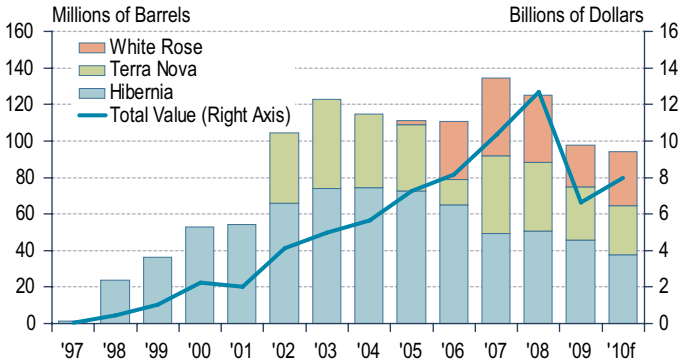
Oil and Gas

Stoneham Rig 11, at Parsons Pond (Nalcor Energy – Oil and Gas)

The provincial oil and gas industry has experienced tremendous growth since first oil was extracted from Hibernia in November 1997. In 2008, the industry accounted for almost 40% of the total value of all goods and services produced in the province (i.e., nominal GDP). In 2009, Newfoundland and Labrador produced approximately 35% of Canada's conventional light crude oil.

Oil Production



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Source: Canada-Newfoundland and Labrador Offshore Petroleum Board; Department of Finance

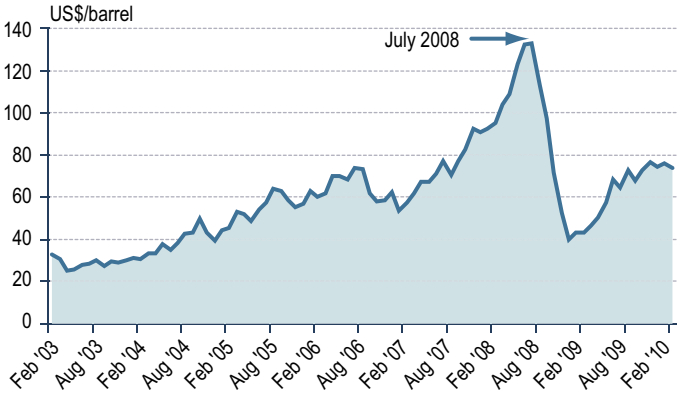
Oil production from the province's three producing fields (see chart) totalled 97.7 million barrels in 2009, a decrease of 27.6 million barrels (or 22%) relative to 2008. The value of oil production decreased by 48% in 2009 to $6.6 billion as a result of reduced production and lower crude prices. The price of Brent crude oil averaged US$61.74 per barrel in 2009, compared to US$96.94 in 2008 (see chart). Total cumulative offshore oil production to the end of 2009 was 1.09 billion barrels with an estimated value of $65.6 billion.

Hibernia

Hibernia produced 45.9 million barrels of oil in 2009, 4.9 million barrels (or 9.6%) less than the previous year due to natural production declines. The Provincial Government announced this past June that the Hibernia project reached "payout", meaning that the province is now receiving a royalty rate of 30% of net revenues for oil extracted from the main part of the original Hibernia field. Cumulative Hibernia production—since first oil on November 17, 1997 to December 31, 2009—was 667 million barrels with an estimated value of $36.7 billion. Production from Hibernia has now exceeded the Canada-Newfoundland and Labrador Offshore Petroleum Board's (C-NLOPB) recoverable reserve estimate at the time of first oil of 666 million barrels. Continued exploration and technological advances have greatly increased Hibernia's total recoverable reserve estimates, which now stand at 1,244 million barrels with remaining reserves of 577 million barrels.

On February 16, 2010 the Provincial Government signed a formal agreement with its industry partners to develop the Hibernia Southern Extension (Hibernia South), ratifying the Memorandum of Understanding that had been reached last summer. This development will extend the productive life of Hibernia by five to 10 years. Hibernia South could return an estimated $13 billion to the Provincial Government through a combination of royalties, returns on investment (through Nalcor Energy – Oil and Gas) and corporate income tax revenues.

Brent Crude Oil Prices



Source: U.S. Energy Information Administration

Hibernia South is comprised of two areas—the AA Blocks (estimated reserves of 48 million barrels) and the remainder (estimated reserves of 167 million barrels). Two modes of development will be used for Hibernia South oil extraction. Extraction from the AA Blocks, which began in November 2009, is taking place by means of direct drilling from the Hibernia Gravity Base Structure (GBS). Oil produced from the AA Blocks will immediately be subject to a royalty rate of 42.5% of net revenues.

The remainder of the Hibernia South area will be developed by means of a sub-sea drilling centre—tied back to the Hibernia GBS. The province, through Nalcor Energy – Oil and Gas, has acquired a 10% equity stake in this portion of Hibernia South at a cost of $30 million. On a go-forward basis, the province will pay a proportional share of project costs and receive a proportional share of production revenues. In addition to the equity stake in the sub-sea tieback project, the province has negotiated higher royalty rates, including a top royalty rate of 50%.

