of the Douglas Channel – a wide fjord that extends 96 km northeast from the coast [Figure 2].

Kitimat is largely an industrial town, and over the last decade, Kitimat-based companies have sent more than $15 billion in value-added manufacturing products to world markets.

The Northwest Regional Airport in Terrace is the closest airport to Kitimat, located 48 km north along Highway 37 – or a 40-minute drive by car, depending on weather and road conditions.

The name Kitimat comes from the Haisla word Kitamaat, meaning People of the Snow in the Tsimshian language [5]. Kitamaat Village, the primary residence of the Haisla First Nation, is located 11 km south and west of the town of Kitimat on the south side of the Douglas Channel.

The population of the Haisla First Nation is approximately 1,500, nearly half of whom live in Kitamaat Village [6].
The proposed LNG Canada facility will initially produce 12 million tonnes of liquefied natural gas each year, with the option for future expansion to 24 million tonnes. At full build-out, the proposed facility will have storage capacity for 450,000 cubic metres – to put the size of the facility in perspective, the initial volume would account for 15% of Japan’s projected imports for 2012.

The regulatory review process is estimated to take approximately 36 months to complete. Front End Engineering and Design is expected to start in 2013. The Joint Venture is expected to make a final investment decision about 2015, pending regulatory approvals, with start up around the end of the decade.

The proposed LNG Canada project has advanced on many fronts, including the selection of TransCanada Pipelines for the pipeline component of the project in June 2012 and submittal of the National Energy Board natural gas export license application in July 2012. It is also working through initiating the Federal and Provincial environmental regulatory review process.

COMPETITIVE ADVANTAGES OF LNG CANADA

A Strong Team of Global Companies

While there are a number of LNG projects proposed for the northwest coast of B.C., LNG Canada is unique because of the technical depth, financial strength, access to markets and extensive experience the four joint venture companies have in the LNG industry – in production, import and export facilities, and shipping – all of which are required to be the leading LNG developer in Canada.
For example, Royal Dutch Shell, through its subsidiary the Shell International Transport and Shipping Company, was a pioneer in LNG shipping, constructing the first purpose built LNG ship. Today, Shell safely manages and operates 50 of the world’s 370 LNG ships and is involved in ventures that deliver 30% of the world’s LNG.

Well Placed to Access Global Markets

The location of the proposed LNG Canada export facility is advantageous, given the shipping distances to global markets such as Asia. For example, shipping distances from the northwest coast of B.C. to Asian markets such as China and Japan are comparable to those of other exporting countries such as Australia, and are almost three days shorter than shipping routes from Qatar [Figure 3].

With its deep protected harbour, Kitimat is a natural choice for an LNG terminal. The Douglas Channel provides a deepwater, wide, sheltered, and ice free shipping route throughout the year. The Port of Kitimat is currently an active port serving local heavy industry.

![Figure 3: Access to Markets – Shipping Distances](image)

Commitment to sustainable development

LNG Canada’s goal is to become the benchmark for economically, environmentally and socially responsible LNG development. Through an active community engagement process, LNG Canada will seek input from First Nations communities, local residents, key stakeholders and others, to ensure opportunities, issues or concerns are discussed and evaluated in the planning for the proposed LNG facility.

The project is committed to supporting sustainable development, benefiting the communities in which it operates, and ensuring local residents and local companies benefit from employment and economic development opportunities associated with the project.

Specifically, the project’s vision is to be a significant facility that establishes Canada as a key player in global LNG markets; become the developer of choice and a leader in sustainable development – balancing social, economic and environmental performance; provide a competitive supply of LNG for global markets while delivering benefits to Canada, B.C., and the specific communities in the project area.
PROJECT BENEFITS

In 2009/10, the natural gas sector in B.C. generated $1.35 billion in revenue for the Province [7] accounting for over 50% of B.C.’s total resource revenue. LNG Canada’s proposed project would make a significant contribution to the regional, provincial and national economy.

LNG Canada’s proposed LNG facility would provide broad-based local and regional benefits as well. The gas that is transported and exported would be from northeastern B.C. and the Western Sedimentary Basin – further enhancing value to the B.C. government through its royalty structure. It would also stimulate B.C.’s energy industry over the long term, resulting in the development of associated services and supplies in the region.

Throughout the planning process for the proposed facility, LNG Canada intends to work with the community to identify local concerns, assess local needs and explore support for workforce development and skills training. It is estimated that the project would create thousands of jobs during constructions and hundreds of full-time jobs during operation.

CONCLUSION

Canada’s energy era is now. With abundant energy resources, Canada can play a key role in meeting the rapidly growing global energy demand. Diversifying markets for Canada’s natural gas resources, and developing the infrastructure needed to access those markets, is critical to ensuring the prosperity and security Canada’s export opportunity represents.

The proposed LNG Canada project is well positioned to establish a significant export facility that establishes Canada as a key player in the global LNG markets. LNG Canada is unique because of the technical depth, financial strength, access to markets and extensive experience the four joint venture companies have in the LNG industry – in production, import and export facilities, and shipping – all of which are required to be the leading LNG developer in Canada.

REFERENCES CITED

1. www.LNGCanada.ca


