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ON THE COVER:

Top photo (L-R) Gary Hickey, K&D Pratt; Paul Phelan, ExxonMobil Canada; Charlene Johnson, Noia; Christian Somerton, Pennecon; Glenn Stanford, Newfoundland Growlers; Paul Barnes, CAPP
Bottom photo (L-R) Jill Piccott, CAPP; Andrew Bell, K&D Pratt; Christian Somerton, Pennecon; Charlene Johnson, Noia; Carl English, St. John's Edge; Peter Larden, ExxonMobil Canada

The Noia logo is located in the bottom right corner of the page. It features the word "NOIA" in a bold, white, sans-serif font. The letter "O" is stylized with a large, white, circular graphic element that partially encircles it, creating a dynamic and modern look.



Noia CEO Charlene Johnson

Advocacy is the primary way Noia provides value to its members and the past few months have been exceptionally busy on that front. We have been working hard on behalf of our members to ensure our industry reaches its tremendous potential and I would like to provide you with some highlights of our actions.

Recently, we have seen a number of positive announcements for our industry which I believe our advocacy work contributed to achieving. A regional assessment (RA) is now underway for a large area of our offshore and should lead to a more efficient process and further exploration. Noia strongly advocated for an RA and contributed to the consultation process. We were pleased to see a knowledgeable and balanced committee appointed – as Noia recommended.

Over the past year there was much uncertainty about what activity could occur in marine refuge areas and the terms marine protected area and marine refuge were being incorrectly interchanged. Through advocacy efforts that included conversations with numerous governmental officials and a presentation to the National Advisory Panel on Marine Protected Standards, the industry now has clarity on this front. Further, we believe the federal government gained a better understanding of the importance of the Northeast Newfoundland Slope and thus permitted exploration to continue in a sustainable manner.

Noia engaged Wood Mackenzie to undertake a jurisdictional analysis of environmental review processes for offshore exploration programs. The data confirms our hypothesis that Newfoundland and Labrador is out of step with the countries we are competing with for investment. The analysis was released as part of Noia's presentation to the Standing Senate Committee on Energy, the Environment and Natural Resources. It was well received and has been cited numerous times since. This fact-based advocacy, coinciding with the efforts of

many organizations who have made recommendations on the proposed legislation, should lead to necessary amendments. You can read more about this analysis in the Industry News – Spring Wrap Up article on page 6 of this issue.

As well, during the provincial general election, Noia sent a letter to all four parties asking their position on three important topics: the Atlantic Accord, life-of-field benefits and regulatory environment. Through this letter, it was the intention of Noia to get the positions of the parties on full and fair opportunities which allow Newfoundland and Labrador to be the principal beneficiary of current and future offshore opportunities.

We were also excited to partner with the Newfoundland Growlers and St. John's Edge to host oil & gas awareness games at Mile One Centre. With the I ♥ NL Oil & Gas logo on the ice and court, these were great events to raise awareness for our industry and educate the public about the importance of oil & gas. There was a palpable sense of industry pride at both Noia family-oriented events.

Our advocacy efforts will continue as there is a lot of work yet to do. We must continually strive to advocate, engage and inform decision makers and the public about the importance of the Newfoundland and Labrador offshore oil & gas industry. As always, I welcome your feedback on our approach to advocacy or any other matter.

Sincerely,

Charlene Johnson



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Noia CEO Charlene Johnson presented to the Senate Standing Committee on Energy, the Environment and Natural Resources April 23.

Industry News – Spring **Wrap-Up**

Atlantic Accord agreement reached

On April 1, 2019, the governments of Canada and Newfoundland and Labrador announced that an agreement had been reached on the fiscal arrangements of the Atlantic Accord, titled the Hibernia Dividend Backed Annuity Agreement. The agreement pays the provincial government a guaranteed cash amount of \$3.3 billion from 2019 to 2056. Beginning in 2045, the province will pay eight annual amounts of \$100 million to the federal government, resulting in a \$2.5 billion net value. The majority of payments (\$1.9 billion) by the federal government will be received by 2030.

The agreement has a commitment by both parties to conclude discussion to deepen joint management of the offshore within two years. This includes the areas of land tenure, worker safety, regulatory efficiency and regulator modernization. The agreement also states that petroleum activities are permitted in the northeast slope marine refuge. A dispute resolution mechanism is also included in the agreement.

Regional assessment launched

The governments of Canada and Newfoundland and Labrador announced the launch of the Regional Assessment of Offshore Oil and Gas Exploratory Drilling east of Newfoundland and Labrador on April 15. This is the first regional assessment under the *Canadian Environmental Assessment Act, 2012* and is intended to improve efficiency of the federal environmental assessment process for exploration drilling wells.

The final agreement to conduct the assessment was completed after public consultation – which Noia participated in – and includes procedures and timelines for the process, factors to be considered and terms of reference. The regional assessment was designed to support the process proposed in the *Impact Assessment Act*.

This committee assigned to complete the assessment will study the effects of exploration wells and submit a report to the federal and provincial governments. The report will be made public.

Two exploration programs receive environmental assessment approval

Also in April, the Government of Canada announced that two offshore exploration programs were released from the environmental review process. An ExxonMobil Canada program located in the Jeanne d'Arc and Flemish Pass basins was approved, along with an Equinor Canada program located in the Flemish Pass Basin. The projects had been undergoing review since 2016.

While it was stated the projects are not likely to cause significant adverse environmental effects when mitigation measures are taken into account, they were released with approximately 90 legally-binding conditions for the operators to follow. The Canadian Environmental Assessment Agency says these conditions will reduce or eliminate effects of the programs and the C-NLOPB will be the responsible authority to monitor and enforce the conditions.

Noia presents at Bill C-69 hearings

The Canadian Senate's Standing Committee on Energy, the Environment and Natural Resources has been mandated to review Bill C-69. This bill includes the new *Impact Assessment Act* and may greatly change the way assessments of natural resources projects are undertaken in Canada. As part of the review process, the committee conducted hearings across the country, and in Ottawa, to ascertain the views of residents and industry associations.

On April 23, Noia CEO Charlene Johnson presented to the committee at a hearing in St. John's. During her presentation Johnson outlined concerns with the bill, such as the ambiguity in timelines and the ability to "extend the time limit extended [sic]." She indicated the current draft legislation does not provide the certainty and clarity that investors require. Johnson also stated the role of the C-NLOPB must be enshrined in legislation and offshore exploration wells, which are typically 30 to 90 days in duration and have well understood mitigation measures, should not be on the Designated Project List as major projects like pipelines.

During her presentation Johnson also provided details of a jurisdictional comparison conducted by international consulting firm Wood Mackenzie. The firm compared exploration well environmental review processes in countries such as Norway, the United Kingdom, Australia and the U.S. Gulf of Mexico

(deepwater) with Newfoundland and Labrador and Nova Scotia. The comparison shows Canadian offshore reviews are out of step with the other leading jurisdictions as Australia averages 144 days for review, the U.S. Gulf of Mexico (deepwater) 96 days, Norway 79 days and the U.K. 18 days. In Nova Scotia, the average is 698 days and in Newfoundland and Labrador the average is 905 days under CEAA, 2012.

TGS and PGS to conduct Nalcor seismic program

Again this year, Nalcor Energy's seismic program offshore Newfoundland and Labrador will focus on collecting and processing new 2D and 3D seismic data in areas identified for future license rounds.

Seismic survey organizations TGS and PGS have teamed up to conduct the campaign – their ninth offshore Newfoundland and Labrador. TGS is expected to use the vessel *Ramform Atlas*, beginning in early June, to conduct 3D work in the proposed 2020 bid round area. Around the same time, PGS will use the *MV Sanco Atlantic* to conduct 2D seismic in bid round areas for 2021 and 2022.

Husky spuds well

Semi-submersible drilling rig Henry Goodrich spudded an exploration well for Husky Energy on April 3. According to media reports, the well, located in Exploration Licence 1122 and known as Tiger's Eye D-17, is about 10 kilometres away from the White Rose field.



