RBN Energy LLC

2323 South Shepherd Drive, Suite 1010
Houston, Texas 77019
OFFICE 888-613-8874
FAX 713-391-8421

Go West, Part 2 - Mexico's Pacific Coast LNG Export Projects Gain Traction

Wednesday, 10/13/2021

Published by: Lindsay Schneider

For years, industry experts warned that the global LNG market was entering a period of extreme oversupply that would last until mid-decade. And up until late last year, that bearish scenario seemed to be materializing. Global gas prices had fallen as more LNG export capacity came online, and then COVID-19 decimated global markets and caused existing LNG terminals to shut-in production. But just as quickly as it collapsed, the market flipped. The world is now left scrambling to secure LNG/gas supply ahead of the heating season and global gas prices have hit record highs in recent weeks, signaling a turbulent winter ahead. Suffice it to say, utilities and governments have energy security and reliability on the mind, not just for prompt winter but for the longer term, and that pressure is unlikely to let up anytime soon. That's brought previously commitment-wary LNG offtakers back to the negotiation table for new LNG export developments — cautiously and with a sharpened focus on de-risking long-term commitments amid heightened uncertainty. One way to do just that is to capitalize on the economic advantages of North America's Pacific Coast projects. In today's RBN blog, we continue our series looking at the state of LNG development on the North American Pacific Coast.

In Part 1 of this series, we looked at how the proximity of the Pacific Coast to Asian markets reduces the shipping costs for LNG exports compared with projects on the U.S. Gulf Coast. Exact shipping times depend on where the cargoes are loaded and delivered, ship speeds and the route taken, but in general exporting from the Pacific Coast, as opposed to the Gulf Coast, cuts the voyage time in half, saving over $1/MMBtu in shipping-associated costs, including vessel fees and bunker fuel. Additionally, there are no canals to pass through on the route from the Pacific, providing additional savings on canal fees and also potentially on voyage times by avoiding the possibility of congestion at the Panama Canal, which is a growing concern for the industry as exports continue to increase. With these huge costs and logistical advantages on the shipping front, it's easy to see what's attracting LNG developers and offtakers alike to the Pacific Coast. For now, LNG development on the U.S. West Coast is off the table because of the regulatory environment. The only project previously under consideration, Jordan Cove in Oregon, was placed on hold, most likely permanently, earlier this year after unfavorable rulings on a years-long fight for state and local permits. However, that still leaves projects in Mexico and Canada that are able and planning to capitalize on the demand for Pacific Coast-based export capacity.

