

In the midst of coronavirus crisis lies great opportunity for Canada's offshore oil and gas industry

June 4 2020, by Greg Naterer



Credit: AI-generated image ([disclaimer](#))

Newfoundland and Labrador's offshore oil and gas industry is facing major challenges due to plummeting oil prices and the COVID-19 pandemic. Exploration wells have been postponed and several [large projects have been deferred](#).

Albert Einstein once said, "In the midst of every crisis, lies great opportunity." With the vast resources, infrastructure, highly skilled individuals and expertise of the offshore industry, Canada has a unique opportunity to be a global leader in the transition to alternative and new offshore energy technologies.

As dean of the [faculty of engineering and applied science](#) at Memorial University, I see the bright potential of recent graduates and talented young minds. They have the ability and desire to create innovative solutions to the world's energy challenges.

To realize this vision at a time of crisis in the offshore industry, Canada needs to step up by offering its support, such as through the [Atlantic Investment Tax Credit](#) or another similar program, to get offshore projects moving again. Canada also needs to expedite the approval of new projects.

Bright young minds solving energy challenges

The offshore oil and gas industry has significantly contributed to Memorial University; professors and their research programs; students through scholarships and bursaries; and more broadly, the province of Newfoundland and Labrador with employment opportunities, among others.

[Co-operative education](#) has enabled our students to gain valuable industry experience prior to graduation. Typically at least one-third of engineering co-op placements have been related to the oil and gas sector, or over 400 work terms each year.

In recent years, the proportion has been up to nearly half of all co-op work terms. Peaks have occurred during periods of local major construction projects in the industry, such as [White Rose](#), [Hebron](#) and

the more recent West White Rose expansion project.

For four years in a row, Newfoundland and Labrador had the [highest percentage of women undergraduate engineering students](#) in Canada (27 percent). Quality co-op work term experiences in the oil and gas industry have been [important factors](#) in attracting and retaining women in engineering.

These opportunities cover a diverse range of valuable learning experiences. Students have worked in many areas such as with operators, service providers to operations, construction, exploration, certification, regulation, research and development, and local startup companies connected with the offshore industry.

Beyond energy alone, petrochemicals also have much broader importance in society and applications such as polymers in [personal protective equipment](#) (PPE) for the current battle against COVID-19.



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Leadership in alternative energy technologies

Climate change is one of the world's largest and most difficult problems. I believe that great universities like Memorial solve the world's greatest problems. Also the oil and gas industry has an important role as it creates highly skilled jobs and advanced energy technologies that are needed to solve the grand challenge.

More research and development involving graduate students will be essential. The offshore industry's support of these programs and students has contributed to a more responsible development of offshore oil resources.

Environmentally conscious projects have been made possible through support of the oil and [gas industry](#). These include, but are not limited to, projects that are developing new technologies for [carbon capture](#), [wind-powered thermal energy storage](#) and alternative fuels like [hydrogen](#), among others.

Researchers have been able to leverage this support for additional funds through other federal granting agencies to expand the research and development on sustainable energy solutions.

Earlier in my career, I was a [Canada Research Chair](#) in Advanced Energy Systems. Past oil industry support helped me to secure funding to develop new processes for clean hydrogen production ([solar photo-electrochemical](#) and [thermochemical copper-chlorine cycle](#)) in collaboration with the Canadian Nuclear Laboratories (formerly Atomic

Energy of Canada Ltd.) in Chalk River, Ont.

These processes can enable future power plants to produce both electricity and hydrogen as clean energy carriers. Hydrogen is potentially a major solution to climate change.

A [recent report](#) by an industry coalition including Chevron and Shell indicated that hydrogen energy has the potential to generate 700,000 jobs and US\$140 billion per year of revenue in the United States alone by 2030 and up to 3.4 million new jobs and US\$750 billion per year by 2050.

During difficulty lies opportunity

The oil and gas sector has transformed Newfoundland and Labrador and its standard of living in a positive way over the past few decades. It has enabled the province to provide better quality education, health care and jobs, among many others.

Supporting Canada's offshore industry would yield a lower overall carbon footprint than importing foreign oil to meet domestic demand because of our higher environmental standards and policies of [putting a price on pollution](#).

The Newfoundland and Labrador Oil and Gas Industries Association (NOIA) supports Canada's efforts to achieve [net-zero emissions](#) by 2050. As reported by [NOIA](#), Canada's [offshore industry](#) produced just 0.23 percent of the country's upstream carbon emissions in 2017.

[Equinor](#) (formerly Statoil) is active in exploration and development in offshore Newfoundland. As an energy company, it expanded into renewable energy and began operations on the [world's largest floating wind farm](#) in 2017, off the coast of Scotland. Equinor's prior experience

with [offshore oil](#) reservoirs was important to be able to open up deep-water areas for power development.

Newfoundland and Labrador's offshore sector and spinoffs from the industry are critically important to the economy. Canada needs to support this industry during its time of greatest need. We can then look back years from now to see how opportunities of new [energy](#) innovations were seized from the depths of a global crisis.

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