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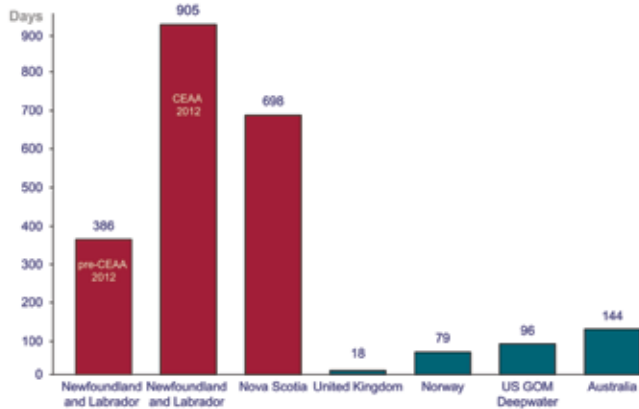
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Country comparison

Average timeframe for environmental approval (2000-2017)



Source: CEAA and Environmental and Exploration Approvals Timelines Study, Wood Mackenzie (April 2019)

Comparison of exploration well environmental review processes in other oil & gas jurisdictions presented during Bill C-69 hearings.

Land tenure calls for bids announced

The C-NLOPB announced its 2019 Call for Bids April 3, 2019. Nine parcels are being offered in the South Eastern Newfoundland region and four in the Jeanne d'Arc region. Bids will be accepted until 12:00 p.m. on November 6, 2019. Subject to bidders satisfying the requirements specified in the Call for Bids, and upon receiving Ministerial approvals, the Board will issue the new exploration licences in January 2020.

C-NSOPB consultation held

The Canada-Nova Scotia Offshore Petroleum Board (C-NSOPB) recently invited public comments as part of the process to update the Strategic

Environmental Assessment (SEA) for the Middle Scotian Shelf and Slope.

The intention of the SEA update is to ensure up-to-date information. Public comments were invited by April 18 and the C-NSOPB has committed to making all submitted comments public, along with the final SEA.

Marine conservation measures announced

In late April, the Government of Canada announced its response to recommendations made by the National Advisory Panel on Marine Protected Area Standards by creating two forms of marine protection – marine protected areas and other effective-area based conservation measures.

A marine refuge area is a form of effective-area based conservation. Oil & gas extraction may occur in a marine refuge area if the activity is consistent with the conservation objectives of that area. Such activities will be evaluated on a case-by-case basis and subject to environmental assessment rules. It was also announced that if an economic activity does occur in a marine refuge area, the federal government will not count that area toward its goal of protecting 10 per cent of marine areas by 2020.

A marine protected area will function similar to a national park and prohibit four industrial activities – oil & gas, mining, dumping and bottom trawling. As recently announced as part of the new Atlantic Accord, a 11,580 square kilometre marine protected area will be created in the Laurentian Channel. ■



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The Ramform *Titan*, a vessel that routinely conducts seismic surveys in the NL offshore. Photo courtesy of PGS.

Industry 101 – Seismic surveys: An essential exploration tool

Seismic surveys are a critical tool used by the oil & gas industry, both onshore and offshore, during exploration for new hydrocarbon resources. When developing exploration plans, oil & gas companies work to minimize risk by gathering as much information as possible in advance of drilling activity. Detailed seismic surveys are a valuable and essential tool in this process.

In permeable soil and rock, oil will slowly rise to the surface in quantities that are not commercial. Certain geological features, including a dome of impermeable “cap rock,” must be present to contain the oil and allow it to collect over many years in sandstone formations that could contain millions – even billions – of barrels. Seismic surveys use sound energy to analyze subsea geological structures to identify those which could potentially contain such reservoirs.

These surveys are conducted by purpose-built ships, some more than 100 metres long and 70 metres wide, with a crew of between 30 and 65 mariners, survey engineers and technicians. The ships tow devices that use compressed air to produce pulses of high-energy, low-frequency sound waves that travel through water and can penetrate 6,000 metres and more into subsea rock layers.

These sound waves bounce back to the ocean surface where receivers – or hydrophones – record the strength and return time of each wave. The seismic vessel travels at about 5 knots over a predetermined survey pattern, towing one or two sets of sound sources and one or several extended “streamers” – each up to 12 kilometres long – containing hundreds of hydrophones.

From this data, maps of the geology below the seabed are developed.

There are various types of marine seismic surveys, including:

- Two dimensional (2D): One sound source and one set of receivers deployed to provide a basic, limited picture of the geological characteristics over large areas.
- Three dimensional (3D): Multiple strings of hydrophones are deployed to give a more detailed picture of a smaller area, often after a 2D survey has detected a geological structure that could potentially contain oil & gas.
- Four dimensional (4D): The fourth dimension is the passage of time; when a 3D survey is conducted over a producing field multiple times at various stages of its production life. This helps operators understand what changes may have taken place in a reservoir over the producing life of a field, enabling them to identify how best to optimize production.

"For a typical 3D seismic survey offshore Newfoundland and Labrador, you might have 16 streamers, each 100 metres apart and eight kilometres in length," said Neil Paddy, new ventures manager with PGS, a global seismic company that is active in Newfoundland and Labrador. "The modern 3D seismic surveys are towing large pieces of equipment, typically a mile wide and five miles long."

Precision is critical so advanced navigation and acoustic systems are deployed to ensure geological features are mapped accurately. Rough seas can affect data quality so seismic vessels do not operate in poor sea states.

Proprietary versus multi-client

Seismic surveys are conducted on either a proprietary or multi-

client basis. Proprietary surveys are acquired by a seismic survey company for an individual operator who owns the data exclusively. Multi-client surveys, on the other hand, are acquired by the seismic company – sometimes with other partners – and then marketed or licensed to as many clients as possible.

Since 2011, PGS has been conducting an extensive multi-client seismic program in our offshore, in partnership with the Government of Newfoundland and Labrador, through the oil & gas division of Nalcor Energy. This work is being undertaken to evaluate Newfoundland and Labrador's undiscovered oil & gas resource potential throughout the vast area of our offshore – specifically in deep water.

The seismic research began with basic 2D seismic surveys in coarse grids, roughly 60 by 60 kilometres square. This was followed up with more systematic evaluation, using survey grids that measured 10 by 10 kilometres and even 5 by 5 kilometres. By the end of 2018, PGS and Nalcor had gathered over 175,000 line kilometres of 2D multi-client data and over 15,000 square kilometres of 3D data. This information is licensed to oil & gas companies in advance of future license rounds.

Late last year, Nalcor released the 2018 Oil & Gas Independent Resource Assessment, which identified an additional 11.7 billion barrels of oil and 60.2 trillion cubic feet of gas potential offshore. It brings the combined potential in less than seven percent of Newfoundland and Labrador's offshore area to 49.2 billion barrels of oil and 193.8 trillion cubic feet of gas. The results speak for themselves, in terms of record-setting land sales – in excess of \$1.3

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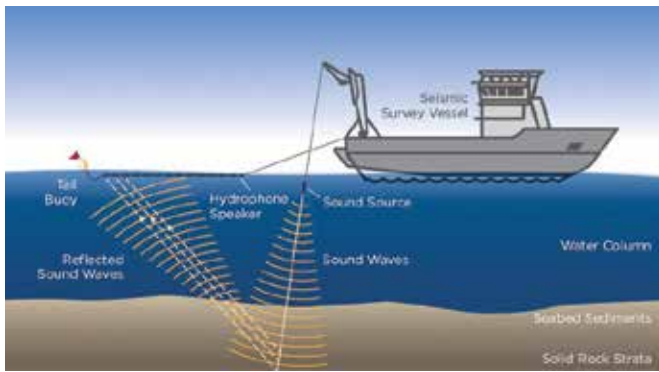
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Seismic sound waves bounce off the ocean floor – and the solid rock strata beneath. Graphic courtesy of CAPP.

billion in 2018 – and several new industry operators who recognize the vast potential of this region.

According to Neil Paddy of PGS, Nalcor's multi-client seismic survey program is internationally significant.

"Frankly, the approach that Nalcor has taken is almost head and shoulders above anything that has been done globally," Paddy said. "They looked around the world, found what worked and what didn't, and have taken that approach to get as much and the best data possible to generate interest. What they have done is absolutely world-class, in terms of scope, size and the level of the approach. There has never been a program that compares to what Nalcor has done. I'm currently in Colombia promoting the idea of multi-client surveys and using Nalcor as the model they should emulate."

Environmental effects

The International Association of Geophysical Contractors (IAGC) represents the seismic survey and exploration industry and conducts scientific research on its behalf.