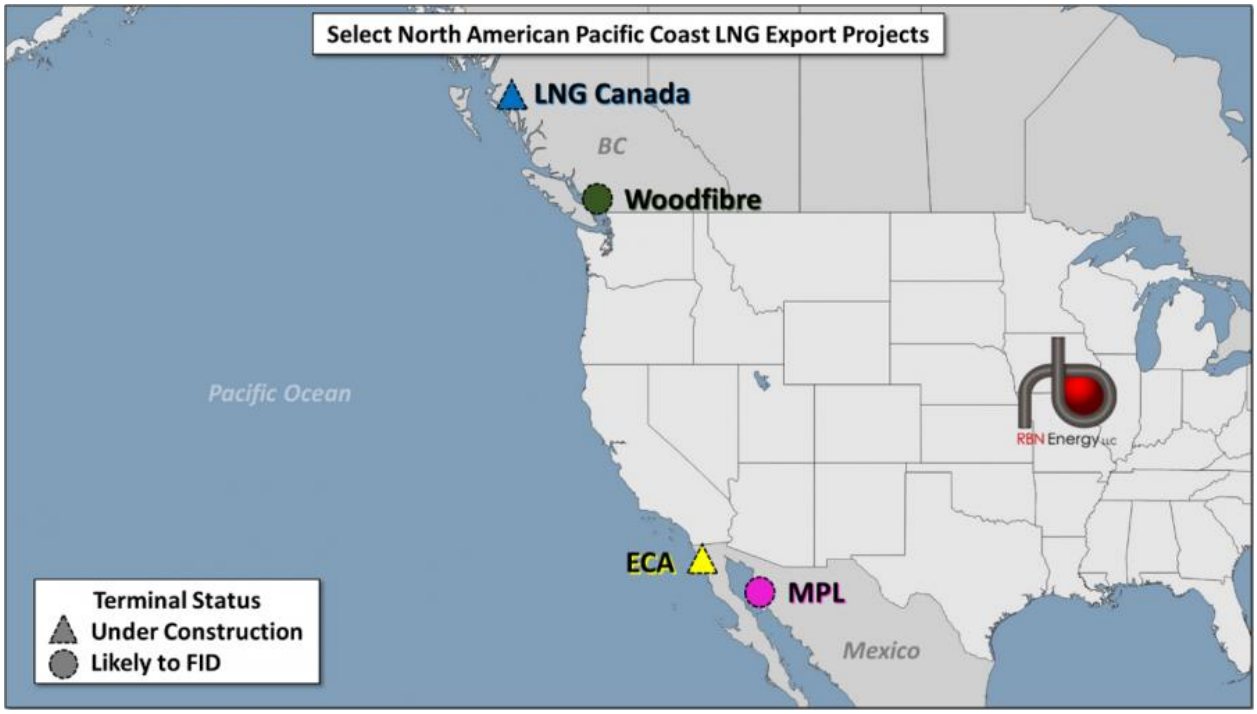

Figure 1: Map of Pacific Coast Probable and Under Construction LNG. Source: RBN

Each country currently has one project already under construction: LNG Canada (blue triangle in Figure 1) in British Columbia and Sempra Energy's Energía Costa Azul (ECA) LNG (yellow triangle) in Baja California, Mexico. But, given the increased demand for more LNG export capacity and the desirability of the Pacific Coast location, these projects are unlikely to be the last ones to be built. There are a handful of other Pacific Coast projects already proposed, and two have a strong chance of achieving a final investment decision (FID) within the next year: Woodfibre LNG (green circle), also in British Columbia, and Mexico Pacific Limited (MPL; pink circle) in Sonora State.

The challenges for achieving FID for LNG projects in Mexico and Canada are different than those along the U.S. Gulf Coast, as well as from each other. The favorable economics of their locations on the Pacific Coast are helping to attract offtakers, but the projects still have to navigate their host country's regulatory processes, and, perhaps most importantly for those outside the U.S. Gulf Coast, the where and how of feedgas supply for a prospective terminal. In Canada, the prolific Montney basin will be the primary supply source — which we'll cover in a future installment in this series. In today's blog, our primary focus is Mexico, where projects are targeting Permian supplies for feedgas, and that requires a connection to the U.S. pipeline grid as well as an export permit from the Department of Energy (DOE), in addition to permits from the Mexican government. We will focus extensively on how the Mexican LNG terminals plan to source their feedgas in Part 3 of this series. First, let's take a look at the project specifications and forward momentum for the under-construction ECA LNG and the next most likely project to take FID in Mexico, MPL. The table in Figure 2 highlights key information and milestones for the two projects.

Mexican Liquefaction Projects										
					Capacity			Capacity under		EPC
Project	Developer	Region	Location	Trains	MMtpa	Bcf/d	FID	contract (MMtpa)	Status	Contractor
ECA LNG	Sempra	Pacific Coast Mexico	Baja California, MX	1	2.5	0.33	Nov-20	2.5, binding	Under Construction	TechnipFMC
Mexico Pacific Ltd	Mexico Pacific Limited	Pacific Coast Mexico	Puerto Libertad, MX	3	14.1	1.9	Target 2022	14, non-binding	Likely	Bechtel (FEED)

Figure 2: Mexican Liquefaction Projects. Source: RBN LNG Voyager

ECA LNG

ECA LNG is a single-train export terminal being converted from an existing LNG import terminal. The project has a nameplate capacity of 3.25 MMtpa and an initial offtake capacity of 2.5 MMtpa (330 MMcf/d). Sempra took FID on ECA LNG in late 2020, making it the most recent project in North America to take FID and also the only project to do so in 2020 — in the middle of the pandemic (see Only the Strong Survive and Closer). All of the project's initial offtake capacity is locked up in 20-year sale and purchase agreements (SPAs). Mitsui & Co. holds 0.8 MMtpa (~110 MMcf/d) and TotalEnergies holds 1.7 MMtpa (~220 MMcf/d). TotalEnergies is also an equity partner in the project, and both offtakers have a previous relationship with Sempra, as they are already customers of Cameron LNG.

The memorandums of understanding (MOUs) for these two deals were in place before the pandemic hit, but Sempra was able to convert the deals into binding SPAs during extremely challenging times. COVID slowed down ECA's progress toward achieving FID, however, as the shutdown of the Mexican government caused massive delays in securing a permit for the project. The permit was eventually granted and Sempra took FID the next day. TechnipFMC is the project's engineering, procurement, and construction (EPC) contractor, and was given full notice to proceed in November 2020. Construction of the terminal is well underway and the project is due online in 2024. This is TechnipFMC's first North American LNG project, but the company has been involved with a number of LNG projects abroad.

In many ways, Sempra was really the ideal test pilot for LNG in Mexico, as the company is experienced in both LNG exports, with its Cameron LNG terminal in the U.S., and with the gas and pipeline industry in both the U.S. West Coast and Mexico. In fact, the company operates a number of the pipelines involved with transporting gas to the terminal, which we'll circle back to in Part 3. Beyond Phase 1, Sempra has also said it could expand ECA by as much as 12 MMtpa in Phase 2 of the project and is also potentially considering another terminal, called Vista Pacifico, in Sinaloa State.

Mexico Pacific Ltd.

