

# atlanticcanada megaprojects

Major project investment is helping to redefine the economy of Nova Scotia and Atlantic Canada. The current projects include a number of offshore and onshore oil and gas, mining and manufacturing projects. The growth in resource and manufacturing projects is also matched by a growth in investment at the local level in transportation systems, infrastructure, and residential and commercial property.

The **Halifax Gateway** offers a combination of multimodal transportation and logistics services using modern infrastructure. Improvements to infrastructure

are underway as evidenced by the \$300+ million being spent by both the **Port of Halifax** and at the **Halifax International Airport**, as well as improvements to **CN Rail** service over the last decade, and the ongoing expansion of the **Halifax Logistics Park** in the Burnside Business Park.

This new infrastructure helps to position the Halifax Gateway to handle the flow of goods and services that will come from these major projects and from a growing economy. These improved services will also have a positive impact on other firms in the region which will have better access to global markets.

# \$128B

## Labrador

### Kami Iron Ore Project<sup>1</sup> \$1.2B

**Details:** Alderon Iron Ore was expected to start developing the project in 2014, but the decline in iron ore prices pushed back the start of construction. A revised preliminary economic assessment on the project suggests a \$1.2 billion capital investment would be required to get the project going.

**Impact:** The project will require large components such as overland conveyors, a crusher building, new power transmission and rail infrastructure. If the pieces for these components need to be imported from other countries, they could be shipped through Halifax or Montreal.

<sup>1</sup> Project was \$898 million USD, converted using a \$0.75 CAD

### Gull Island Hydroelectric Development \$12B

**Details:** Nalcor split the development of the Lower Churchill project into two segments with the smaller Muskrat Falls portion now under construction. The province estimated in 2015 that the larger Gull Island (2,250 MW) would cost at least \$12 billion.

**Impact:** Power from Gull Island could flow through Quebec or through an expansion to the Maritime Link. The Muskrat Falls project had about 6,000 people employed to work on the project in 2016, the number of workers needed for the Gull Island project should be larger, as the project is forecasted to produce three times the electricity.

### Voisey's Bay<sup>2</sup> Underground Mine Development \$2.53B

**Details:** Construction began in 2016 with the installation of construction support infrastructure, camp facilities and portal access roads. Underground development will begin in 2017 and first production from the underground mine is expected in 2020. The underground mine will have a capacity of 40,000 tonnes of nickel per year and will extend the life of the mine by 15 years.

**Impact:** Operations employment will increase from 450 to 800 once the mine is operational. An estimated 800 construction jobs will also be created.

<sup>2</sup> Project was \$1.9 billion USD, converted using a \$0.75 CAD

### Muskrat Falls Hydro Project \$9.4B

Start: 2012 End: 2019

**Details:** The Muskrat Falls project includes the 824 MW Muskrat Falls facility (\$5.1 billion), supporting transmission infrastructure between Muskrat Falls and the existing Churchill Falls facility (\$900 million) and a transmission line to the Island of Newfoundland (\$3.4 billion). A total of 1,600 km of transmission lines will be built. A \$1.6 billion subsea transmission line to Nova Scotia will be built by Emera and is listed separately. The spillway is now in operation and the river has been diverted. The three subsea lines across the Strait of Belle Isle have been installed. Work in 2017 at the Muskrat Falls facility will include concrete production and placement for the powerhouse and intake, the beginning of work on the north dam, start of turbine and generator installation in powerhouse and completion of intake gate manufacturing.

**Impact:** The transmission work is largely complete in Labrador and will continue on the Island of Newfoundland and at the Soldiers Pond AC substation. About \$6.4 billion of spending has been incurred on the project as of February 2017. Employment peaked last summer at about 6,000 people and was at 5,227 in February 2017. The total cost of the project has risen from \$6.2 billion at sanction. First power from the project is planned in 2019 with full power by 2020.

### Hebron Oil Project \$14B

Start: 2010 End: 2024

**Details:** Kiewit-Kvaerner Contractors (KKC) is the engineering, procurement, and construction manager for the gravity-based structure and construction was completed in Spring of 2017. WorleyParsons Canada is the engineering, procurement, and construction manager for the topsides module, and fabrication began in early 2013. All hookup and commissioning work took place at Bull Arm. The living quarters for the topsides and the drilling support modules were also built in province. First oil is planned for late 2017 and development drilling will continue until about 2024. ExxonMobil Canada is the operator of the project.

**Impact:** In the first quarter of 2017, 3,263 people were working on the project and over 13.3 million person hours were completed on the project in 2016, raising the total hours worked to over 70 million hours as of the end of 2016. About 3,800 people worked on the project in 2016, down from over 9,000 during 2015.

### Bear Head LNG \$5.3B

Start: 2017 End: 2021

**Details:** Bear Head LNG Corp. has proposed a LNG export facility near Point Tupper. The project would include four natural gas liquefaction trains producing 8 million metric tonnes of LNG exported per year in the first phase of the project. The initial target for the gas supply would be western Canadian producers and include a new pipeline that would run in tandem with the Energy East oil pipeline.

**Impact:** The project would create 1,500 construction jobs and 200 full-time jobs. It would also see between 80 to 130 ships carrying liquefied natural gas in the Strait of Canso every year.