The IAGC has supported numerous research projects exploring environmental impacts of seismic activity on marine life. It says it has found no significant impacts on marine life and their environments.

"More than four decades of worldwide seismic surveying and various scientific research indicate that the risk of direct physical injury to marine mammals is extremely low," the IAGC states on its website.

On the other hand, industry critics have suggested that seismic surveys have negative effects on ocean life, though many of the studies cited are hindered by a lack of reliable scientific data to support these claims. Most research on the effects of seismic has focused on marine mammals, and relatively little work has investigated impacts on commercial fisheries and, in particular, invertebrate fisheries.

In that regard, a recent scientific survey conducted in our own offshore has yielded some interesting findings with respect to snow crab, the province's most economically valuable commercial fishery.

A four-year research project conducted by the federal Department of Fisheries and Oceans (DFO) in the offshore, using actual 2D and 3D seismic survey vessels, with the participation of crab fishers in the survey area (and outside it, as controls) has found no consistent or obvious negative impacts on snow crab populations.

According to Corey Morris, research scientist-environmental science with DFO, the survey was developed in consultation with seismic operators, fishing industry representatives, Memorial University and the Government of Canada.



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"It was conducted in an area where crab stocks were declining, based on feedback from fishery representatives," Morris explained. "DFO scientists researched both short-term and long-duration seismic exposures. In addition to measuring catch rates in the seismic research and control areas, they studied the behaviour of snow crab on the ocean floor through the use of transmitters attached to crab shells."

Physiological characteristics – including effects on liver and blood – were measured, as were genomic responses and whether certain genes were reacting to seismic sound. Lab experiments were also conducted to supplement what was being observed offshore. DFO has studied this question for four years to evaluate the consistency of results.

"The sources of natural variation seemed to have a larger influence on catch rates than the seismic did," Morris added. "We could measure the effect of the environment – temperature and depth differences – which came out as somewhat predictable. But we couldn't measure the effects of seismic. So, if there is an effect of seismic it seems to be smaller than some of these natural sources of variability that we measure in the environment."

The results have been shared openly with the project participants and are currently being reviewed by independent scientific expertise for publication in peer-reviewed journals.

Morris said the level of scientific integrity maintained in this survey is on par with any seismic-related research project, anywhere in the world.

"I'm not aware of other studies that have done work like this, in this particular way, incorporating before and after control impact design, replication and inclusion of commercial fishing. Other studies have been criticized heavily for not doing it this way. When we put this together, we looked at other work that was done, identified whatever shortfalls there were and tried to address them as best we could. Three of the big issues that were commonly cited were lack of realism, replication of results and study controls, so those were the things that we chose to focus heavily on."

Morris pointed out that snow crab may not be a vulnerable species and the lack of measurable effects in this case should not imply that there are no effects



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The hydrophone streamers deployed on a typical seismic survey can be up to one mile wide.

on mammals or fish. He added that DFO will next be undertaking a similar study into the potential effects of seismic testing on groundfish.

Neil Paddy said PGS participated in the snow crab research project from day one, including supplying the research vessels and working closely with fishers and DFO scientists.

"A lot of the research work that's been done in the past has been done in a controlled environment, or a smaller environment, and attempts have not been made to extrapolate those results into the real world," Paddy said. "By contrast, this research project was very much the most comprehensive that's ever been done, in that it used an actual seismic vessel working in the field. It is therefore much more representative of real-world outcomes."

According to the Canadian Association of Petroleum Producers (CAPP), the oil & gas industry in this province

follows rigorous environmental standards set by the Canada-Newfoundland and Labrador Offshore Petroleum Board. The board approves seismic survey work and establishes environmental protection conditions to ensure that offshore seismic surveys are conducted safely, with minimal impact on the marine environment through careful planning and oversight.

As part of the environmental assessment process, companies must identify the types of wildlife that may be present in an area where oil & gas activity – including exploration – will take place. Companies then identify and implement mitigation measures to reduce or eliminate any potential impacts. Operators also adhere to the science-based *Statement of Canadian Practice with respect to the Mitigation of Seismic Sound in the Marine Environment*, which outlines requirements that must be met during the planning and conduct of marine seismic surveys in order to minimize impacts on ocean life. ■

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Clean technology and the pursuit of sustainable energy

As Canada and the world look to a greener and more sustainable future, the demand for clean technology (clean tech) is growing exponentially. It is estimated that the global market for clean technologies will grow to \$2.5 trillion by 2022, up from its current value of approximately \$1.1 trillion. Clean tech is already transforming the oil & gas industry, with huge potential for the future.

What exactly is clean tech? In simplest terms, it is the application of products, processes and services that reduce industry's impact on or risk to the environment in the pursuit of sustainability. Kieran Hanley, executive director of the Newfoundland and Labrador Environmental Industry Association (NEIA), said clean tech encompasses more than many people realize.

"The use of clean technology can mean improving efficiency, reducing wastes and/or mitigating the environmental risks of business activity. This is often confused with clean energy, but in fact, if you apply that definition to the offshore oil & gas industry there is a whole slew of different applications – a process that helps reduce fuel use, technologies that help understand the environment within which assets operate, limiting greenhouse gas emissions, managing wastewater and so on."

Local clean tech expertise

The development, application and export of clean technology present an enormous opportunity for Newfoundland and Labrador businesses. NEIA has compiled a Clean Technology and Environmental Services directory for Newfoundland and Labrador to quantify the

capabilities of the province's private sector and research and development assets relating to clean technology and the environment.

Hanley said that an area of existing clean technology strength for Newfoundland and Labrador is environmental characterization. This encompasses many areas related to understanding the environment within which assets operate, determining the current state of the environment and the effects on that environment where operations are planned or currently underway. This can relate to aspects of the natural environment like ocean states, water columns, the ocean floor, wind, precipitation, ice and icebergs and the associated living elements such as seabirds, wildlife and microorganisms. It can also mean aspects of the built environment and how structures and assets in the ocean react to and impact the natural environment.

Several local companies have developed world-class technology and expertise related to offshore monitoring, remote sensing, simulations, imaging, ice research and engineering and geotechnical engineering, all in support of better understanding and protection of the operating environment.

"We have an expertise in this space and this is a key focus area for the Oceans Supercluster," Hanley noted.

Learning from the Norwegian North Sea

Consultant Caron Hawco worked as an advisor on a recent Canadian trade mission to Norway in March led by NEIA, in

partnership with Noia and Canada's Trade Commissioner Services, to explore clean technology opportunities within the offshore oil & gas industry. She said the mission helped Canadian firms pursue clean tech trade and partnership opportunities with Norwegian firms, while learning about how clean technology can be applied in the local oil & gas industry. She agreed with Hanley that there are already some exciting things happening in Newfoundland and Labrador.

Hanley said the trip offered insight into many ways the global industry can reduce its environmental footprint and risk, including the use of electric cables to power offshore installations from shore, battery powered vessels, new carbon capture methods and increasing energy efficiency in day-to-day operations.

Equinor's Johan Sverdrup field in the North Sea is setting a new standard for its use of clean technology as it will be powered from shore by the Norwegian national power grid. This system will supply the field with the necessary electricity for up to 50 years, making it one of the lowest CO₂-emitting oil & gas operations worldwide. With estimated carbon emissions of 0.67 kilograms per barrel, emissions from Johan Sverdrup will be reduced by approximately 460,000 tonnes of CO₂ per year – about 20 times lower than the average on the Norwegian continental shelf and 30 times lower than the international average.

Equinor is further looking to improve its environmental footprint by replacing other gas-powered offshore generators with electrical energy from onshore. It is now considering electrifying three more offshore platforms in the Norwegian North Sea – Troll C, Sleipner and its Gudrun tie-in. The transition could cut CO₂ emissions from this area by more than 600,000 tonnes per year.

Equinor's executive vice-president for the Norwegian continental shelf, Arne Sigve Nylund, said electrifying these fields makes even more sense, since it can be done using existing infrastructure. However, Nylund warned that electrification poses challenges.

"Powering major offshore oil & gas installations from land is no easy task. There are many challenges, both technical and financial, and several of our installations are in areas with no possibility for tying-in to land-based power supply."

Equinor has also pioneered the use of offshore floating wind turbines to directly power its oil & gas platforms, which could reduce CO₂ emissions by up to 200,000 tons when using an 88 megawatt floating windfarm.

