

# U.S. LNG Export Projects Update

## LEAD: CORPUS CHRISTI SHIPS INITIAL LNG CARGO

On Dec. 11, 2018, the first commissioning cargo of liquefied natural gas (LNG) was loaded and departed from Cheniere Energy's Corpus Christi liquefaction facility in Texas, marking the first export of LNG from the state and from a greenfield liquefaction facility in the lower 48 states. The cargo was loaded on the LNG carrier *Maria Energy*, chartered by Cheniere Marketing.

The Corpus Christi liquefaction facility consists of three large-scale LNG trains and supporting infrastructure, with an additional seven smaller trains proposed. The facility's first train produced first LNG in Nov. 2018 and is expected to reach substantial completion in Q1 2019. Train 2 is expected to reach substantial completion in the H2 2019, and Train 3 in H2 2021.

## PROJECTS UNDER CONSTRUCTION

### ■ Cameron LNG (Louisiana)

On Nov. 2, Cameron LNG requested authorization from the Federal Energy Regulatory Commission (FERC) to begin commissioning activities for the first train of the 14 mtpa project now under construction in Hackberry, Louisiana. Sempra continues to state that all of the first three trains at Cameron should be in service in 2019.

### ■ Elba Island (Georgia)

Kinder Morgan maintained (Dec. 06) its Q1 2019 start-up target for the Elba Island LNG export terminal.

### ■ Freeport LNG (Texas)

Toshiba said on Nov. 08 that ENN Ecological Holdings, a unit of Chinese gas firm ENN Group, has agreed to assume Toshiba's 20-year contract with Freeport. Toshiba will pay ENN \$806 million to assume the contract.

## PROJECTS FULLY PERMITTED—AWAITING FID

### ■ Delfin LNG (Offshore Louisiana)

Delfin announced that Dudley Poston is the new CEO of Delfin. Most recently at Golar, Poston has been working in the industry since 2010, focusing on Floating Storage



and Regasification Units (FSRU), Floating Liquefaction (FLNG), and small scale LNG. Wouter Pastoor, also from Golar, is Delfin's new Chief Operating Officer. Poston takes over from Delfin founder Fred Jones.

### ■ Magnolia LNG (Louisiana)

Liquefied Natural Gas Ltd. has extended through June 30, 2019, its current binding engineering, procurement, and construction contract with KSJV (a KBR/SKE&C joint venture led by KBR) for the Magnolia LNG project.

### ■ Sabine Pass Train Six (Louisiana)

Cheniere said on Dec. 18 that Sabine Pass had entered into a 20-year SPA to supply PETRONAS with 1.1 mtpa of LNG from the Sabine Pass LNG facility. Cheniere: "We expect this SPA to support our continued progress toward a [Train 6 FID] in 2019." Earlier, Cheniere announced (Nov. 13) that Bechtel Oil, Gas and Chemicals has won the EPC contract for Train 6 and that Cheniere has issued limited notice to proceed to Bechtel to commence early engineering, procurement, and site work.

## PROJECTS UNDER FORMAL REGULATORY REVIEW

### ■ Annova LNG (Louisiana)

Black & Veatch and Kiewit Energy Group made an equity investment in Exelon's Annova LNG project on Oct. 22. Terms were not disclosed. The firms were concurrently awarded the EPC contract.

■ **Calcasieu Pass LNG (Louisiana)**

Venture Global LNG and Kiewit announced on Dec. 07 that Kiewit won the EPC contract for the Calcasieu Pass LNG export project currently being developed in Cameron Parish, Louisiana. Earlier (Oct. 23) Venture Global received its final EIS from FERC and named Jim Strohmman as project director for Calcasieu Pass.

■ **Eagle LNG (Florida)**

Eagle LNG Partners received the draft environmental impact statement (EIS) from FERC on Nov. 16 for the liquefaction project that Eagle is building in Jacksonville, Florida. Eagle expects the project to be operational in 2021 and to produce 1 mtpa of LNG.

■ **Freeport LNG Train Four (Texas)**

Freeport received its final Environmental Assessment from FERC for Train Four on Nov. 02. An order from FERC to proceed with construction should come in early 2019. Earlier (Sept. 05) Freeport announced that it had signed a heads of agreement (HOA) with Sumitomo Corp. to negotiate for a 2.2 mtpa, 20-year liquefaction tolling agreement (LTA).

■ **Gulf LNG Liquefaction (Mississippi)**

FERC issued a draft EIS for the Gulf LNG liquefaction project that Kinder Morgan has proposed in Jackson County, Mississippi. The Gulf LNG facility—originally built as an LNG import terminal—would have two trains with a combined capacity of ≈10 mtpa.

