



Topography poses many challenges for Canadian wind energy shipments.
Credit: Bellemare.

Renewables gain more ground on oil and gas

Renewable energy and infrastructure projects are providing welcome sources of work for the project cargo and heavy lift supply chain. On the fossil fuels front, LNG Canada is the real bright spot, but midstream issues are hindering further development. *Gregory DL Morris reports.*

In mid-March 2022, the first major component for what has been called the largest construction project in Canadian history arrived at the wooded shores of Kitimat, British Columbia, 650 km north of Vancouver. The consortium building the LNG Canada export terminal on the Pacific coast proclaimed that while “the arrival of our gas inlet module was exciting, moving it is an even bigger accomplishment. The safety considerations, planning and teamwork required to place this 4,618-tonne piece of equipment shifted our project into high gear.”

The LNG project is, so far, a one-off, though it may be expanded and there have been ideas for a separate second facility. The rest of the Canadian oil and gas sector is constrained by midstream capacity to end-use markets, whether domestic refining or export, and pipeline projects have been politically fraught. In contrast, renewable energy is booming in Canada.

At the same time, there is a broad trend to upgrade hydropower installations that will require many movements of big, heavy turbines and other components. All of that new power generation from disparate sources also requires new transformer stations and transmission lines. Aside from the energy sector, Canada is far in front of the USA in terms of expanding public transport, especially in its urban areas.

Measuring 35 m high, the inlet facilities

module will serve as the entry point for natural gas delivered to the LNG Canada site via the new Coastal GasLink pipeline. It is one of more than a dozen process modules built for the LNG Canada liquefaction and export complex.

Giant inlet module move

The inlet module was moved from LNG Canada’s bespoke material offloading facility at the port of Kitimat to its place at the main LNG processing site by SPMTs moving along a purpose-built haul road measuring 3 km long and 30 m wide.

“Taking delivery of our inlet facilities module represents another key milestone for our project, which is now approaching 60 percent completion,” said Peter Zebedee, former ceo at LNG Canada, who left for Suncor Energy in April. “This is a very important year for us, with a pace of construction not seen previously. We are making excellent progress through

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– Peter Zebedee, LNG Canada

Source: Bellemare.



construction. We remain committed to delivering our first cargo by the middle of this decade.”

A joint venture between Mammoet and the Haisla First Nation was awarded the heavy lift and haul contracts for LNG Canada through the main contractor, itself a joint venture of engineering firms JGC and Fluor. The scope includes receiving all oversize equipment and modules at the module offloading facility, transporting to the project site, and lifting onto final foundations. Over the course of three years the Mammoet-Haisla JV will be responsible for the horizontal and vertical movement of more than 350,000 tonnes of equipment, the largest items weighing more than 10,000 tonnes each. Mammoet was not able to provide further details on the project for this article.

Contract awards

To date, LNG Canada has awarded an estimated CAD3.6 billion (USD2.85 billion) in contracts and procurements, with USD2.8 billion (USD2.21 billion) of that going to First Nations business. The project will initially export a total of 6.5 million tonnes per year of natural gas, primarily to Asia. Ultimately, the project may add two more liquefaction trains to increase total production to 26 million tonnes per year.

Construction on the greenfield facility began at the start of 2021, after a long and

fraught proposal and permitting process, but the timing is likely to be propitious. The Russian invasion of Ukraine has caused a huge lurch in global energy markets away from Russian oil and gas.

Europe, in particular, has long been dependent on Russian gas exports, and while the Kitimat terminal will ship cargoes to Asia, not Europe, the deepsea LNG market is global and fungible, like the crude oil



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– Kelly Merath, deugro Canada

market. Canadian LNG arriving in Asia will allow shipments from other exporting countries, particularly in the Middle East, to shift volumes from Asia to Europe.

Price implications

While the surge in oil prices is certainly an incentive for new production, “it is not like flipping a switch,” said Kelly Merath, country manager and director with deugro Canada. “There are renewed discussions throughout the oil and gas sector, including topics of production, pipelines and emissions. To this point, the federal government has not shown much appetite for changing its position,” which has been to limit fossil-fuel expansion. That said, Merath added, “the new need of allies for Canadian oil and gas is meaningful”.

In addition to federal coolness to hydrocarbon development, provincial governments are also a factor. Several sources underscored that the main oil and gas producing province of Alberta is landlocked, while British Columbia immediately to the west, and Quebec on the east coast, have both been less than eager to support midstream development.

“The political policies within the province of Quebec are a big part of the reason why pipelines have not been built to the east coast,” said Merath, “and pipelines to the west will not help get resources to Europe. There will have to be policy

Source: Omega Morgan.



changes at the federal and provincial levels to get more pipelines to the east.”