Although not all of these technologies are applicable offshore Newfoundland and Labrador, Hanley says there are many future clean tech opportunities.

"We [the Canadian oil & gas sector] are the global leader in clean energy production from source to end use. Of the \$2 billion spent on clean tech in Canada in 2016, \$1.65 billion of that was spent by the oil & gas industry. We are the implementers, we are the adopters, we are the ones who commercialize clean tech."

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"There are areas where we haven't necessarily done a whole lot of work exploring opportunity yet in our jurisdiction," he said. "But there's an enormous amount of potential, because, at the end of the day, it's not good enough to be environmentally sustainable or responsible, it also has to make economic sense and these are areas where Norway is creating a pathway for all the rest to have a look at how this can be done economically."

Oil & gas leads clean tech innovation in Canada

The Canadian oil & gas sector is also full of examples of innovation and clean technology under development and in use. The Clean Resource Innovation Network (CRIN) is an industry-led network that connects industry, academia, governments, inventors, entrepreneurs and investors to accelerate the commercialization of clean technologies. CRIN's initial focus areas include a holistic approach to water management, decarbonization, operating efficiencies and digitization of the oil & gas sector.

CRIN chair Joy Romero spoke at Noia's 2018 conference about the leading role that the energy sector is taking in clean tech. Romero said Canada's approach to climate change ensures that its oil & gas resources continue to be developed responsibly with world-leading environmental performance standards. She added that these resources will be an important part of the lower-carbon economy on a global basis.

"We are the global leader in clean energy production from source to end use," Romero said. "Of the \$2 billion spent on clean tech in Canada in 2016, \$1.65 billion of that was spent by the oil & gas industry. We are the implementers, we are the adopters, we are the ones who commercialize clean tech."

Recognizing the great potential of clean tech to benefit the environment and economy, the Government of Canada has initiated several programs to encourage innovation in the oil & gas industry. It hopes these efforts will help reach its target of reducing greenhouse gas emissions by 30 per cent below 2005 levels by 2030. On March 19, it announced funding of \$100 million dollars over four years to CRIN from the Strategic Innovation Fund. In a news release, the government stated that the investment recognizes "the collaborative and innovative track record of Canada's oil and natural gas industry at delivering clean technologies that result in significant environmental performance improvements."

As operators and supply and service companies look for innovative ways to continue the industry's push for a more environmentally friendly and sustainable future, Hawco said it's important to remember that many companies are already implementing newer, cleaner ways of doing business.

"Newfoundland companies are adapting and applying new ways of doing business every day and they don't even know that they're using clean technology. It's just the way that they're doing their business," Hawco said.

As we continue to follow the innovative thinkers who will transform our industry, we'd like to hear from you about how your company is using clean technology for a more sustainable future. ■

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Students get hands-on opportunity to learn about oil & gas careers

Incredibly positive reviews were received from high school students who attended the March 4 Oil & Gas Industry Career Day at the Marine Institute. Hosted by the Petroleum Industry Human Resources Committee

"I learned there are a lot of jobs in the oil industry other than working on the rigs themselves." - Participant

(PIHRC), the full-day event hosted 110 grade 11 students and their teachers from five St. John's metro-area high schools.

Designed to expose students to the variety of careers available in our oil & gas industry, activities included a mix of small group discussions, interactive experiences and presentations.

Participants listened to Nalcor geophysicist Victoria Mitchell talk about our local industry and the importance of petroleum to our province and daily



lives. Small groups visited career-themed tables where they spoke with more than 40 industry and post-secondary representatives who shared their career stories and provided information about industry-related educational programs. Arguably, the most popular part of the day was the hands-on activity component where students learned more about marine engineering, design, ocean technology, marine environmental protection and offshore safety and survival training. The day ended with a fun-filled gameshow where students could demonstrate their newly acquired knowledge and win prizes for their efforts.

"It's important that our young people know about the hundreds of diverse career opportunities available to them in our oil & gas industry," said Charlene Johnson, Noia CEO and PIHRC co-chair. "Also, that they can train for most careers here in their home province

"I was originally not very interested in attending the Marine Institute and/or pursuing a career in the oil and gas industry but after attending this event and participating in the ocean mapping activity I became more interested in ocean mapping. I thought I had my mind made up as to what I wanted to do but now I am keeping my options open." - Participant



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Students weigh-in on the event

"I loved it. It really showed me how cool it would be to work on a boat. Someone said that chefs make everyone happy on the ship. I'm excited to be a marine chef even more now!"

■ ■ ■

"Overall, really enjoyed this event. It showed me a lot I didn't know about the industry. I found out that there's a chance I might be a nurse on an oil rig instead of in a hospital."

■ ■ ■

"I learned about many new career options that I never knew existed and am now more interested in a career with the oil & gas industry."

■ ■ ■

"It was interesting participating in the activities and seeing the different choices I have and paths I can take for my future."

and once graduated, choose to work here, or in many other places around the world if that's their heart's desire."

PIHRC is currently planning similar events in other parts of the province.

PIHRC is the primary industry resource for career information and the promotion of careers in the Newfoundland & Labrador oil & gas industry. It identifies labour market issues in the oil & gas sector by drawing on current research or conducting its own when necessary, and works with or through other agencies, such as government departments, school districts and educational institutions, to provide information to students and their key influencers. PIHRC is co-chaired by Noia and CAPP and can be found online at www.oilandgascareerinfo.ca. ■

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West Aquarius moored in Bull Arm, with the spacer barges visible between the rig and the pier.

Thruster changeout receiving global attention

There are eight thrusters on the West Aquarius. They propel the rig forward or keep it on station, as necessary. To ensure safe operations, regulations require that the thrusters be changed out and replaced with new ones at the end of their useful life.

It's a substantial heavy-lift operation – each thruster weighs more than 47 tonnes – that must be performed underwater, using cranes and professional divers. It has never been performed in this province, despite decades of exploration and production drilling activity offshore.

Last year, when the West Aquarius rig was coming due for its thruster changeout, Seadrill, the owners of the rig, began searching for the most practical solution. The rig was wrapping up work offshore Nova Scotia and was scheduled to move to Newfoundland in the spring.

"So that was our window to get this work done," said rig manager, James Nunnery. "We started looking into this more than a year in advance, knowing the amount of planning involved. We were looking at various places to carry out the work scope, including Halifax, Bay Bulls and other deepwater ports. We even considered sending the rig overseas to Norway or Tenerife, which would have added substantial time to the work scope."

But then, DF Barnes, a local company that provides offshore maintenance and repair, large fabrication

and industrial construction, entered the picture. Seadrill had been a DF Barnes customer for several years.

"We wanted to perform the work at Bull Arm, using local contractors and the skilled local workforce," said Brendan Kelly, business development with DF Barnes. "And we brought that idea to the folks at Seadrill."

Seadrill was receptive for two reasons, Nunnery said.

"Firstly, we wanted to keep the local, competent crew members that were already on board employed. Secondly, when the work was done, we'd be trying to rehire the crew in time for our next drilling program offshore, knowing that not all would be available. So, we liked what DF Barnes proposed, but did have questions."

Those questions related to technical details, but the largest obstacle seemed to be the fact that this type of operation had never been executed in Newfoundland and Labrador – which implied, to some, that it couldn't be done here.

"Our senior managers at Seadrill were certainly hesitant at first," Nunnery said. "But our strategy was to investigate for ourselves, and then report back. We asked a lot of questions. Is the site sheltered enough? What is the water depth? How close can we get to the quay? What will the moorings look like? What are the technical capabilities of the local project team?"

Brendan Kelly at DF Barnes answered all questions and was persistent in his belief that the work could be done here.

"It's a deepwater site in a sheltered port, with phenomenal buildings and infrastructure, and it sits strongly on the global stage. It has great docking facilities, module hall, paint shop, piping building and ample laydown area. There is a single labour union which is great to work with. There are not many places in the world where you can tie up a rig and have all those services available. We were confident that it could be done here, and that was the message we conveyed at every opportunity. Seadrill had confidence in us as well, fairly early on, especially when we brought clear answers to every question they had."

Perhaps the biggest question about the Bull Arm site related to water depth at the pier. The thrusters had to be removed from the bottom of the rig pontoons, so a minimum water depth of 25 metres was required. However, the depth at the end of the pier was 15 metres.

