

U.S. Perspectives on LNG Exports

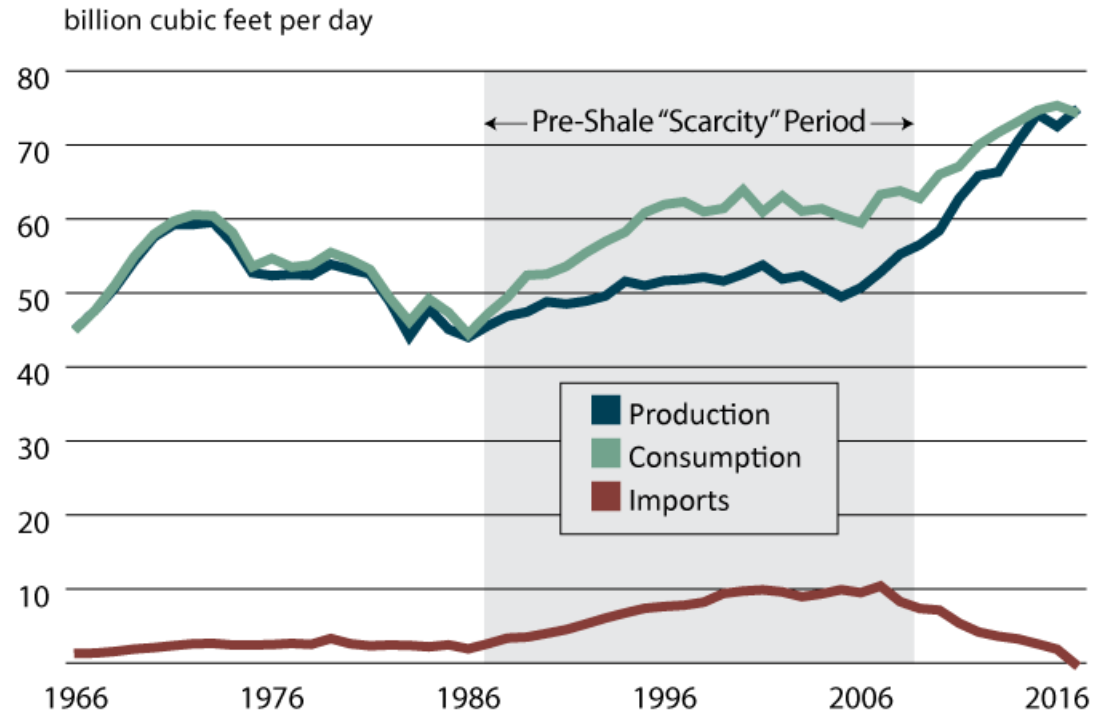
LNG Import Market
Germany
12 Feb. 2019

LNG Allies™
THE US LNG ASSOCIATION



Shale Changed Everything

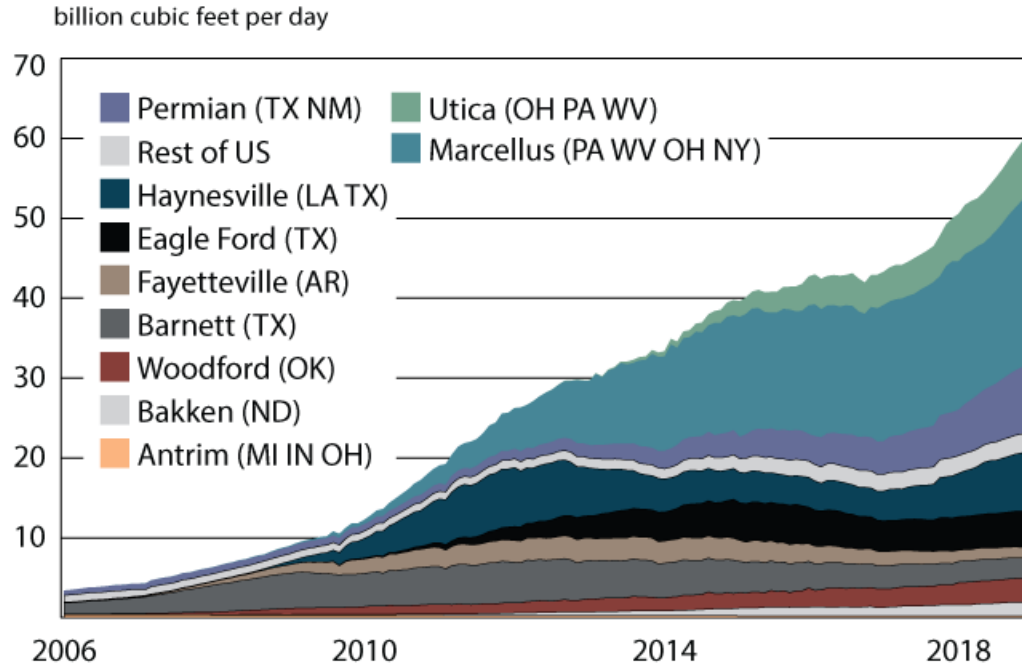
U.S. Natural Gas Production, Consumption, Imports