The Hibernia South agreement also resolves the decade-long dispute over the deduction of transportation costs. The province and the proponents have agreed that tanker costs to July 1, 2009 will be deducted according to the province's interpretation of the Hibernia Agreement. This means that in fiscal year 2009-10 the province will receive increased royalties retroactively from 1997 and forward to July 1, 2009. After this date, the same transportation cost eligibility rules as negotiated for the Hebron project will also apply to Hibernia.

Terra Nova

Terra Nova produced 29.0 million barrels of oil in 2009, a decline of 8.5 million barrels (or 22.7%) in comparison to 2008. Production was down as a result of natural production declines and a malfunction of one of the facility's main power generators in July. This problem has since been corrected and production rates returned to normal in November.

The C-NLOPB recently updated the Terra Nova reservoir model to include new information on the field. This resulted in an increase in recoverable reserve estimates from 354 million barrels to 419 million barrels. Cumulative Terra Nova production—since first oil on January 20, 2002 to December 31, 2009—was 286 million barrels with an estimated value of $17.8 billion. Remaining recoverable reserves are estimated at 133 million barrels.

White Rose

The White Rose field produced 22.8 million barrels in 2009, down 14.2 million barrels (or 38.3%) from 2008. The production decline was a result of natural declines at the original field and downtime required to tie in the North Amethyst field (estimated reserves of 68 million barrels), the first of three proposed satellite fields to be developed—the other two are the South White Rose Extension (estimated reserves of 24 million barrels) and West White Rose (estimated reserves of 40 million barrels). The province, through Nalcor Energy – Oil and Gas, has a 5% equity stake in the White Rose satellite fields.

Installation of the North Amethyst sub-sea equipment and tie-in has been completed and first oil from the field is expected in the second quarter of 2010. Husky Energy has submitted a pilot well proposal for approval to the C-NLOPB to develop a portion of the West White Rose satellite field. The proposal calls for the drilling of a producer/injector pair well from the central glory hole. Pending regulatory approval, drilling could occur in late 2010 with first oil in early 2011.

Cumulative White Rose production—since first oil on November 12, 2005 to December 31, 2009—was 137 million barrels with an estimated value of $11.1 billion. White Rose's recoverable reserve estimates, from the original (South Avalon) field together with the three proposed satellite developments, are 339 million barrels with remaining reserves of 202 million barrels.

Hebron

On August 20, 2008 the province signed the final agreement with the Hebron consortium to develop the Hebron oil field, the province's fourth offshore oil project. The Hebron field, which is estimated to contain 581 million barrels of recoverable reserves, will be developed using a GBS similar to, but smaller than, the Hibernia GBS.

The province, through Nalcor Energy – Oil and Gas, has purchased a 4.9% equity stake in the Hebron project at a cost of $110 million and will pay a proportional share of project costs and receive a proportional share of production revenues. A comprehensive Benefits Agreement includes commitments related to engineering, fabrication and construction in the province, including construction of the GBS at the Bull Arm facility. The project will create an estimated 4.1 million person hours of employment in the province. Pre-engineering work is currently underway and a Development Plan Application is expected to be filed in late 2010. Construction of the GBS is expected to start in 2012, with first oil expected in 2017.

Offshore Exploration

- On February 22, 2010, the C-NLOPB issued a Significant Discovery Licence[1] to StatoilHydro for Mizzen O-16 located in the Flemish Pass/Central Ridge Region.
- ConocoPhillips spudded the deep-water East Wolverine G-37 exploration well in the Laurentian Basin on November 24, 2009 using the *Stena Carron* drillship. Operations are ongoing.
- Chevron and co-venturers plan to drill a second exploration well (Lona O-55) in the deep-water Orphan Basin later this year using the *Stena Carron* drillship after it completes its work in the Laurentian Basin.
- Husky Energy Inc. started drilling the Glenwood H-69 well on January 25 using the *Henry Goodrich* drill rig and has several other exploration prospects in the Jeanne D'Arc Basin.
- Canadian Imperial Venture Corp. and Shoal Point Energy Inc. have announced plans for up to three delineation wells in EL-1070 offshore Western Newfoundland.
- Environmental assessments have been filed for proposed 2-D and 3-D seismic programs in the following areas:
    - Offshore Western Newfoundland (Deer Lake Oil and Gas)
    - Offshore Southern Newfoundland in the Sydney Basin (Husky Energy)
    - Offshore Southern Newfoundland in the Laurentian Basin (ConocoPhillips)
    - Offshore Labrador (Husky Energy; Investcan Energy; Chevron Canada Resources)

