

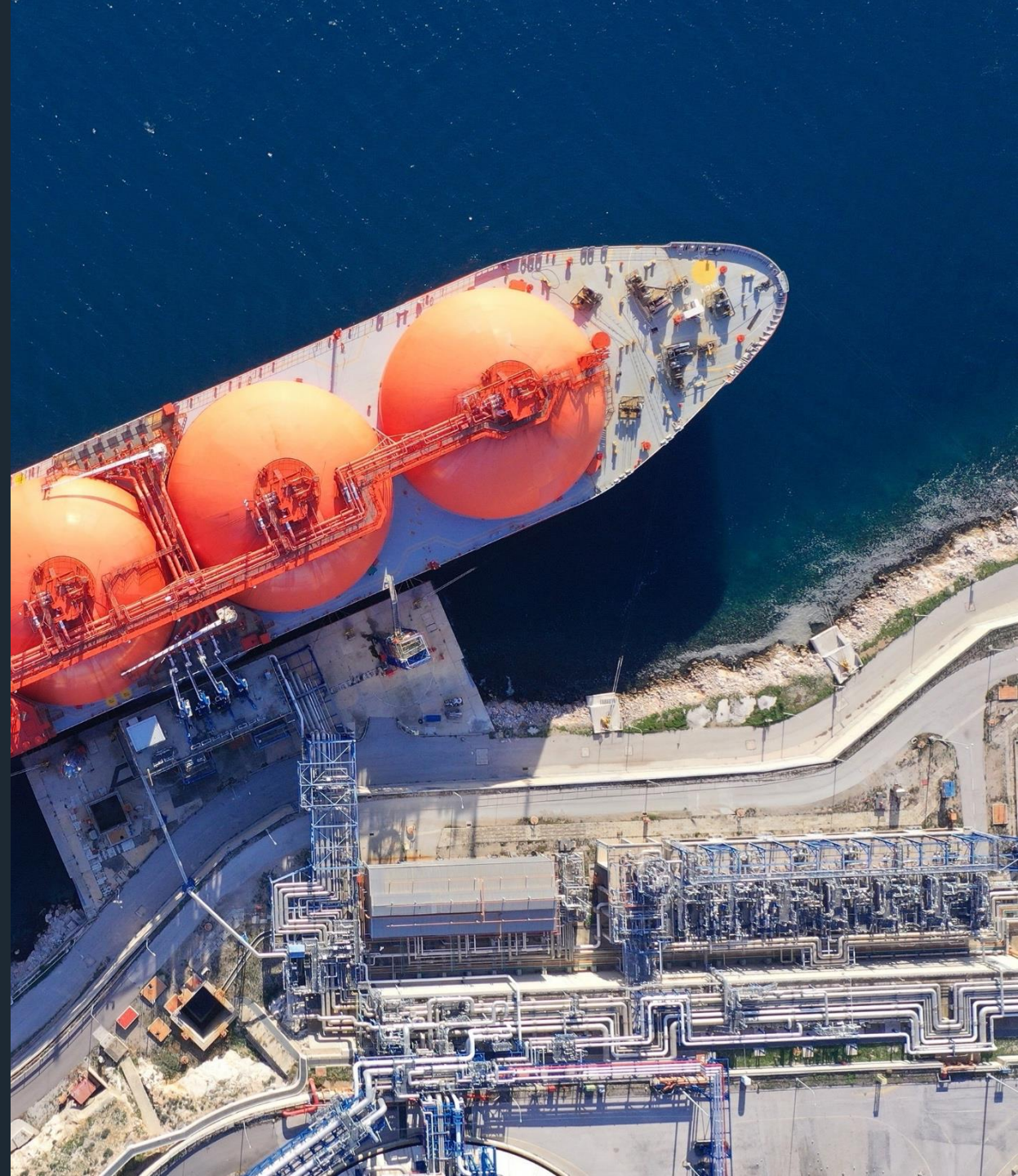


Institute for Energy Economics  
and Financial Analysis

# Why are U.S. LNG companies so interested in Mexico?

Clark Williams-Derry, IEEFA

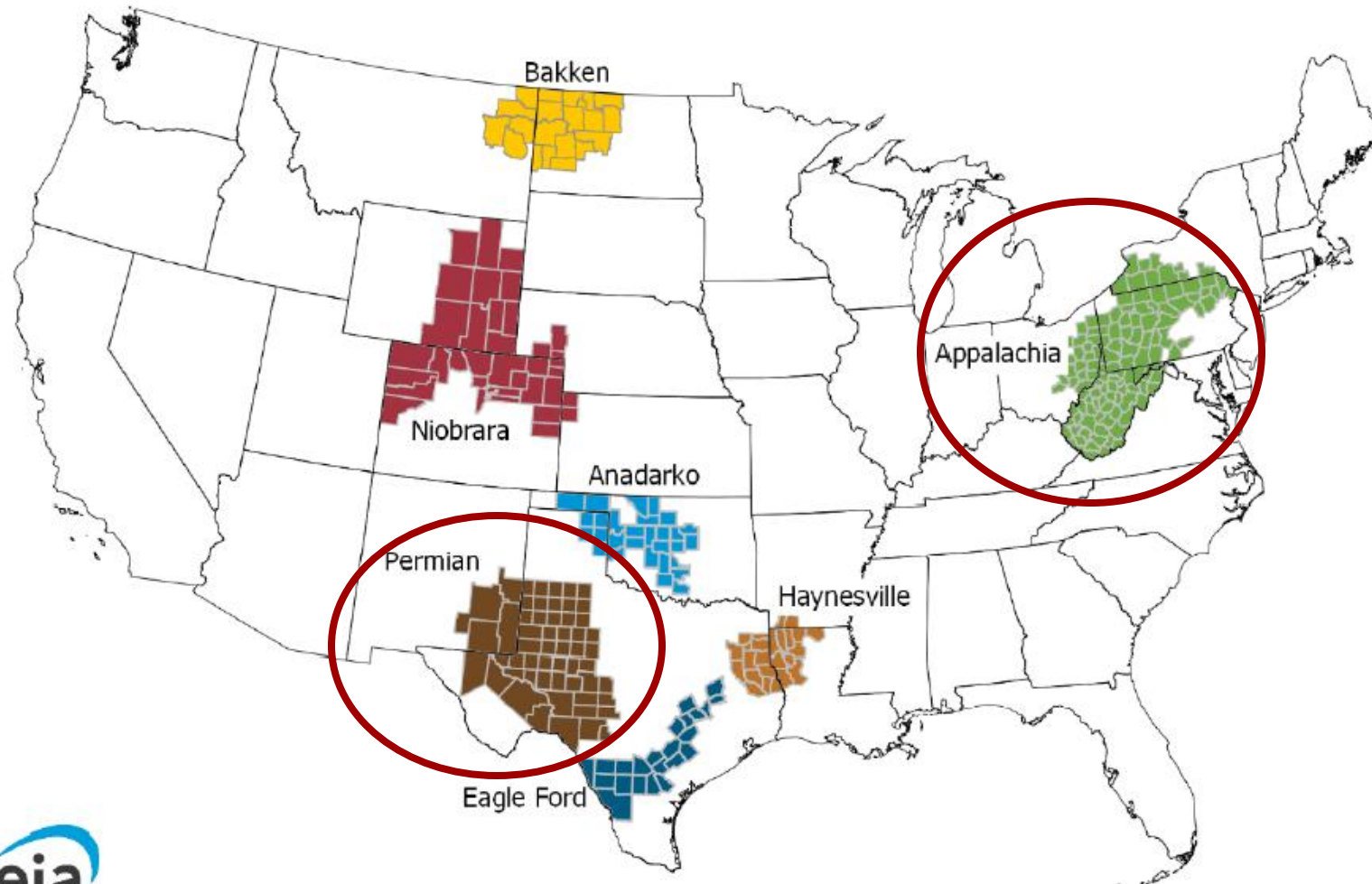
September 4, 2024



# Why all the interest in Mexican LNG plants?

- The U.S. natural gas industry is *desperate* for new markets.
  - The U.S. has too much gas!
- Mexico's Pacific Coast offers an attractive option.
  - The U.S. gas industry hopes that Mexico can serve both as an *exporter* and a *consumer* of U.S. gas.