Source: EIA Monthly Energy Review (Jan. 2019)

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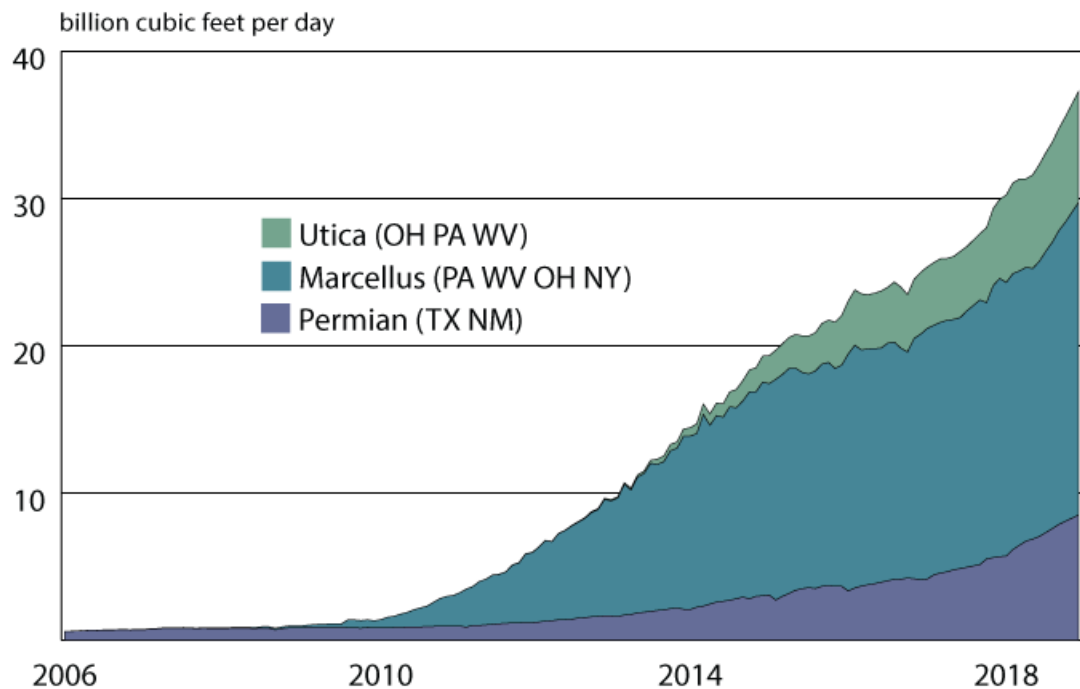
U.S. Dry Shale Gas Production



Source: EIA Natural Gas Weekly Update (06 Feb. 2019)