"The water depth did drop off fairly quickly, so we proposed putting in place two floating spacer barges tethered to the end of the pier that would extend it into

deep water." Kelly said. "So that point was addressed. Then the next big logistical item was executing removal of the thrusters, because we didn't have the floating crane barges that other shipyards have. Our solution was innovative, in that we used the crane on the rig itself, as well as the winch on the tugboat, *Beverly M*, for the heavy lifting of the thrusters. There were other, smaller challenges to resolve, but at that point there was no doubt about it: we were able to execute this job, working with the team at Pro-Dive."

Nalcor Energy, owners of the Bull Arm Fabrication Site, issued a news release in November 2018 announcing that DF Barnes had won the Seadrill contract and would perform the work at Bull Arm.

"The work scope includes warm stacking, thruster change outs as well as hull inspection and cleaning," the release stated. But those three words – thruster change outs – caused a buzz within the industry. And, of course, many were watching to see if the project team could deliver.

The short answer is, yes, they delivered – and in fine style. It took just 12 days to remove eight thrusters and replace

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LEFT photo: Ron Pitcher of Pro-Dive: "We were all determined to make the best of it and create a legacy that would position our team – and the Bull Arm Site – for future projects." CENTER photo: Brendan Kelly of DF Barnes: "We have now been added to a very short list of places in the world that can do this work." RIGHT photo: Gary Flood (L) and James Nunnery of Seadrill. "You couldn't have done this work any more safely or efficiently anywhere else in the world," Flood said.

them with new ones; safely, on time and on budget. And they would have been even more efficient if three days hadn't been lost to windy weather conditions.

However, the short answer doesn't do justice to the ingenuity and tenacity of DF Barnes workers and their management, Local 585 and subcontractors, Pro-Dive Marine Services, Capital Crane and Rolls Royce, manufacturers of the thrusters.

"The crane on board the rig was used for the inboard thrusters, and the 50-tonne winch on the *Beverly M* was used for the outboard thrusters, assisted by strand jacks which assure precision in heavy lifting," Kelly said. "The inboard thrusters were lifted onto the back of the *Beverly M*, which then transported the thruster to shore. The rig crane couldn't reach the outboard thrusters so the lifting was performed by the winch on the *Beverly M*, which carried the thruster a short distance where the rig's crane could lift it onto the back of the *Beverly M*. It was a very coordinated, safe and efficient operation."

Ron Pitcher is vice-president, operations and technical services with Pro-Dive, whose team was integral to the success of the operation. Pro-Dive has been diving at

Bull Arm since the days of the Hibernia project, but the thruster changeout was a new assignment for them.

"We had no preconceived notions of what it would be like there – it was a clean slate for everyone," Pitcher said. "But we were all determined to make the best of it and create a legacy that would position our team – and the Bull Arm Site – for future projects. We talked early on with DF Barnes about the program and Rolls Royce about the thruster changeouts and how they were done. We all said, yes, we can do this. After that, it was a matter of developing a detailed plan and executing it safely. Everyone pitched in and worked very well together."

The cold winter weather presented a challenge, though nothing insurmountable.

"Water temperatures were just above freezing," Pitcher said. "It was bitterly cold. The guys wore 'woollies' – essentially thermal underwear – under their dry suits, which keeps you warm for a while, before the cold sets in. For that reason, dives were limited to two hours or less. There were times they had to come up and run hot water over their hands and warm up, before going back



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INDUSTRY NEWS | Thruster changeout receiving global attention

down. But this challenge is unique to that time of year. In the spring, summer and fall, you'd be hard pressed to find a better site than Bull Arm for this kind of work."

That sentiment was echoed by Gary Flood, rig lead with Seadrill.

"You couldn't have done this work any more safely or efficiently anywhere else in the world," he said. "The dive crew was really blown away by the cleanliness and clarity of the water at Bull Arm. You don't see that at many large industrial facilities. The machinery manager with Rolls Royce travels all over the world for thruster changeout operations, and he said this is one of the best locations he has ever seen for this kind of work. I wouldn't have any doubt about doing it here again. Bull Arm is a phenomenal facility and the people are just great."

That sits well with Brendan Kelly of DF Barnes, a company that has spent many years working in the offshore oil & gas sector and is uniquely qualified for this kind of work.

"We want to show what can be done here, whether it's a thruster change or any other kind of rig work. This

kind of maintenance and service work is required on an ongoing basis by the industry. It creates sustainable jobs and our goal is to keep that going."

DF Barnes is already hearing buzz from within the industry about this project.

"This is already getting worldwide attention," Kelly said. "It's pretty significant to be able to offer this service here, for a rig or a drill ship. Drilling contractors all over the world have taken notice. There is no reason to transit a rig across the Atlantic to Norway, or down to the Gulf of Mexico, or wherever. Rigs are coming to this area all the time and that traffic is only going to increase. We have now been added to a very short list of places in the world that can do this work."

DF Barnes is currently one of two proponents in discussion with Nalcor Energy about a longer-term lease intended to maximize utilization of the Bull Arm Site.

Successes achieved by local companies are important to share. If you are a Noia member and have a good news story, similar to this one, let us know! ■



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Photo courtesy of Unni Fjær

Meet Equinor's **Unni Fjær**

Unni Fjær joined Equinor Canada in the company's most senior role of vice-president for offshore Newfoundland in March 2018. Since then, her major focus has been on the potential development of Statoil's 2013 Bay du Nord oil discovery in the Flemish Pass, approximately 450 kilometres offshore.

Fjær agreed to respond to a Noia News series of "get-to-know-you" questions.

What is your full name?

Unni Merethe Skorstad Fjær

When and where were you born?

Namsos, Norway on November 22, 1965

As a child, what did you hope to be when you grew up?

My grandmother was a librarian and I spent quite a lot of time in the library, so the first job I remember dreaming about was being a librarian.

What is your academic background?

I have a master's degree in mechanical engineering from the University in Trondheim.

What path led you to your current career?

I grew up, as the oldest of three sisters, on a small farm on the coastline of Norway. In addition to the farm, we had a mechanical workshop where I used to work during summer breaks. This background was essential to my path in life. I started my career as a researcher in SINTEF, one of Europe's largest independent research organisations and moved on to Equinor's research department after 5 years. This work gave me the possibility of working offshore and quite quickly I realized that this was where I would love to work. I worked offshore for 13 years, first as an operations and maintenance manager and then as OIM. Since then, I have worked as HR manager for our operations in mid-Norway and headed our LNG activities in the northern part of Norway.

What do you enjoy most about your work?

First, working in an oil company gives me the opportunity to combine my main three professional interests: people, technology and operations. Secondly, I enjoy working in a company where I can influence and take part in how we solve the greatest challenge of our time – how to provide energy to a growing population in a responsible way, supporting the goals set in the Paris agreement.

What do you find most challenging about your career?

I'm fortunate to have had jobs with many different types of challenges, giving me opportunities to learn and develop. Every new job has had

INDUSTRY PROFILE | Meet Equinor's Unni Fjær

different types of challenges. Moving here to St. John's is a good example where there are, internally, many similarities with previous jobs, but the external context is different – new stakeholders and many new relationships to build.

Where in the world has your work taken you?

This is my first assignment internationally, previously I had mostly worked in Norway.

What is the best advice you have ever received?

There have been a couple of "good advices" that I have brought with me: "Choose your boss carefully" is one that I learned in one of my early jobs – the relationship with your superior is important in all stages of your career.

Do you have a professional mentor or someone who has guided you along the way?

I did not have a mentor the first 10 to 15 years of my career and looking back I see that this would have been very useful. In my last three or four positions I have had internal mentors being good dialogue partners supporting/challenging me when needed.

What are some pastimes that you enjoy?

In our family we all have been very interested in soccer and sports in general, so previously most of the time went to soccer in one way or another. As the kids left home, my husband and I are still quite active and enjoy outdoors activities like hiking, skiing and exercising.

What is your favourite meal to cook or eat?

In general, I would say fish – cod, halibut – but I'm also very fond of reindeer and king crab.

What is your proudest moment in life so far?

The obvious answer here is when we became parents of our two children, a girl of 27 and a boy of 24. My second proudest moment was becoming a grandmother last fall.