# U.S. Fracking Basins



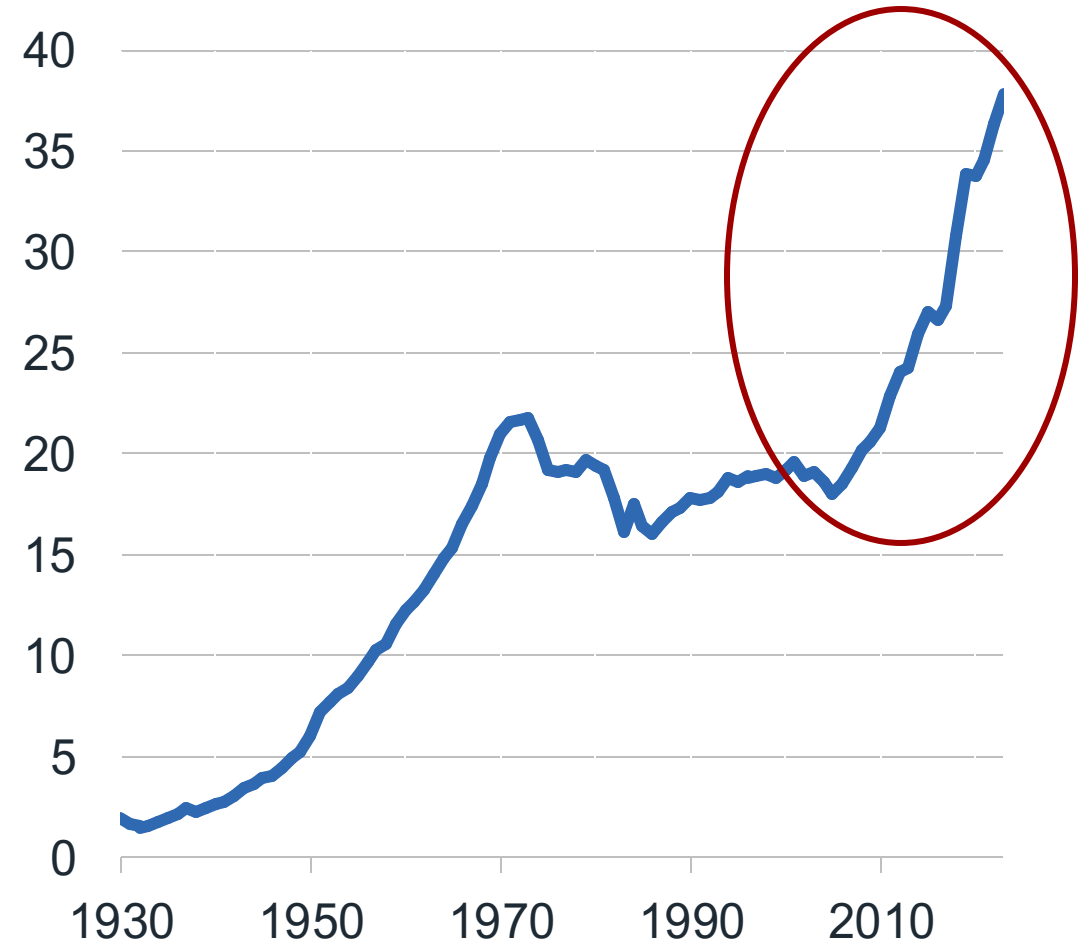
Data source: U.S. Energy Information Administration

# U.S. gas production is booming

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- Starting in 2009, fracking unleashed a tidal wave of gas production in the U.S.
- Production has grown faster over the last 14 years than at any point in history.