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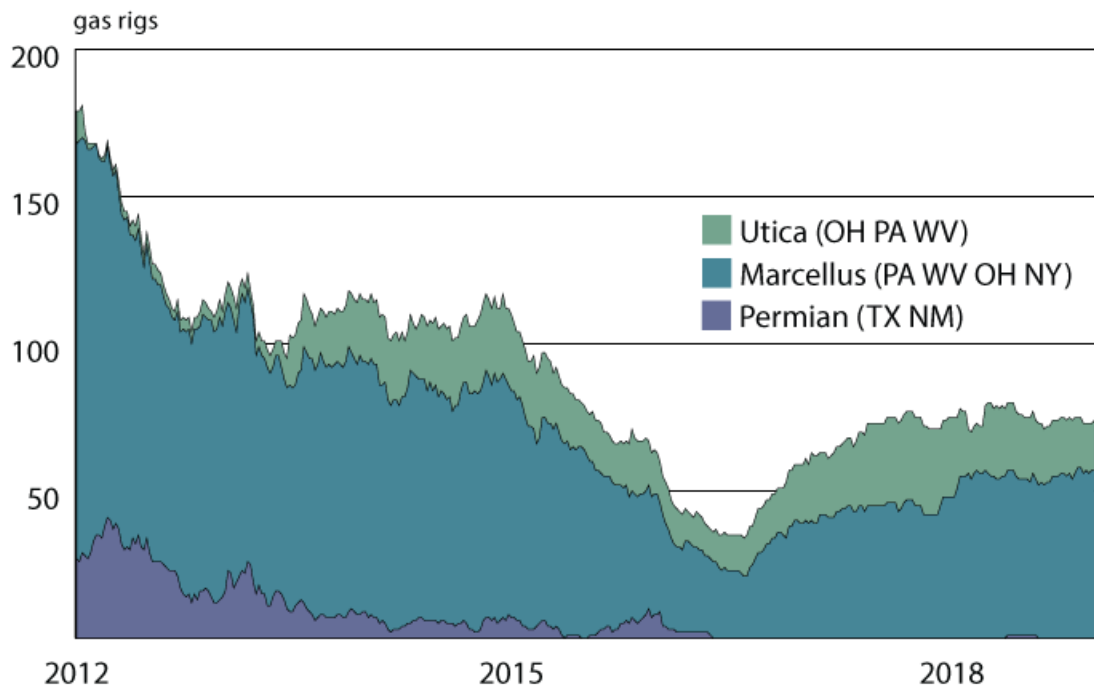
Permian, Marcellus, Utica Shale Gas Production



Source: EIA Natural Gas Weekly Update (06 Feb. 2019)

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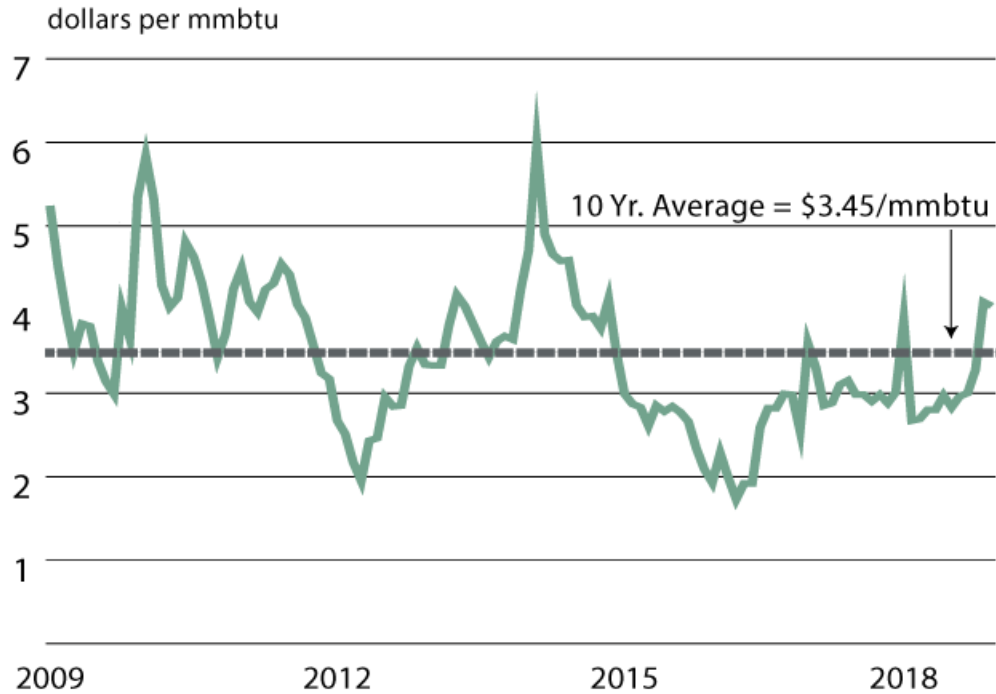
Permian, Marcellus, Utica Weekly Gas Rig Count



Source: Baker Hughes GE (08 Feb. 2019)

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Monthly Henry Hub Spot Prices 2009-2019