Mexico Pacific is a three-train, 14.1 MMtpa project in Sonora State, with the equivalent of 1.9 Bcf/d in export capacity and an estimated 2.3 Bcf/d in feedgas requirements. The company has said it is targeting FID on the first two trains in early 2022, with the potential to expand by building not only the third train but potential future trains at the same site as well. While the project currently has no binding offtake agreements, it has 14 MMtpa in MOUs — about the total volume of the project. Beyond that, it is in negotiations for another 8 MMtpa of direct-to-binding offtake agreements, for a combined 22 MMtpa of project interest. MPL has not specified any of the parties it is negotiating with nor the specific deal structure but has said the interest has come from a mix of Asian offtakers and global portfolio players and that it plans to use pricing based

on the terminal's Permian feedgas supplies offered on either a Henry Hub or Waha basis. If the deals are indexed to Waha prices, they would be the first of their kind and provide additional pricing diversity to the terminal's offtakers.

MPL has said it plans to finalize contracts for the first two trains late this year or early next year, ahead of taking FID. The project has its needed U.S. Department of Energy permits, as it plans to export U.S. gas, but it is still waiting for its Mexican export license, the same permit that delayed ECA's FID. The Mexican government staff was greatly reduced because of COVID and is still experiencing delays with processing permits. Nevertheless, MPL has said it expects to secure the permit by the end of the year. Bechtel was awarded and continues to progress on the Front End Engineering and Design (FEED) for the project, but a final EPC contract has not yet been awarded. In a conversation with RBN, MPL CEO Doug Shanda said he believed the finalization of the EPC contract was the pre-FID item that would take the longest to complete, and that the project would take FID after the contract was finalized. The terminal plans to use ConocoPhillips's Optimized Cascade Process for its liquefaction process. If that sounds familiar, it's because all nine of Cheniere Energy's liquefaction trains at Sabine Pass and Corpus Christi utilize this process, and were built — or are being built, in the case of SPL Train 6 — by Bechtel. Having an experienced EPC contractor involved and a well-known and proven liquefaction process has helped MPL secure financing and inch closer to eventual FID.

That brings us to feedgas. Both projects plan to source gas from the Permian and utilize mostly existing infrastructure to pipe the gas to the terminals. This is one of the major things these two projects have in common and is a driving force behind their eventual completion. Both terminals are extremely close to the U.S. border and are located on sites that are already tied into the U.S. pipeline grid via existing cross-border pipes that go directly to the terminal sites. We'll dive into the exact routes and feedgas optionality available to both terminals in Part 3 of this series. But without these existing tie-ins, feedgas would be incredibly difficult or very expensive to source. ECA LNG is already a done deal and will be exporting by mid-decade, and at this point, MPL looks likely to take FID next year. Beyond that, additional buildout in Mexico is possible, but will be constrained by supply access — after all, there are only so many locations on the Pacific Coast of Mexico that can easily access Permian gas.

Ultimately, there is enough forward momentum in the global gas market right now to see multiple projects take FID in 2022, and at least one of those projects will likely be in Mexico, with MPL being a leading contender. That said, diversity of project location is desirable for offtakers, and along with Mexico, we're likely to see an FID for Woodfibre in Canada (which we'll come back to later in this series), and progress for a handful of likely options in contention for the U.S. Gulf Coast (see You Can Make It If You Try).

You can track these projects as well as weekly LNG export activity and feedgas flows in the RBN LNG Voyager report.

"Go West" was written by Jacques Morali, Henri Belolo, and Victor Willis. It appears as the second song on Village People's fourth studio album of the same name. Released as the first single from the LP in June 1979, it went to #14 on the Billboard Dance Club and #45 on the Billboard Hot 100 Singles charts. Personnel on the Village People record were: Victor Willis (lead vocals), Randy Jones, Glenn Hughes, Felipe Rose, David Hodo, Alex Briley (backing vocals), and Gypsy Lane (studio band). In September 1993, Pet Shop Boys released their version of the song as a single from their fifth studio album, *Very*. It went to #1 on the Billboard Dance Club chart and #25 on the Billboard Hot 100 Singles chart. Personnel on the Pet Shop Boys record were: Chris Lowe and Neal Tennant (vocals).

The Village People album *Go West* was produced by Jacques Morali and released in March 1979. It went to #8 on the Billboard 200 Albums chart and has been certified Platinum by the Recording Industry Association of America (RIAA). It would be the last Village People album of new material for Casablanca Records and the last album to feature Victor Willis on lead vocals. Two singles were released from the LP. The Pet Shop Boys album, *Very*, was released in September 1993 and went to #20 on the Billboard Top 200 Albums chart. It has been certified Gold by the RIAA. Five singles were released from the album.

Village People is an American disco group known for its costuming and clever lyrics. Formed in New York City in 1977 by French record producers Jacques Morali and Henri Belolo, and featuring the vocals of Victor Willis, the group released its debut album in July 1977. They have released eight studio albums, one live album, four compilation albums, and 25 singles. Twenty-four members have passed through the group since its inception. They still tour with original member Victor Willis on lead vocals, accompanied by James Kwong, Chad Freeman, Jeffrey James Lippold, and James Lee on backing vocals.

Pet Shop Boys are an English synth-pop duo formed in London in 1981, consisting of Chris Lowe and Neil Tennant. They have released 14 studio albums, five live albums, five soundtrack albums, seven compilation albums, three EPs, and 70 singles. They continue to record and tour.