Onshore Exploration

- Vulcan Minerals Inc. completed drilling the Vulcan-Investcan Robinson's #1 well in the Bay St. George Basin to a total depth of 3,560 metres in September 2009 utilizing the Stoneham Rig 11. Gas shows were encountered in several sandstones. Further evaluation is ongoing.
- Vulcan Minerals Inc. subsequently moved the Stoneham Rig 11 to the Vulcan-Investcan Red Brook #2 location. In early December, the well flowed natural gas to the surface on three drill stem tests—clearly demonstrating the hydrocarbon potential in the Bay St. George area. The well has been cased to a total depth of 1,965 metres pending further evaluation. The company also plans to drill a third exploration well in the area.
- Nalcor Energy – Oil and Gas will operate three exploration permits in the Parsons Pond area. Nalcor has acquired an average of 67% gross working interest in these onshore permits. Industry partners include Leprechaun Resources; Deer Lake Oil and Gas Inc.; Investcan Corporation; and Vulcan Minerals Inc. Seamus #1 is the first of three deep exploration wells to be drilled in the area at a combined cost of $20 million. The Seamus #1 well was spudded in mid-February using Stoneham Rig 11. The Seamus well has a projected depth of 3,000 metres.

[1] A Significant Discovery Licence is a document of "title" by which an interest owner can continue to hold rights to a discovery area while the extent of that discovery is determined and, if it has potential to be brought into commercial production in the future, until commercial development becomes viable.

OIL AND GAS OUTLOOK 2010

Oil production is expected to decline by around 12% to 86.4 million barrels.

- Hibernia is expected to produce 40.6 million barrels—5.3 million less than 2009.
- Terra Nova is expected to produce 26.0 million barrels—3.0 million less than 2009.
- White Rose is expected to produce 19.8 million barrels—3.0 million less than 2009.

Annual average crude oil prices are expected to increase by more than 30% over 2009 levels. Brent crude is expected to average US$80.85 per barrel.

First oil from North Amethyst—the first of three potential White Rose satellite developments—is expected in the second quarter.

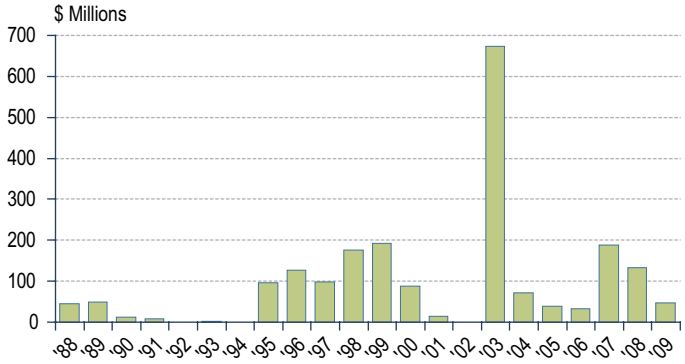
Pending regulatory approval, drilling could commence on West White Rose in late 2010.

The Development Plan Application for the Hebron field is expected by year-end.

ExxonMobil, the operator of the Hebron Project, is currently evaluating bids and will award the contract to build the topsides modules during 2010.

Exploration activity is expected to be solid both offshore and onshore with opportunities in several regions.

Offshore Land Bids



Source: Canada-Newfoundland and Labrador Offshore Petroleum Board

Call for Bids

- On November 20, 2009, the C-NLOPB announced the results of the 2009 Calls for Bids. Successful bids totalling $47 million were received on all four land parcels offered.
  - NL09-01 consists of one 9,558 hectare parcel in the Jeanne D'Arc Basin awarded to Husky Oil Operations Limited (72.5%) and Suncor Inc. (27.5%) with a Work Expenditure Bid of $36.8 million.
  - NL09-02 consists of two parcels in the Laurentian Basin.
    - Parcel 1 (290,070 hectares) was awarded to ConocoPhillips Canada Resources Corporation (55%) and BHP Billiton Petroleum (Laurentian) Corporation (45%) with a Work Expenditure Bid of $8.0 million.
    - Parcel 2 (73,931 hectares) was awarded to ConocoPhillips Canada Resources Corporation (64%) and BHP Billiton Petroleum (Laurentian) Corporation (36%) with a Work Expenditure Bid of $1.0 million.
  - NL09-03 consists of one 140,210 hectare parcel in the Western Newfoundland Offshore Region awarded to Ptarmigan Energy Incorporated with a Work Expenditure Bid of $1.2 million.

- Successful bidders commit to spend at least 95% of the Work Expenditure Bid on exploration of the parcel (with the remainder allowable for research and development and education and training) during the initial six-year period of a nine-year exploration licence.

Historical bid amounts (shown in the chart) have resulted in approximately $850 million in outstanding offshore expenditure commitments—a reflection of industry's confidence in the potential of the Newfoundland and Labrador offshore area.

Offshore East Coast