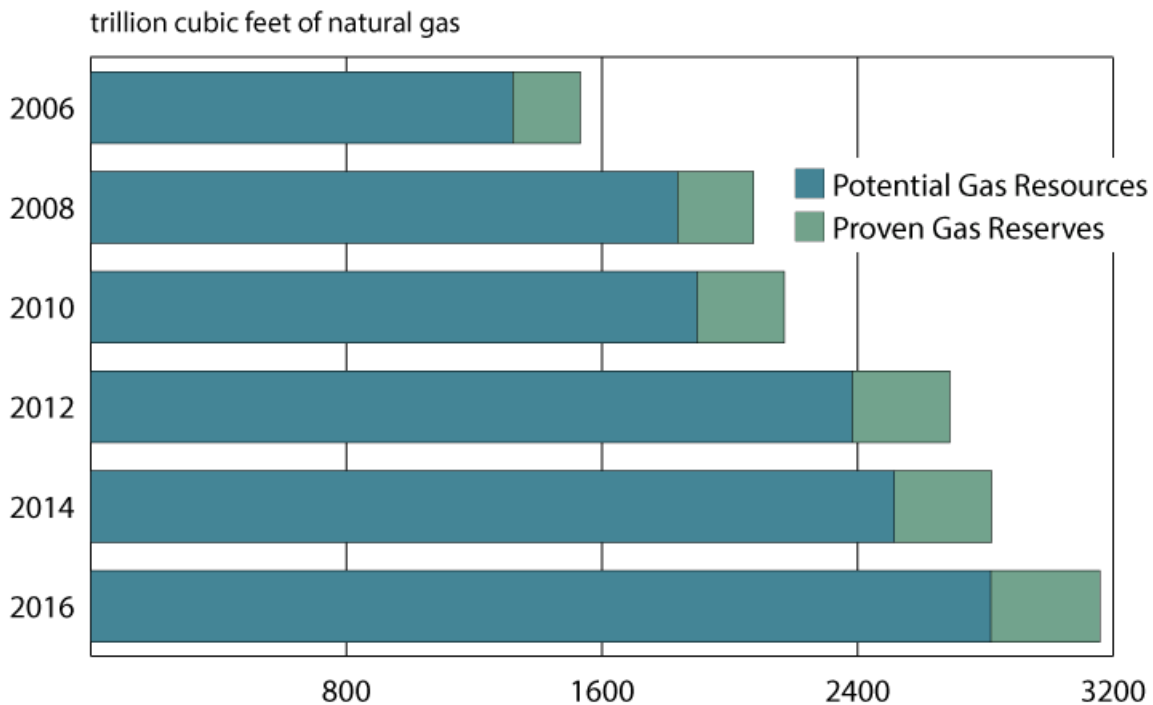


Source: EIA & Thomson Reuters (Data through Dec. 2018)

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Future U.S. Natural Gas Conditions