The situation in mining, both coal and metals, is similar in that expansion projects are major capital investments that take years to plan and approve, then several more years in construction. The difference is that mining for metals and inorganics is more politically favourable. Notably, Canada is the fifth-largest nickel producing country in the world, with mine output of 180,000 tonnes in 2019, and an opportunity to gain significantly in world markets with Russia (the third-largest producer at 270,000 tonnes), under heavy economic sanctions.

“Projects in mining are just getting ramped up,” said Merath. “Developments in the global commodity markets have strengthened the Canadian mining sector. Transportation, specifically the availability of breakbulk carriers, has been an issue.” That also plays to Canada’s proximity to the USA and Europe compared with other major mining countries such as Australia, Indonesia, South Africa and Chile.

Capacity constraints

Another differentiation that several sources made between metals mining as compared with oil production is that, in the latter, Organization of the Petroleum Exporting Countries (OPEC) nations can bring on significant capacity in just a few months, whereas mining capacity is always years in the making. It has been noted that with Russia now standing accused of war crimes in Ukraine, sanctions against that country are likely to remain in place, possibly for years after the fighting ends. Not to be cold-

blooded, but those calculations figure into the capital planning for mining companies and their major customers.

One possible example came late in March when Reuters reported that electric-vehicle maker Tesla had signed an agreement with Brazilian mining major Vale to supply nickel from a mine to be developed in Labrador, Canada.

All that said, the focus for the rest of 2022 and into 2023 in the project cargo business in Canada is on clearing some of the backlog of projects delayed over the past two years because of the pandemic. And doing that into the teeth of persistent and pernicious delays and costs in the supply chain.

“It is not a fun time to be in the transportation business,” said Merath. “The freight forwarders are in the middle, and as an industry no one really has a handle on all the variables in costs, labour and equipment availability. Just when we think we see a levelling of rates in ocean freight, something changes. There is just no certainty in costs, scheduling or availability.”

That has a knock-on effect. “It is next to impossible to price a project for 2023 or 2024 with any level of certainty. All we know for sure at this point is that even with

higher costs, we are not the ones making the big profits.”

Where contracts are being made today, most sources say they have been able to include cost and schedule flexibility. It is existing contracts that are more complicated. “Inflation is a big issue, especially for freight forwarders,” said Merath. “Contract management is a huge part of the business, not just in terms of cost but in terms of long-term relationships with clients.”

Positive outlook

Nevertheless, deugro remains sanguine. “We are adding staff in our operations in Ontario and Alberta,” said Merath, “and we continue to benefit from being part of a global organisation”, in terms of securing and managing projects.

As with the LNG export terminal, “expansion in Canadian oil and gas production has been planned over the past few years”, said Jeff Chernish, country manager for Canada at Sarens. “It is not necessarily linked to the disruptions in global energy markets.” He noted, however, that “until Western Canada has pipeline capacity, the region cannot really expand production. We are starting to have discussions, in confidence, about that.”

Given its vast resources and relatively small population, Canada has essentially three options for its oil and gas: export to the USA by pipeline, export to the rest of the world by ship, or expand its domestic refining capacity and export finished fuels, lubricants and petrochemicals to those same markets.

In all those cases, investment in infrastructure – pipelines, ports and

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–Jeff Chernish, Sarens



projects to upgrade and expand existing facilities. Sarens is involved in just such an effort, a CAD100 million (USD79 million) project by Canadian Natural Resources.

Speaking broadly about requests for proposals and bids that go out to project cargo contractors, Chernish has identified a troublesome trend.

Short notice

“We do not get the opportunity for early engagement that we used to in previous years. We used to start talking informally as much as three years in advance and were able to provide some guidance. These days we are getting six months’ notice, or a year at most. That is not with every client and every project, just in general.”

Beyond oil and gas, Sarens has extensive work, current and future, in renewable energy, transmission, and public transportation. Since July 2020, Sarens has been onsite in remote Assiniboia, Saskatchewan, installing 50 wind turbines as part of the Potentia Renewables Golden South wind energy facility. Sarens and client Borea Construction collaborated to lift the largest rotor assembly ever lifted in Canada to date: 155 m in diameter. Each wind

turbine at the facility has a 110 m hub height, and for the heaviest lift, the crane was configured to lift 114 tonnes, with a 126 m height and 26 m radius.

At the end of last year, Sarens completed laying foundations and erecting transmission towers for a 600 km long power line in White River, Ontario, a remote part of the province north of Lake Superior. The 18-month project was installed in a rugged mountainous area using two 160-tonne and three 200-tonne all-terrain cranes. It took 16 hours to drive the crane to the first installation site, 1,200 km from the yard. Each power line tower was 61 m tall and weighed 0.9 tonnes. There were some very small set-up areas in certain locations, and in winter the temperature fell to -40 °C.