**U.S. Dry Natural Gas Production**  
Trillion cubic feet

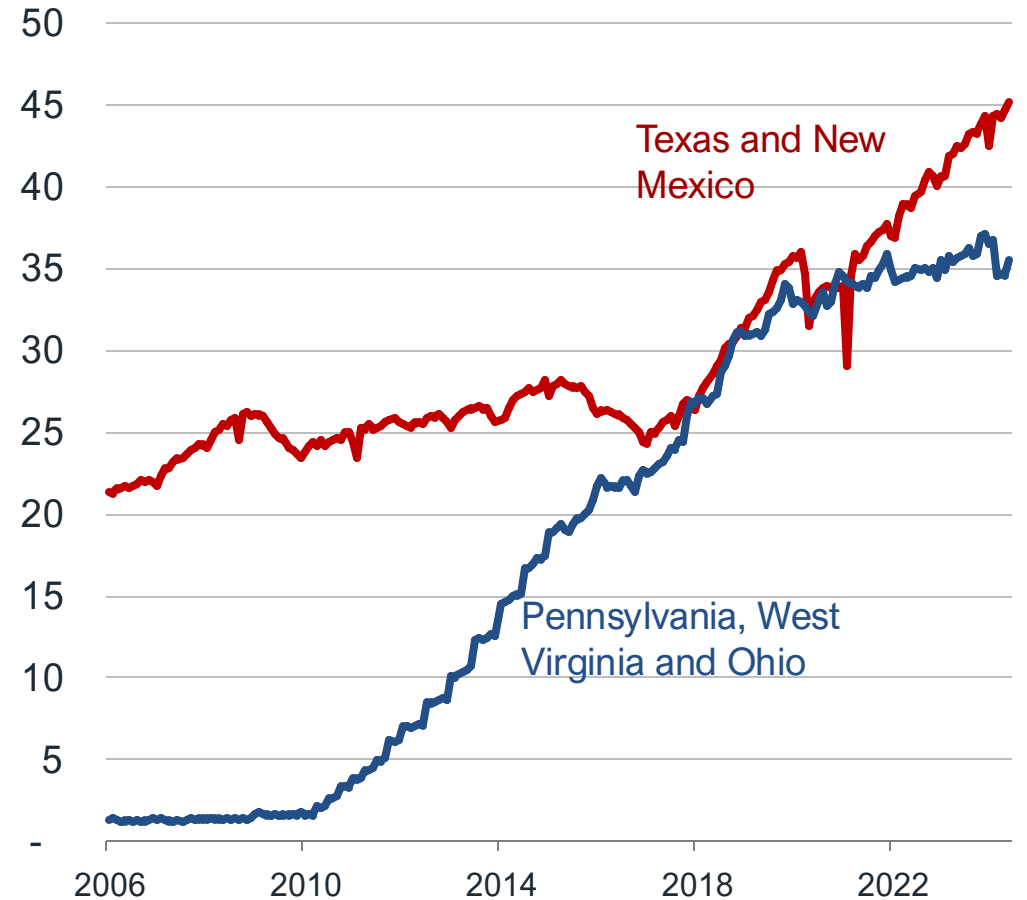


*U.S. Energy Information Administration*

# Production growth has shifted to the Southwest

- Early in the fracking boom, Appalachia's gas production rose quickly.
- But Appalachian output has slowed.
- In Texas and New Mexico, gas production is still rising fast.

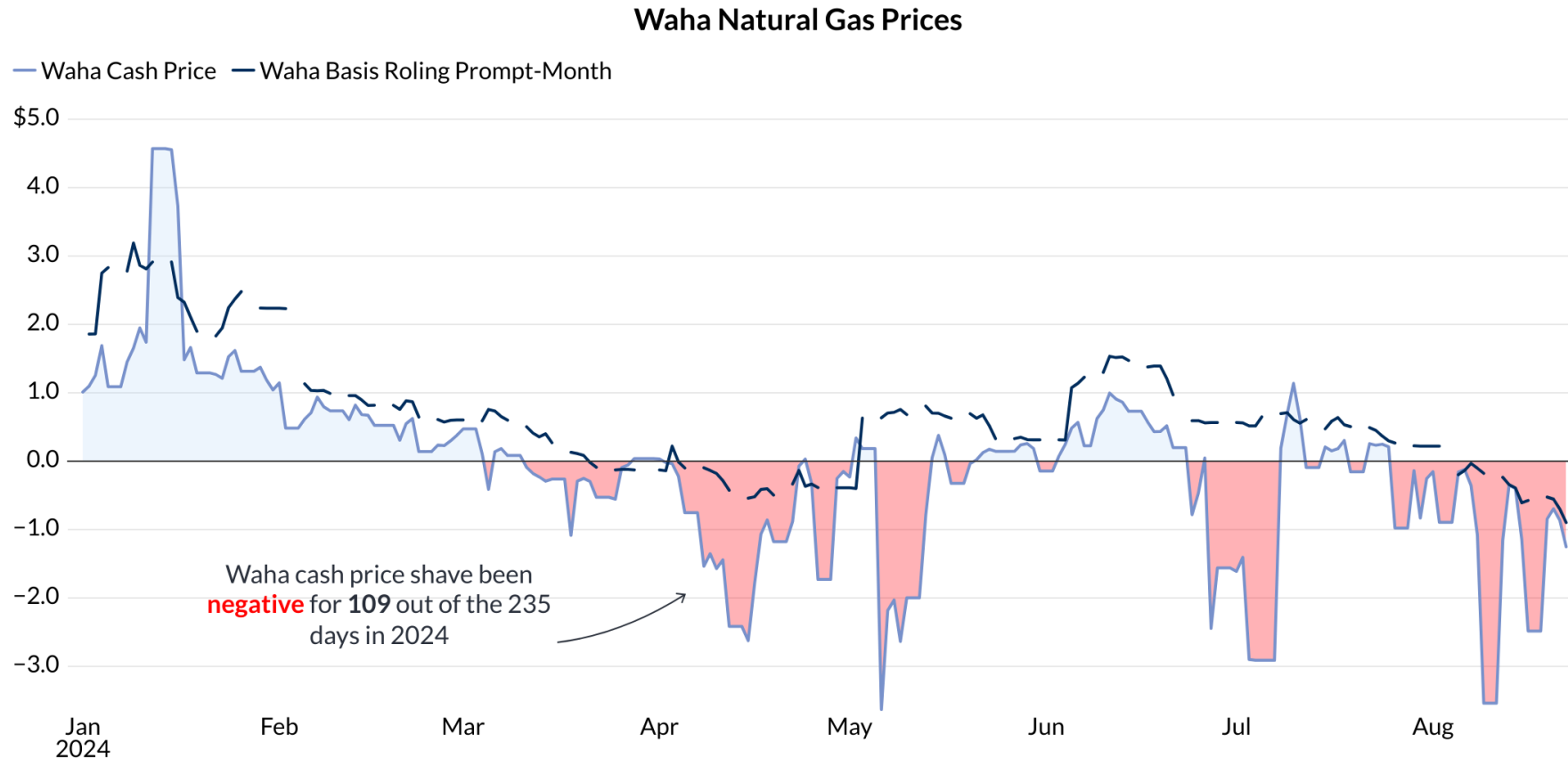
Gross Natural Gas Production, by Region  
Billion cubic feet per day