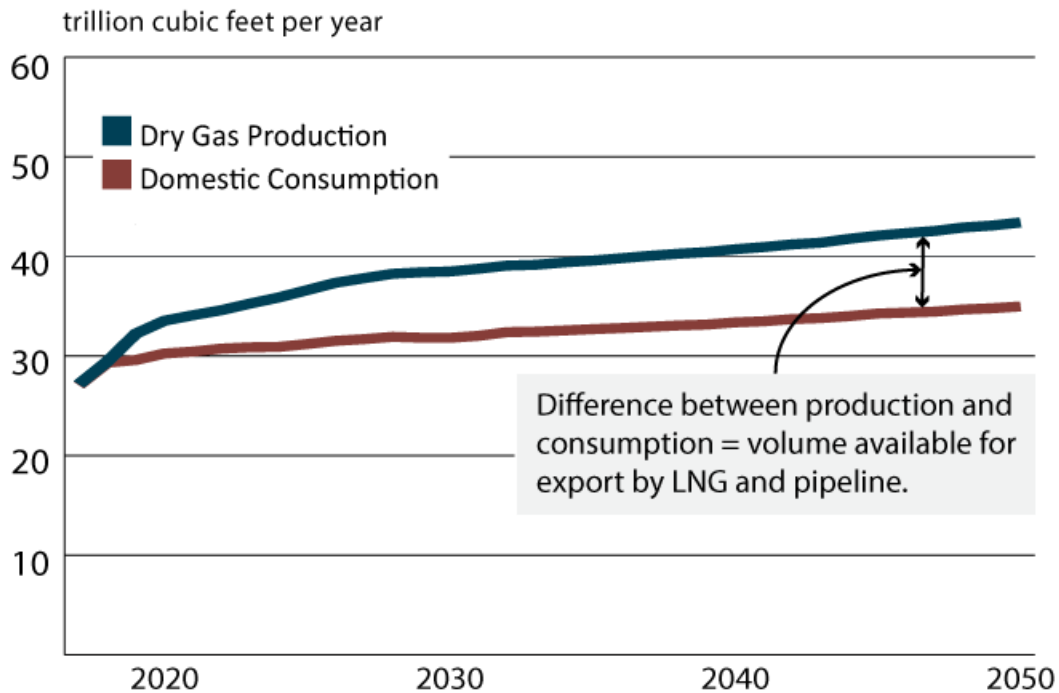
Future U.S. Gas Supply Estimates



Sources: Potential Gas Committee (Resources); EIA (Reserves)

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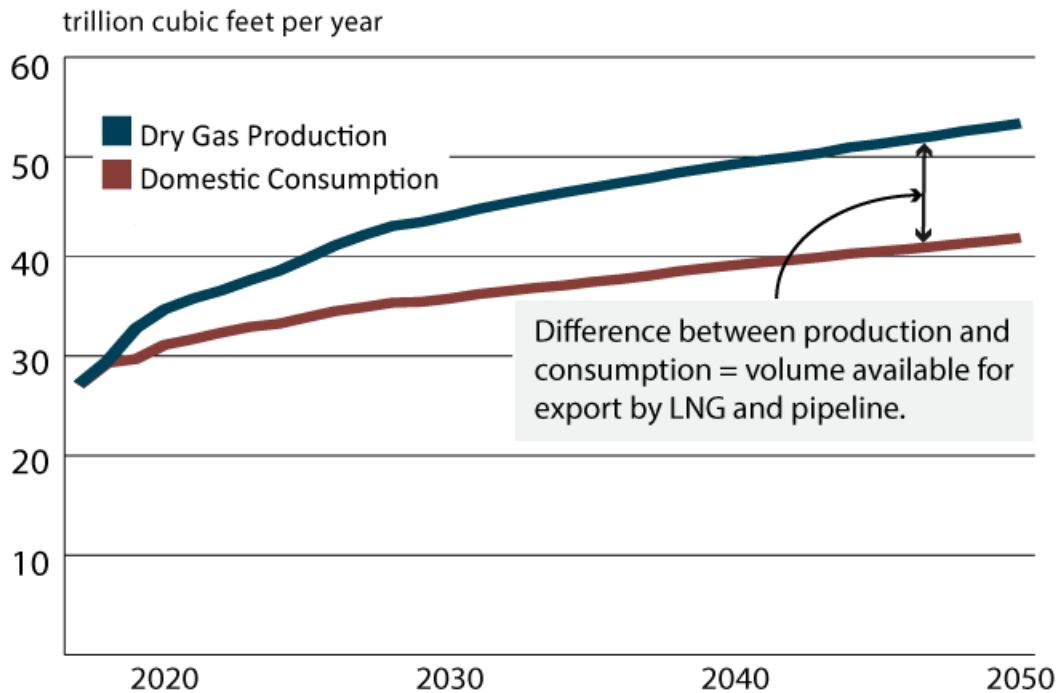
U.S. Natural Gas Production and Consumption



Source: EIA Annual Energy Outlook - 2019 (Reference Case)