How would you describe your time in Newfoundland and Labrador?

Fantastic – I'm really fortunate to be able to come here for work, meeting new people, exploring a new country and all the great hikes, enjoying all the good food and beer, and to represent Equinor and doing business here.

Are there similarities you see between the Newfoundland and Labrador offshore oil & gas industry and the Norwegian industry, particularly with respect to the early times of the industry in Norway?

There are many similarities between NL and Norway – an area rich in resources with great potential, oil & gas being of great importance to the society, all the major companies present, a drive towards increased collaboration and optimism regarding applying new technology. It is a great fit and an exciting place for me to be right now.

What do you most look forward to in the coming months and years for the Newfoundland and Labrador offshore?

It's important to continue to ensure processes are in place now to ensure sustainable and responsible development of our natural resources. We need to focus on enabling safe and efficient activities into the future through collaboration across the oil & gas industry, the supply and service sector, governments and all our stakeholders. ■



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Photo courtesy of Cougar Helicopters

Cougar Helicopters grows with the offshore

With more than 20 years of offshore and harsh environment experience in Canada and the Arctic, Cougar Helicopters provides world-class offshore passenger transfer and search and rescue (SAR) support to east coast Canada's oil & gas industry.

Founded in Halifax in 1984, Cougar first entered the oil & gas market in 1991. It was awarded the offshore support services contract for Hibernia Management and Development Company in 1995, prompting the relocation of its head office to St. John's.

Cougar currently operates a fleet of nine Sikorsky S-92 helicopters and occupies 17 acres, consisting of a heliport, hangar, ramp space and dedicated SAR facility in St. John's, as well as a heliport in Halifax. It opened its purpose-built, dedicated SAR facility in 2012 and, in 2016, relocated from its original facility to its current 51,000 square foot heliport and adjacent hangar on the other side of St. John's International Airport.

Cougar's chief operating officer, Hank Williams, said the company's investment in infrastructure speaks to its long-term view of the region's oil & gas industry. He noted that the company has invested over \$70 million in infrastructure, some \$44 million for the facilities opened in the last three years.

"When we started here in 1997, we had to make significant investment in order to operate," Williams stated. "You have to have a belief that it's longer than your current contracts. We believe it, our owners and our board believe it, and hence we're sitting in a facility like this."

Williams said Cougar's assets, facilities and staff allow the company to provide top-notch passenger transfer services to the growing industry. Cougar's fleet offers the

latest in technological advancements to operate safely in harsh environments. Each aircraft has fully redundant systems for flight and engine controls, avionics, cockpit displays and electrical systems. They also include GPS technology, de-icing systems, satellite communications/tracking systems, crew hover capability, night vision capability, helicopter flight data monitoring and a health and usage monitoring system. Cougar employs a Transport Canada Type B Co-Authority Dispatch System, adding another level of situational awareness, control and safety for crews and customers.

Cougar also invests heavily in employee training. Flight crews train at a world-class night vision goggle capable flight simulator in St. John's and far exceed the industry standard for training requirements. Williams added that Cougar's robust safety management system hinges on creating a healthy safety culture.

Cougar's dedicated SAR facility has been a further safety enhancement for the Newfoundland and Labrador offshore. A 27,500 square foot hangar is home to the SAR program, which operates 24/7, 365 days a year. The facility enables wheels-up time of 20 minutes or less.

As Cougar looks to the future, Williams said the company will continue to look for opportunities for harsh environment work within and outside the oil & gas industry.

"We will continue for a long, long time to be primarily oil & gas. We want to make sure that we provide the quality service that we're contracted to do and be poised for new entrants coming in."

This company profile is provided to Cougar Helicopters in recognition of their 2019 Noia platinum sponsorship. ■



CSL rope access team working offshore Newfoundland. Photo courtesy of Crosbie Group

Crosbie Group: Rooted in the past, growing toward the future

Crosbie Group Limited is a family business with over 100 years of history in Newfoundland and Labrador. Dating to the late 1800s, it has operated diverse businesses, including hotels, shipping, airlines and publishing.

The last quarter century has seen the fourth generation of the family branch out into many other sectors in its home province, most notably the offshore oil & gas industry.

Crosbie Group CEO, Rob Crosbie, said that his father Andrew saw the potential that the oil & gas industry could bring to the province, but it was the fourth generation that made it a reality with the creation of Crosbie Salamis Limited (CSL) in 1995. The company was originally a joint venture with North Sea based Salamis Limited, which provided an opportunity for much-needed knowledge transfer relating to the asset maintenance services that were required for the province's emerging oil & gas industry.

Now a wholly owned subsidiary of Crosbie Group Limited, CSL offers a broad suite of asset maintenance, deck services and technical services, including crane operations, rope access services, composite pipe repair, insulation, passive fire protection, project management, protective coatings, scaffolding, specialized cleaning, water jetting and safe house habitat services. CSL has continually enhanced its service offerings to clients through a series of international partnerships and alliances including AIS/3T, Sparrows Offshore, Alustar, ICR, Safehouse Positive Pressure Habitats and Trelleborg Offshore.

Crosbie Group also operates Atlantic Maintenance Services, specializing in the application of protective coatings, passive fire protection, composite repair, blast protection and acoustic and thermal insulation for industrial facilities in Newfoundland and Labrador.

Headquartered in St. John's, Crosbie Group now has well over 500 employees, with active business ventures in Atlantic Canada, the United States and South America. The company has maintained its core values as a local, family business while also pursuing opportunities in other markets.

It partnered with Nova Scotia-based MacKinnon & Olding Limited in 2017 to expand into the Maritimes and to broaden the company's exposure to the marine industry. As well, in 2018 Crosbie Group finalized a joint venture agreement with a Guyanese family business, Farfan & Mendes, to enter that country's emerging oil & gas market. Panthera Solutions Inc. will benefit from CSL's vast knowledge and skills attained from more than 20 years servicing the Newfoundland and Labrador oil & gas industry. The company is focused on hiring local Guyanese nationals and training them to provide the necessary asset maintenance services to help grow their industry, just as CSL benefitted from knowledge transfer in the early days of the Newfoundland and Labrador oil & gas industry.

Crosbie Group is further diversified through its commercial and residential real estate and property management business Atlantic Property Management, Rockwood Homes and Chimo Construction.

Crosbie said the company is poised to continue its focus on providing top-notch service to its existing clients, while expanding strategically.

"We're focused on growing into regions and markets that align with and complement our current service offering in businesses."

This company profile is provided to Crosbie Group in recognition of their 2019 Noia platinum sponsorship. ■



Atlantic Shrike, one of Atlantic Towing's multi-functional platform support vessels, enters St. John's Harbour. Photo courtesy of Atlantic Towing

Atlantic Towing: World-class offshore service

With over 55 years of experience, Atlantic Towing has earned a solid reputation as a world-class offshore service provider.

A Canadian owned and operated company, Atlantic Towing employs approximately 500 people in the offshore, port services and tug & barge business sectors. Its port services division operates in Halifax, Saint John and Belledune in eastern Canada and in Port of Spain, Trinidad and Tobago. The tug & barge division services eastern Canada and the Arctic for over-dimensional cargo that can't be transported by road.

St. John's is the homeport for Atlantic Towing's offshore business. Originating in 1999 with the delivery of its first two vessels to provide offshore support to Husky Energy and Suncor, the company has grown steadily. It now boasts a fleet of 13 state-of-the-art vessels, making it the largest offshore support vessel service provider in Atlantic Canada. The company has a mixed fleet of anchor handling tug and support vessels and platform supply vessels (PSVs) which provide rig towing/positioning, ice management, standby and general resupply services in Canada and the U.K. North Sea.

Included in this complement are four multi-functional PSVs designed for operations in harsh environments such as the North Atlantic. The *Atlantic Heron*, *Atlantic Griffon*,

Atlantic Shrike and *Paul A. Sacuta* were purpose-built to take on long-term contracts in support of the Hibernia and Hebron projects, beginning in early 2017. The four Damen PSV 5000 90-metre vessels provide ice management and tanker support, in addition to the transportation of goods and cargo. The *Paul A. Sacuta* is also equipped to operate as an inspection, maintenance and repair vessel.

