Think Canadian Offshore, Think Nova Scotia

a report by

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The Offshore/Onshore Technologies Association of Nova Scotia (OTANS) represents the province's oil and gas supply and services industry. Its function is to advance the interests of its membership, which by a certain measure can be achieved by understanding the region's petroleum industry and offering advice where appropriate. The following is an overview of the industry in Nova Scotia.

Talk of Canada's oil and gas industry usually – and justifiably – focuses on Alberta and its massive 176 billion barrels of proven oil. Think Canadian offshore, and it is usually Newfoundland and Labrador that comes to mind. This is due partly to its own 2.7 billion barrels, and partly to the outspokenness of its premier, Danny Williams, who in 2006 went through a public disagreement with Chevron and ExxonMobil over the development plan for the 600-million-barrel Hebron field.

However, Nova Scotia, right next door on Canada's eastern shores, is an aspiring oil and gas player in its own right. Although the province has only one currently producing project – the Sable Offshore Energy Project averaged 10.3 million m^3 of gas per day for the fiscal year 2006–2007 – some recent regulatory and policy initiatives from the Government and the regulator, plus an existing infrastructure and industrial capacity and newly analysed geoscientific data, all augur well for the future of the local industry.

Geological Re-evaluation

In 2006, the Canada–Nova Scotia Offshore Petroleum Board (CNSOPB), which regulates Nova Scotia's offshore petroleum activities, updated its hydrocarbon estimates for the deepwater Scotian Shelf by inputting additional data from six deepwater wells drilled since its 2002 comprehensive analysis. From that, the CNSOPB arrived at a risked to unrisked estimate of 360–1,104 billion m^3 of gas, and a risked to unrisked mean deepwater oil potential of 1.3–4.5 billion barrels. Having the resource is one thing, but infrastructure is, of course, critical. Fortunately, a conduit to eventually bring these hydrocarbons to market already exists, with the Maritimes and Northeast Pipeline system crossing the province from Goldboro, Nova Scotia, through to the north-eastern US.

Industrial capacity is also well-established, with a history of offshore petroleum exploration that goes back to 1967. There was also a modest development project that preceded Sable, which nonetheless gave local industry the chance to participate in an oil production project. In 1992, the Cohasset-Panuke field pumped the first of its eventual 44.5 million barrels of sweet light crude. "The local industry cut its teeth on Co-Pan," said Paul McEachern, Managing Director of OTANS. "A great deal of valuable experience was earned during that time, including practical and technical expertise, as well as an understanding of just how this industry works; how to play in that league."

Lately, that industry has been preparing for EnCana Corporation's Deep Panuke gas project, costing CA$700 million (US$675 million). Located 250km south-east of Halifax, and 47km from Sable Island, it has an expected life of 13 years, with the first of an estimated 18 billion m^3 of recoverable gas to be delivered in 2010. Deep Panuke's gas does not figure in the CNSOPB's deepwater analysis, as it is on the Scotian Shelf and in only 44m of water; the 'deep' part of the field's moniker derives from the fact that the gas resource itself is about 3,500m beneath the decommissioned Cohasset-Panuke project.

EnCana's plan is to lease the production field centre for Deep Panuke and provide the oversight and monitoring throughout development and operations. The two bidders competing to be the operator are MODEC International LLC and Single Buoy Moorings Inc., with the announcement of the successful applicant expected when EnCana gives the project its internal go-ahead later this autumn. The timeframe for final regulatory approval of the project represents an achievement in itself. EnCana filed its development plan application in November 2006 and, thanks to some regulatory streamlining initiatives on behalf of both the Federal Government and the regulator, the time from initial filing to final approval may come in under a year.

Exploration Attraction

However, beyond Deep Panuke prospects for the offshore petroleum industry are a little less clear. Exploration activity has dipped, with no offshore wells planned for 2007, and several exploration licences have not been renewed, in no small measure due to harsh environmental conditions and uncertainty about the geology.

However, in addition to the new efficiencies in the regulatory process mentioned above, both levels of Government and the CNSOPB have undertaken other interesting initiatives to improve Nova Scotia's exploration attractiveness and prospectiveness, and the local level of optimism is high.

"It's important to remember that the fundamentals are in our favour," says Bill Dooks, Nova Scotia's Minister of Energy. "We are very close to the American markets, with proven hydrocarbon resources, and both the industrial capacity and transportation infrastructure to service and deliver petroleum to those markets."

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The Government plans to build on these strengths by undertaking an analysis of what geoscientific data exist for the Nova Scotia offshore, with the intention of identifying the critical knowledge gaps and the data and research that may be required to address them. The second phase of this plan is for the Government to determine where it might be appropriate to actually fill in those gaps itself.