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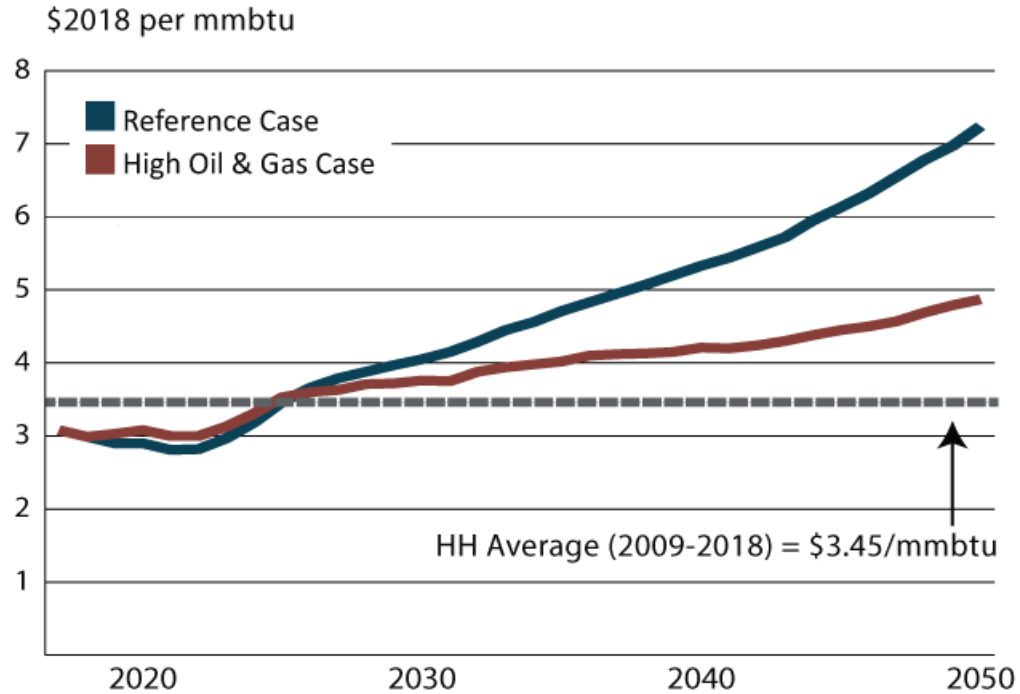
U.S. Natural Gas Production and Consumption



Source: EIA Annual Energy Outlook - 2019 (High Oil & Gas Case)

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U.S. Natural Gas Price Forecasts (Henry Hub)



Source: EIA Annual Energy Outlook - 2019

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U.S. LNG Export Industry

U.S. LNG Export Industry

- Eight major brownfield (import) terminals adding/planning liquefaction capabilities
- Another 16+ greenfield projects proposed
- Ownership: midstream players and special purpose entities; IOCs mostly offtakers not project sponsors

Permitting Status of U.S. LNG Export Projects

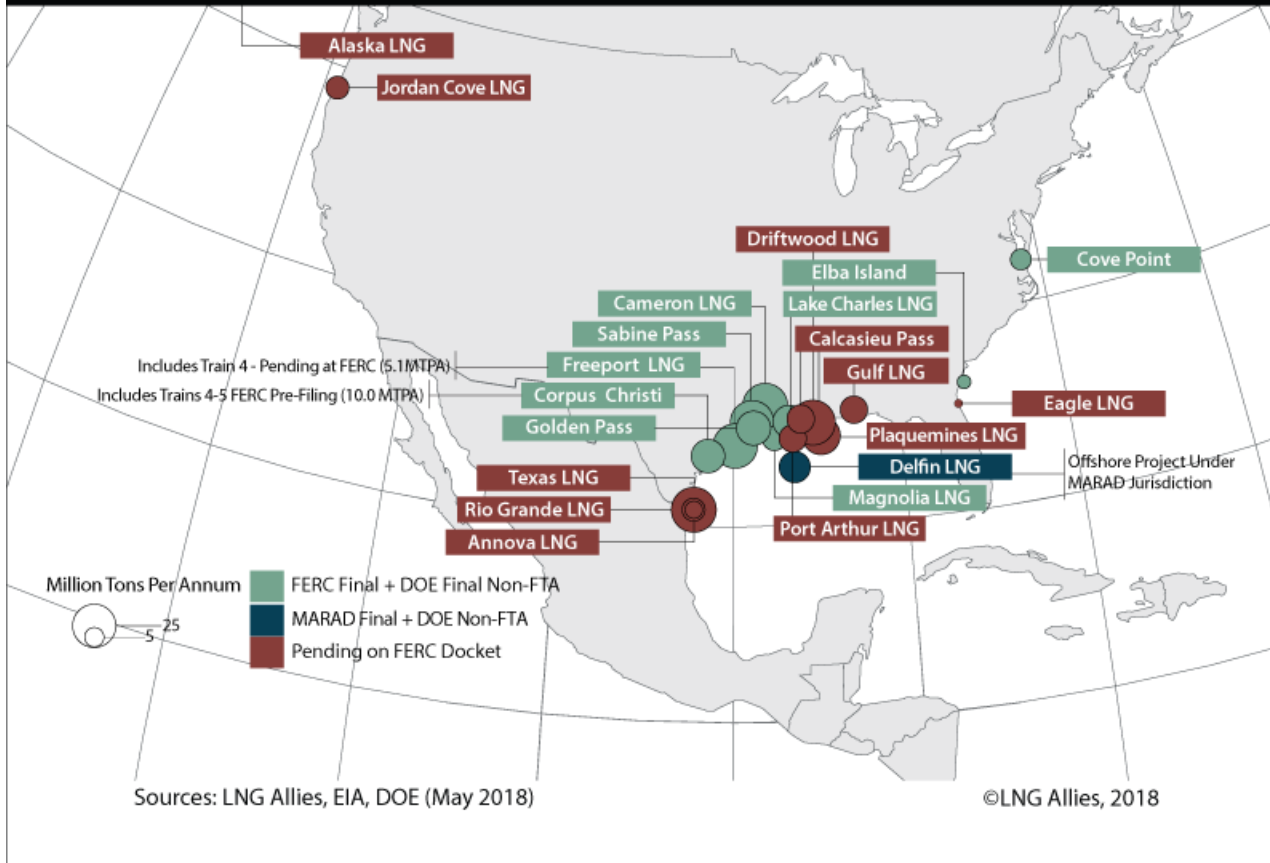
Project Stage	Projects	mtpa	bcm/yr	bcf/day
Permitted Post-FID	7	91.0	125.5	12.0
Permitted Pre-FID (> 1 mtpa)	3	48.8	67.3	7.1
Permitted Pre-FID (< 1 mtpa)	N/A	9.0	12.4	1.3
Formal FERC Review	11	156.9	216.4	22.3
FERC Pre-Filing	3	20.0	27.5	2.8
Total	24	316.7	436.7	44.3