At the opposite, populated corner of the province, Sarens is involved in the construction of the Eglinton Crosstown light-rail line in Toronto. Sarens has been onsite since 2016 and will continue the heavy lift operations until the end of 2023, using equipment ranging from 28-tonne boom trucks to 620-tonne, all-terrain cranes.

Across the country Sarens has established new depots in Vancouver, Edmonton and Leduc, Alberta; as well as

terminals, and/or refining and chemical processing – would be necessary. “Talking about expanding oil and gas production ahead of any of those investments is putting the cart before the horse,” Chernish noted.

In the meantime, there is no shortage of



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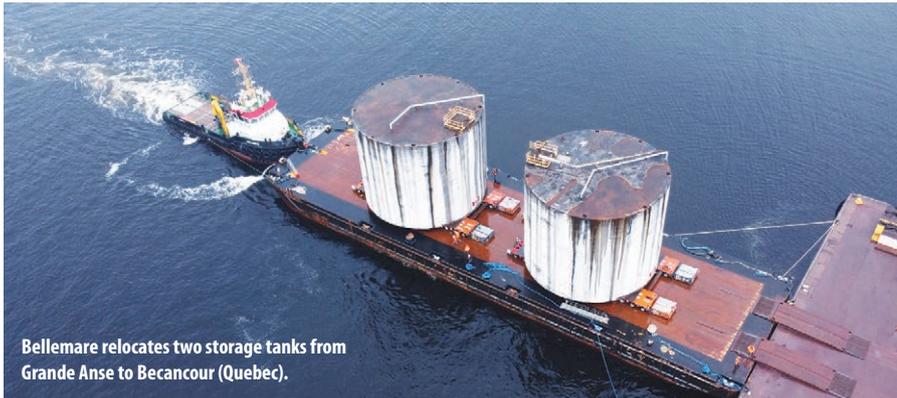
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Corporation de Gestion de la Voie Maritime du Saint-Laurent





Bellemare relocates two storage tanks from Grande Anse to Becancour (Quebec).



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– Erik Zander, Omega Morgan

Sarnia and Cambridge, Ontario.

Also across Canada, as around the world, there are still significant delays in costs for both local and export shipments, said Chernish. As with other project cargo contractors, Sarens has mostly been able to adjust new contracts to account for inflation, but existing contracts have been something of a challenge.

“There is uncertainty as to the availability and cost of equipment,” said Chernish, “especially steel. A lot of crane manufacturers have stopped taking orders for six months. Once orders resume, it is likely cranes will cost 10-15 percent more. But long term, the industry will have to address the cost and availability to renew the fleet, especially given the steady growth of the Canadian market in conventional and renewable energy, as well as a very heavy civil market, especially transit and bridges.”

Equipment needs

The need for new equipment is particularly acute for companies moving longer and longer wind turbine blades. “The equipment supply chain is just a mess,” said Erik Zander, director of sales for Omega Morgan. His firm is based in the US Pacific Northwest but does a great deal of work in Canada.

“It used to be a lead time of six to seven months to get a trailer,” said Zander, “now it is more than a year and the price changes two or three times after the contract has been signed. Getting tractors is just as bad. We ordered 10 tractors from major suppliers in August last year and we have still not seen any of them. There are no order slots available for this year, and no orders being taken for next year because the manufacturers do not know what their prices will be that far out. The shortages are not just steel – it is alloy wheels, fuel lines, everything.”

If project cargo has one advantage in all the upheaval, it is that major capital projects are almost always pushed through once they have started.

“The big question we usually get is not so

much price, as timing,” said Kevin Kwateng, director of operations for Bellemare. “The contractors and project managers for whom we work know that having a reliable partner is more important than haggling over price. Nobody has time for that. We get: ‘What is the price? Okay. Can you be there on Thursday? Can you help me meet my schedule?’ If you have a proven expertise then clients know you can just get it done.”

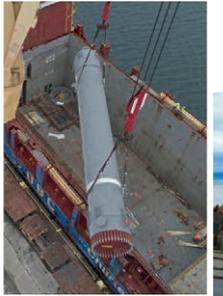
Kwateng confirmed that expansion in the Canadian oil and gas sector is dependent on connections to refineries or export. “Lots of people would like to have more pipelines, but so far it has been tough to get projects approved. We have had lots of work in renewables, though. We just got a contract to take wind turbine blades from Quebec into the USA. There are new projects planned in eastern Canada, and a lot already under way in Manitoba, Saskatchewan and Alberta.”

There is also extensive project cargo business in retrofits for hydropower. “Usually, we do about one big move for GE”, turbines and associated components, said Kwateng. “We have already completed five this year and have more coming. There are major efforts to refit and rehab hydropower in Canada.”

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