Atlantic Towing's offshore base in St. John's employs an office staff of 13 in support of vessel operations, health, safety and compliance and crewing. It also employs over 200 seafarers from 93 communities in Newfoundland and Labrador. Sheldon Lace, director of offshore for Atlantic Towing, credits the company's relationship with the Marine Institute for developing a strong, local workforce.

Common throughout all of Atlantic Towing's operations is an unconditional commitment to safety and the environment.

"Our commitment to safety, service, quality and the environment have earned us the highest levels of certifications in the marine industry," Lace said. "We're proud of the long-term service relationships we maintain with some of the world's largest companies."

This company profile is provided to Atlantic Towing in recognition of their 2019 Noia platinum sponsorship. ■

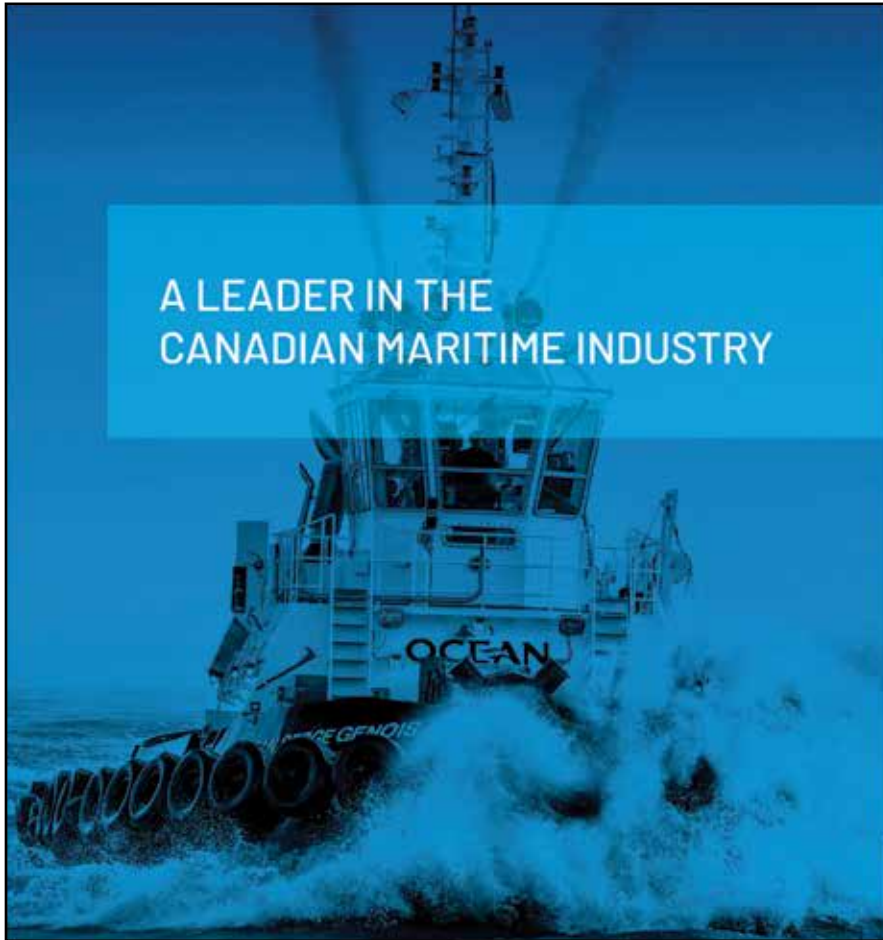
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Newfoundland and Labrador oil & gas industry highlighted at Growlers & Edge games



It was an idea that started in Western Canada with the Calgary Flames and Edmonton Oilers; NHL teams in the heart of the western oil patch, that used an "I ♥ Canadian Oil & Gas" logo on the ice to display their support for the oil & gas industry.

Noia approached the Newfoundland Growlers and St. John's Edge to do the same at Mile One Centre and both teams eagerly agreed to place the "I ♥ NL Oil & Gas" logo on the ice and court.

Along with the logo, both teams offered reduced price tickets to Noia members for oil & gas awareness events. On Saturday, March 9 the Growlers faced the Orlando Solar Bears and just a week later, the St. John's Edge faced the Saint John Riptide in a St. Patrick's Day matinee. In total, approximately 4,000 tickets were purchased by industry supporters, creating an amazing atmosphere at Mile One Centre.



The purpose of the games was to raise awareness for the offshore oil & gas industry and demonstrate the tremendous support present in our province. While Noia has serious concerns about legislative and regulatory hurdles, it is clear a majority of Newfoundlanders and Labradorians support efforts to enhance the industry.

Noia and the Canadian Association of Petroleum Producers (CAPP) hosted an information table at both games where fans could learn about the industry and also receive swag to show their support. Magnetic bumper stickers with the "I ♥ NL Oil & Gas" logo were available, along with stickers, buttons and information about the offshore, while in-game contests focused on the industry.

"Seeing offshore oil & gas employees proudly wearing their shirts with the logo on it and feeling a part of a larger movement was invigorating. I would like to thank the Newfoundland Growlers and St. John's Edge for their support, and we look forward to building on these events next year." - Charlene Johnson, Noia CEO

■ ■ ■

"The Newfoundland and Labrador offshore oil & gas industry is a major contributor to our economy. We were proud to work with Noia to show our support for this important industry and all those who work in it." - Newfoundland Growlers Governor and CEO Glenn Stanford

■ ■ ■

"The oil & gas industry is a strong part of this province, just as we are the heartbeat of basketball in the province. Here at the Edge, we were happy to welcome Noia employees, friends, and families to our games." - Carl English, Edge general manager, star player, and Newfoundland and Labrador basketball icon

Similarly, several Noia member companies sponsored the games and had the opportunity to promote their work in the oil & gas industry. CAPP played an in-game video which highlighted the many benefits of the industry, ExxonMobil shared a video about offshore platforms and K&D Pratt provided a promotional video showcasing their industry expertise. Pennecon sponsored a t-shirt toss that was a hit with young fans.

The atmosphere during the games was electric, with industry pride clearly on display. Noia and CAPP staff who volunteered at the information table were overwhelmed with the support and positive feedback received from those in attendance. Most impactful were the countless industry members who came to Noia throughout the game to express their thanks for showing pride in the industry and sharing our offshore story. ■