Notes: (1) Projects = individual projects. (2) Additional trains for existing projects not included in the project count, but in the mtpa, bcm/year, and bcf/day totals (Sabine Pass #6, Cameron #4 #5, Freeport #4).

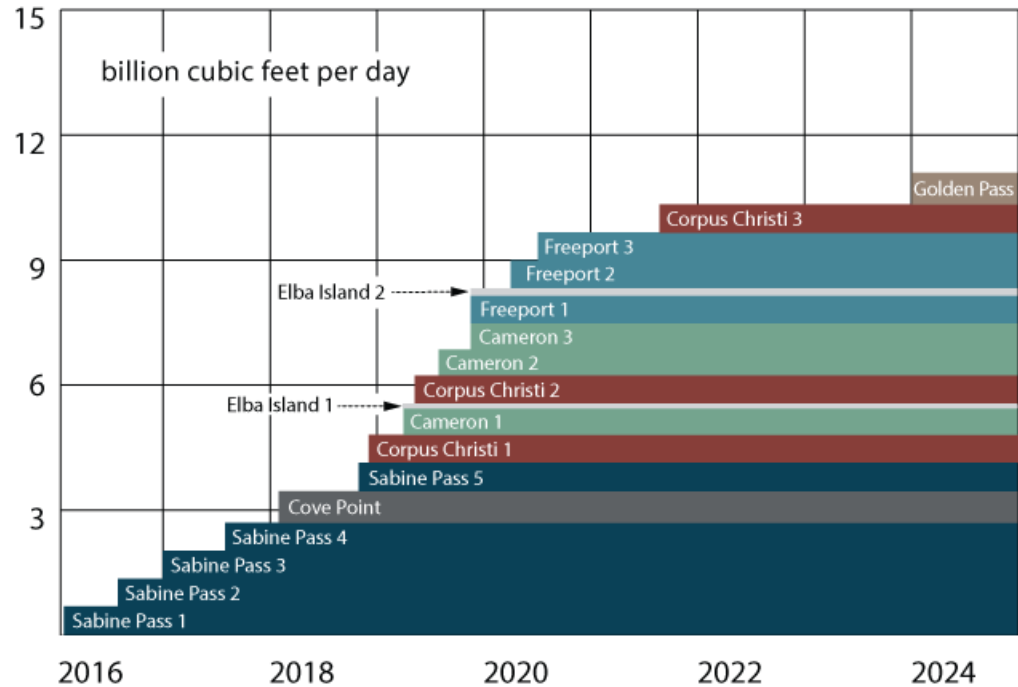
Source: Federal Energy Regulatory Commission & LNG Allies (08 Feb. 2019)

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Major U.S. LNG Export Projects - Existing & Proposed



U.S. LNG Liquefaction Capacity Growth



Source: EIA and LNG Allies (08 Feb. 2019)

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