### Maritime Link \$1.6B

Start: 2013 End: 2017

**Details:** Emera Newfoundland and Labrador is building a \$1.6 billion subsea transmission line between the island of Newfoundland and Nova Scotia for the Muskrat Falls hydro project.

**Impact:** In March 2017, there were over 700 people working on the Maritime Link in both Nova Scotia and on the Island of Newfoundland. The submarine transmission cable will be installed this summer.

### Other Newfoundland and Labrador Offshore Projects \$8.8B

**White Rose Expansion** North Amethyst and South White Rose: \$3.2B (2009-2017)  
**NL Offshore Exploration:** \$3.1B (2010-2026)  
**White Rose Expansion** West White Rose: \$2.5B (2017-2020)

**Details:** These projects comprise the bulk of the offshore activity (excluding the Hebron project) in the Newfoundland offshore over the next few years. Project benefits from the offshore projects in Newfoundland and Labrador tend to have only a modest impact on other provinces. Most of the activity outside the province will occur in international markets. The larger international components are usually shipped directly to the fabrication site by charter vessel. Similar to the Hebron project smaller components from Southern Europe and the Middle East would be shipped by container through Halifax if there is a cost savings over St. John's.

**Impact:** There may be some suppliers for the projects in Nova Scotia that land contracts, but the impact is not expected to be significant. The Halifax Shipyard has completed refits and upgrades to drilling rigs used in the Newfoundland offshore in the past and could see more work in the future. Some container traffic from southern Europe and the Middle East could move through Halifax. As with other projects that require skilled trades, there could be some continued impact on passenger movements at the airport.

### Nova Scotia Offshore Exploration \$2B

Start: 2013 End: 2021

**Details:** BP Plans to drill an exploration well in the second quarter of 2018. The company hopes to drill seven exploration wells in the program, but that will depend on the results of the first well. Shell did not find commercial quantities of oil in the Cheshire well in 2015, nor in the Monterey Jack well in the fall of 2016. Shell is currently evaluating the results of the drilling and are deciding if a second exploration campaign fits into its global portfolio. There could be up to seven wells by 2019.

**Impact:** BP and Shell will be actively building up a supplier base in Nova Scotia for the drilling activity. Drilling activity will occur up to 2021, depending on the results of the wells. If any of the wells have a commercial quantity of oil, there will be a substantial impact as more materials and supplies will be needed including mud, cement, wellhead structures, piping, and parts.

### H-Energy LNG Export Facility \$3.4-\$7B

Start: 2019 End: 2024

**Details:** The facility could have one to three liquefaction trains each producing 4.5 million metric tonnes of LNG per year. The initial gas exports could go to a regasification facility and natural gas-fired power-plant being developed in India by Hiranandani Group.

**Impact:** The project may also target Europe and other customers in India. The company is looking at the US or Canadian markets for gas supply. The company is currently waiting for the market conditions to improve before proceeding with front-end engineering and design work and making a final decision.

### Goldboro LNG Export Project \$8.3B

Start: 2018 End: 2022

**Details:** Pieridae Energy is planning a LNG export facility in Goldboro, NS. The project will include a natural gas liquefaction plant, a power plant and a marine jetty for loading onto ships. Pieridae reached a tentative Project Labour Agreement with Nova Scotia trades and construction unions in October 2016.

**Impact:** Construction would take about 48 months and could start in early 2018. The project would create up to 3,500 construction jobs and 200 operations positions.

### Millstream Potash Deposit \$3.2B

**Details:** The provincial government awarded the rights to explore the Millstream potash deposit near Sussex to Atlantic Potash Corporation. The company is in the midst of a multi-year exploration program that, if successful, could lead to new potash development in the province. Based on Atlantic Potash Corporation's economic impact on GDP during construction, the capital cost is estimated to be \$3.2 billion.

**Impact:** The actual value could vary significantly based on complexity of the mine development and the surface facilities and infrastructure required for the project. The company has met its initial \$4 million exploration expenditures and is planning to conduct additional exploration-related work in 2016-2019 leading to the feasibility study.

### Offshore Wind Farm \$4B

**Details:** Beothuk Energy is proposing a 1,000 MW offshore windfarm with 120 turbines near Yarmouth that would export power to the US market via a sub-sea cable. Siemens Offshore Wind, Talon Energy, and Maderra Engineering are supporting the project.

### Halifax Shipbuilding Contract-Combat Vessels \$30.2B

Start: 2015 End: 2043

**Details:** Irving Shipbuilding of Halifax was awarded the contract to build vessels for the federal government's shipbuilding procurement strategy in 2012. The first phase of the contract will see up to six Arctic/Offshore Patrol Ships (AOPS) built for Canada's coastal waters. The second larger phase will see up to 15 surface combatant ships built that will replace gaining frigates and destroyers in the naval fleet.

**Impacts:** One of the largest public sector investment projects in Canadian history will require suppliers from all over the world to provide components, parts and services for the next 20-25 years, including; propulsion systems, command and surveillance systems, other pre-fabricated components, steel, logistics, and engineering.

Halifax Gateway

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