■ **Jordan Cove (Oregon)**

Pembina Pipeline Corp. said (Dec. 10) that it “plans to spend \$100 million towards progressing its proposed Jordan Cove LNG project. Pembina will focus on: securing binding agreements for the long-term sale of natural gas liquefaction capacity at the LNG terminal; advancing pipeline engineering; acquiring right-of-way; and obtaining the regulatory and environmental permits for both the terminal and the associated Pacific Connector Gas Pipeline... Consistent with previous disclosures, and given the size of this project, [Pembina said that it] intends to seek partners for both the pipeline and liquefaction facility thereby reducing its 100% ownership interest to a net ownership interest of between 40-60%.

■ **Plaquemines LNG (Louisiana)**

PGNiG, the Polish state-owned oil and gas company, signed a Sales and Purchase Agreement (SPA) with Venture Global LNG on Oct. 17 for 1 mtpa from the Calcasieu Pass project and 1 mtpa from VG’s proposed Plaquemines LNG export facility for deliveries beginning in 2022 and 2023 respectively.

■ **Port Arthur LNG (Texas)**

Sempra LNG & Midstream Sempra announced on Dec. 19 that it had signed a 20-year agreement with PGNiG for 2 mtpa from the Port Arthur liquefaction and export project. Deliveries could begin in 2023.

■ **Rio Grande LNG (Texas)**

NextDecade Corp. announced (Dec. 12) that the Texas Commission on Environmental Quality had voted to issue a series of air permits for the Rio Grande LNG export terminal at the Port of Brownsville. Earlier (Nov. 12) NextDecade received its draft EIS for the Rio Grande project from FERC. A final EIS is expected in 2019.

■ **Texas LNG Brownsville (Texas)**

FERC issued its draft EIS for the 2.0 mtpa Texas LNG project on Oct. 26. A final EIS is expected next March.

**GENERAL U.S. LNG EXPORT COMPANY NEWS**

■ **Cheniere Energy**

Cheniere and PGNiG announced an agreement on Nov. 08 under which PGNiG will purchase ≈1.45 mtpa of LNG from Cheniere on a delivered ex-ship basis. Deliveries will commence in 2019, with the full annual quantity



LNG Allies is a 501(c)(6) nonprofit organization working to expedite and maximize LNG exports to create U.S. jobs and economic growth, enhance the energy security of America’s allies, and improve economic and environmental conditions worldwide.

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starting in 2023. The purchase price for LNG is indexed to the monthly Henry Hub price, plus a fee.

■ **NextDecade Corp.**

NextDecade said on Oct. 23 that it had appointed Erik Ludtke as Chief Commercial Officer. With 25 years in the O&G business, Ludtke was most recently with NorthStar Midstream.

■ **Sempra LNG & Midstream**

Sempra LNG & Midstream inked a memorandum of understanding with Total on Nov. 05 for up to 9 mtpa in additional LNG from the second phase of the Cameron LNG project (trains 4 and 5) and phase one of the Energia Costa Azul project in Mexico.

■ **Tellurian Inc.**

Tellurian said on Dec. 06 that Tellurian Trading had entered into a MOU with Vitol to supply 1.5 mtpa of LNG from its LNG offtake capacity at the proposed Driftwood LNG export terminal. The transaction price is based on the Platts Japan Korea Marker (JKM) and is for a minimum term of 15 years. The company also noted that “Vitol is evaluating a potential equity investment in the Driftwood Holdings partnership.”

■ **Venture Global LNG**

On Dec. 06, Venture Global received a \$220 million bridge loan from Morgan Stanley Senior Funding and associated lenders. The loan will be used to finalize engineering work and commence site construction activity for the company’s 10 mtpa Calcasieu Pass LNG project.

**CANADIAN AND MEXICAN PROJECTS WITH U.S. GAS**

■ **Energia Costa Azul LNG (Baja California)**

Sempra Energy announced Nov. 07 that its subsidiaries IEnova and Sempra LNG & Midstream have signed three HOAs with affiliates of Total, Mitsui, and Tokyo Gas for the full export capacity of Phase 1 of the Energia Costa Azul LNG project in Baja California, Mexico. Phase 1 is a single-train liquefaction facility to be located adjacent to the existing LNG import terminal and expected to produce ≈2.4 mtpa of LNG.

■ **Goldboro LNG (Nova Scotia)**

Pieridae Energy said that Goldboro LNG obtained a construction permit on Oct. 31 from the Nova Scotia Utility and Review Board to build its proposed LNG export facility. Pieridae also said that Hatch Ltd. has been engaged for engineering and that a FID could come in H1 2019.