"We understand that geological uncertainty is a deterrent for prospective explorers in any jurisdiction, and ours is no exception," said Sandy MacMullin, Director of Resource Assessment and Royalties with the Department of Energy. "Oil and gas companies have more opportunities across the globe than they have people to perform much of the preliminary geological analysis required before commitments are made, so we have to look at what we, as a jurisdiction, can do to improve the understanding of our offshore geology."

Another matter that the province has under study is that of infrastructure access. There is a single subsea pipeline running and another offshore infrastructure that transports gas from the Sable project to the onshore system, but companies looking to access that system must first negotiate with the owners, a sometimes daunting venture in itself. The Government of Nova Scotia has been examining what options there are to ensure that future developers in the area can rely on timely access to that underlying base in a way that is fair to the owners as well as to the operators of these new developments.

The regulator, for its part, has been looking at policies to make entry into the market easier. In April 2007, the CNSOPB announced that it would be introducing new terms and conditions for exploration licences. Similar to the UK's Promote licences, these will be designed to appeal to smaller exploration companies or independent geological consultancies. "These changes are intended to get explorers exploring at minimal cost and provide valuable geoscience information on the offshore," CNSOPB spokesperson Tim Church said.

The new category of exploration licence will have an initial term of up to three years and a minimal cost that is not necessarily based on drilling commitments. The Board is also considering more flexible terms and conditions for exploration licences. At the moment, companies are required to pay up-front deposits that can reach millions of dollars, whereas in the future explorers could complete the preliminary exploration phase for as little as CA$100,000. The Board also intends to issue a call for bids for new acreage in late 2007 and will unilaterally nominate lands to be included in that call, a departure from previous practice.

Another initiative is the CNSOPB's recent expansion of its Geoscience Research Centre, an important component of which will be a new, world-class digital data management centre (DMC) to store and maintain the vast collection of geological and geophysical information (well logs and reports, seismic data, etc.) acquired in Nova Scotia's offshore. It will allow explorers to easily review all available digital data, including via the Internet, thereby lowering the exploration risk. "The DMC will provide easy global access, via the web, to quality checked data, significantly improving efficiency in obtaining and analysing petroleum data about offshore Nova Scotia," said Church. Funded by both the provincial and federal Governments, the DMC project should dovetail nicely with the province's own geoscientific gas analysis. It is anticipated that it be operational in October 2007, in time for the Board's 2007 call.

Opportunities on Dry Land

There is also a rapidly growing interest in Nova Scotia's onshore conventional and non-conventional gas, with the latter including coal bed methane (CBM) and shale gas opportunities.

Coal mining has a long, rich history in Nova Scotia. The traditional exploitation of this resource has since been abandoned, but new technology and successful exploration wells are translating into potentially lucrative prospects for the extraction of coal gas, perhaps more commonly known as CBM.

Foremost among these is a project by Stealth Ventures Ltd, an unconventional gas specialist with interests in the northern and central part of the province. The company has spent approximately CA$10 million on exploration, with some obvious success, as it has a development application currently before Government. As extracting CBM requires a large number of wells, the potential development costs for the approximate 34 billion m^3 of gas in place could, over the life of the project, be many times that of the exploration. The decision on its proposal is expected by mid-autumn 2007.

Another unconventional player is Triangle Petroleum, which operates in Canada under the name of Elmworth Energy. It is currently going straight to the source rock, conducting drilling and seismic programmes looking for gas in tight shale source rocks.

Both projects would likely eventually look to tie in to the Maritimes and Northeast Pipeline system.

Geographical Attributes

Anticipated future demand for natural gas in the north-eastern US is more than Nova Scotia's own indigenous resources could ever satisfy. Considering the province's relative proximity to overseas liquefied natural gas (LNG) exporters and its existing pipeline infrastructure, it is little wonder that an LNG import terminal would be required. MapleLNG, co-owned by 4Gas and Suntera, is awaiting environmental approval for its proposed receiving terminal at Goldboro, where the Sable gas transfers to the onshore pipeline system.

Unlike American project proposals, where terrorism fears create significant public resistance, Maple's Nova Scotia project actually enjoys broad local support. This support should swell as the LNG terminal – plus a huge associated petrochemicals facility proposed by Keltic Petrochemicals, Inc. – nears federal environmental approval and employment activity and contracting activity increases. Construction on this multibillion-dollar project could start as early as spring 2008.

These projects, prospects and initiatives should serve to more easily bring Nova Scotia to mind when the conversation turns to the Canadian petroleum industry. ■

Acknowledgements

Special thanks to the Nova Scotia Department of Energy, the CNSOPB and EnCana Corporation for their co-operation in compiling this piece.