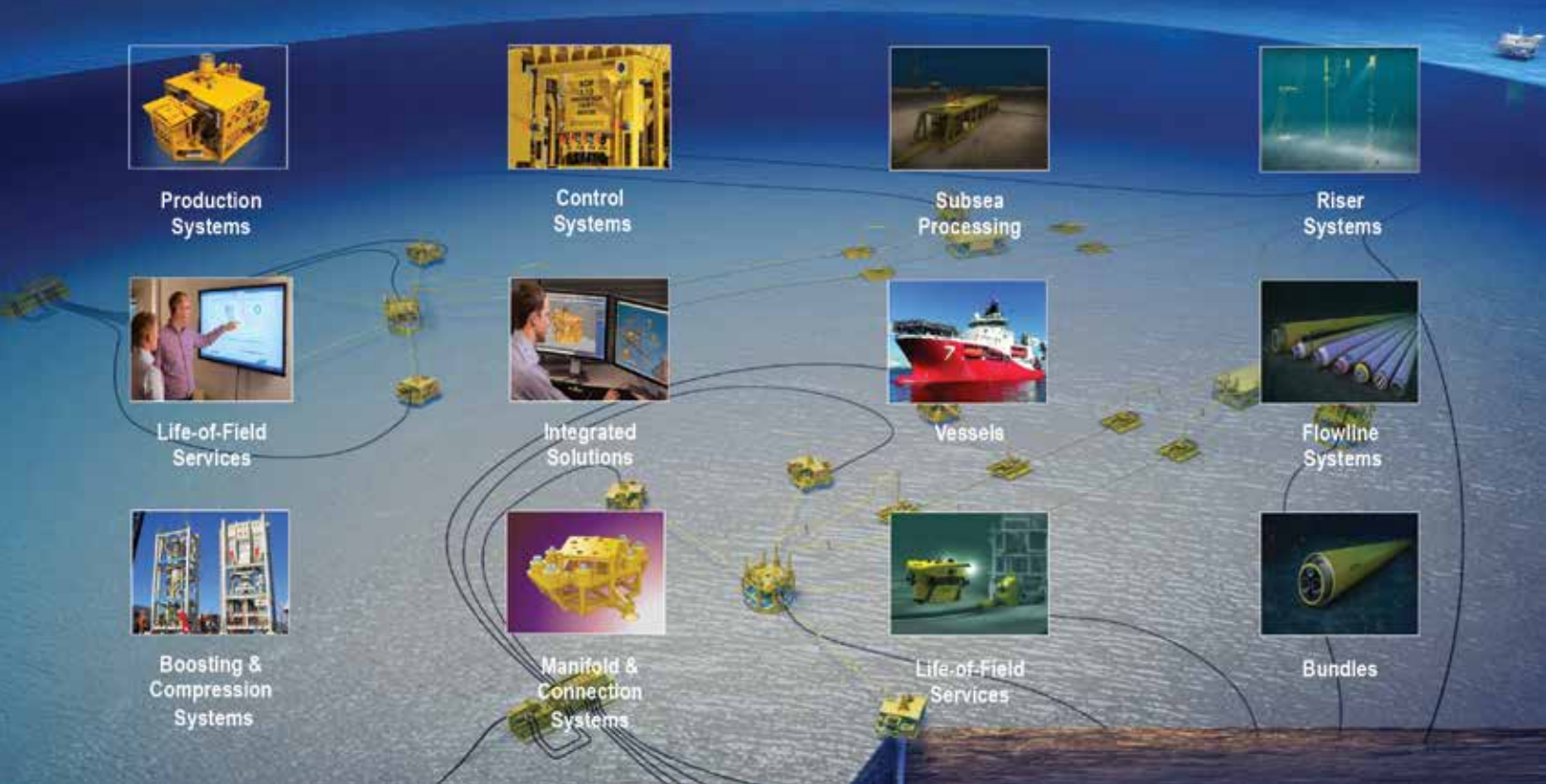


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Subsea Integration Alliance **supplier development session**

At a supplier development forum held for Noia members on March 27, Subsea Integration Alliance representatives held the undivided attention of those in the room as they talked about the collaborative business model they hope will win them the development contract for Equinor's upcoming Bay du Nord project offshore Newfoundland and Labrador. Although the contract has not yet been awarded, the project is scheduled for first oil in 2025.

Subsea 7's Canadian vice president, Stephen Henley, told attendees that the alliance team was inviting Noia member companies to assist them in the deepwater offshore project.

"It's a new way of doing business and we want to share that with you," Henley said. "It's a little different, but it's pretty exciting."

Subsea Integration Alliance (SIA) is a partnership between Subsea 7 and Schlumberger OneSubsea which has been developed to jointly design, develop and deliver integrated subsea development solutions. SIA brings together the subsea umbilicals, risers and flowlines (SURF) capabilities of Subsea 7 and the subsea production/processing systems and reservoir expertise of OneSubsea to find synergies and benefits to its clients.

"This is a step-change in how our industry works, in terms of how we collaborate, and how we communicate, and how we interact. I've seen firsthand the benefits that it brings," said James Stewart, SIA's technology director.

The alliance is successfully using this approach in the development of a number of offshore oil & gas projects in other parts of the world. Specifically mentioned was BP's Mad Dog 2 project in the Gulf of Mexico and that it has a lot of similarities to Bay du Nord.

Call to action

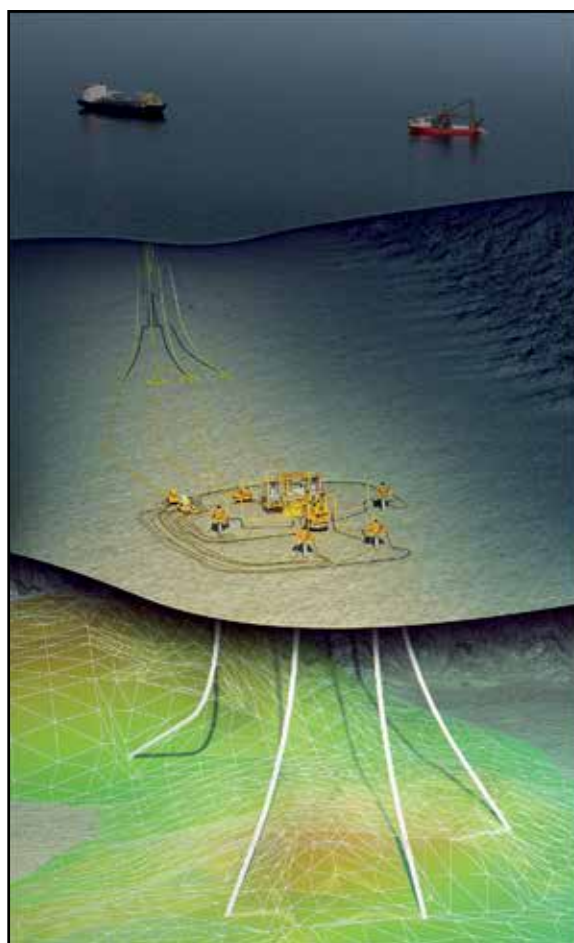
In closing the morning's presentation component of the forum, local supply and service companies were invited to reach out directly to local SIA

representatives to discuss how they could educate and prepare themselves to fit into the alliance supply chain and business model.

Noia members who signed up for one of the afternoon business-to-business meetings had the opportunity to start that process immediately. In those sessions, which were hosted by the SIA representatives who had presented during the morning, members were able to introduce themselves, their supply and service capabilities and determine potential synergies with alliance requirements.

Noia is open to hosting supplier development sessions with any company interested in engaging and informing our members. ■

"It's a new way of doing business and we want to share that with you. It's a little different, but it's pretty exciting." - Stephen Henley, Subsea 7's Canadian vice president



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Newfoundland and Labrador offshore shines at OTC

Noia was pleased to once again partner with the governments of Newfoundland and Labrador and Nova Scotia, ACOA and the Maritimes Energy Association to showcase the Canadian offshore oil & gas industry at the 50th anniversary Offshore Technology Conference (OTC) in Houston, Texas from May 5 to 9. Approximately 150 Noia members made up an ambitious delegation to the world's largest offshore oil & gas show to highlight the prospectivity of our offshore and the strength of our industry.

Noia and the Department of Natural Resources staffed the trade show booth, which received significant attention from companies, organizations and individuals wanting to learn about our offshore industry, the expertise of our members and how to become involved. There was keen interest to learn more about an offshore area many attendees have been hearing much about in recent months.

On Tuesday, Noia hosted a morning session with BHP, the newest entrant into the Newfoundland and Labrador offshore. BHP provided an overview of their operations, including discussion about why they chose Newfoundland and Labrador and insight into how best to work with the international company. It was a well attended session that included representation from many different facets of BHP's operations, such as exploration, procurement and human resources.

Again this year, Noia hosted an International Opportunities Session for Atlantic Canadian delegates

attending the trade show. The session included information from the Canadian Trade Commissioner Service on opportunities in Colombia, Guyana, Norway and the U.S. Gulf of Mexico. It was an engaging session designed to inform attendees about potential opportunities in these oil & gas regions.

ExxonMobil held a reception on Monday to acknowledge the Hebron Project being recognized in Houston with the OTC Distinguished Achievement Award. The Hebron Project received this award due to its technological advancements and safety performance. Noia was pleased to offer congratulations to everyone who participated in the project, in particular, Noia members and Newfoundlanders and Labradorians who made it an international success.

Noia also hosted its highly sought after reception at the Doubletree Guest Suites. This annual event is a key networking opportunity for invitees to mingle with Noia members, Atlantic Canadian participants and important international oil & gas industry players. The Sunday evening event was a tremendous success and the perfect beginning to an exceptional week at OTC.

Thank you to event sponsors Atlantic Towing, Cougar, Crosbie Group and Export Development Canada for helping make OTC an exceptional experience for Noia members. ■



The ExxonMobil-operated Hebron Offshore Project was presented with this year's OTC Distinguished Achievement Award for companies, organizations and institutions in recognition of its technological advancements while achieving world-class safety performance. Technological advancements implemented by the project are expected to benefit future offshore development in the area of topsides footprint and weight, as well as digital technology developments. Pictured are current and former Hebron team members, representing ExxonMobil and Chevron, celebrating receipt of the award. See the 2019 Winter edition of Noia News, available online at www.noia.ca, for additional details.

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