Source: [U.S. Energy Information Administration](#)

# In West Texas (“Waha”), gas prices are often **negative**.

There’s so much gas that pipelines are getting full!



Cash prices (light blue) represent outright prices. Waha basis (dark blue line) is difference from Hub, not flat price.

Source: AEGIS, ICE



Source: [Aegis Hedging](#)

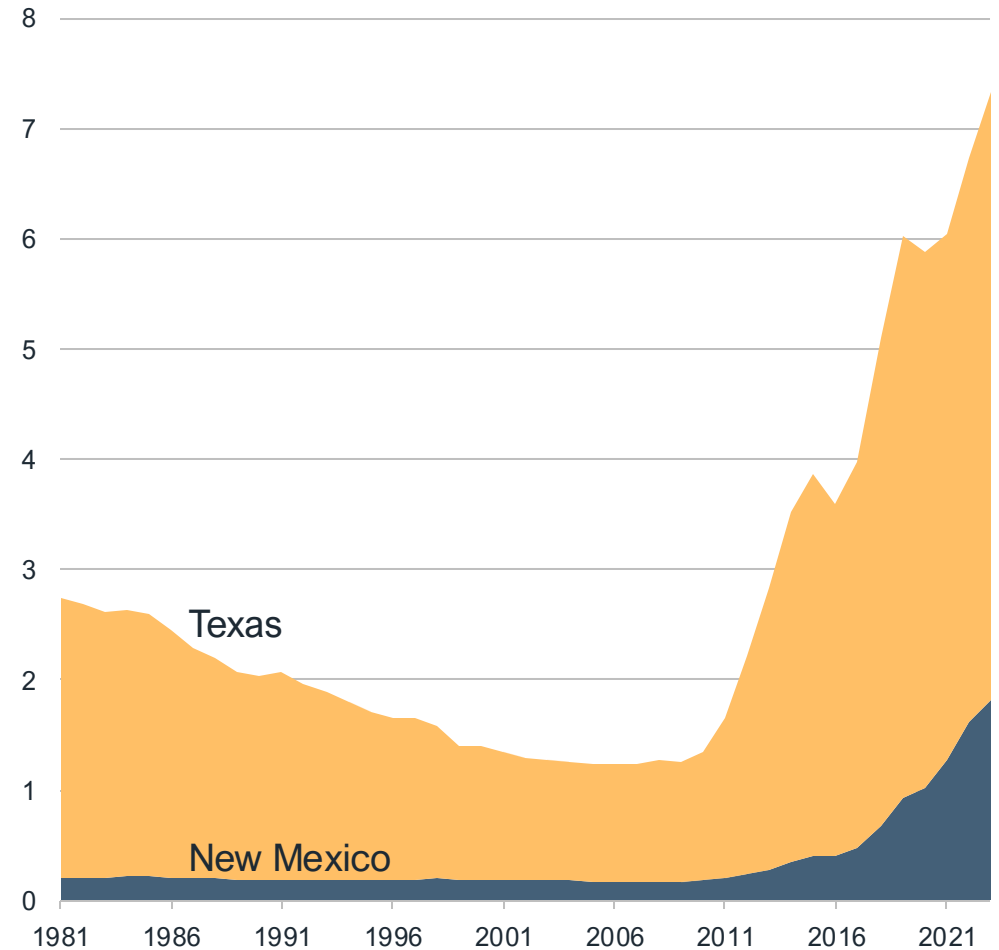
# The Permian produces gas even at low prices

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- Permian fracked wells produce both oil and gas.
- Oil is still profitable.
- Gas is a by-product of oil.
- Permian oil producers continue to produce “associated” gas along with oil, even when gas prices are low or negative.

## Crude oil production in Texas and New Mexico

Million barrels per day



Source: [U.S. Energy Information Administration](#)

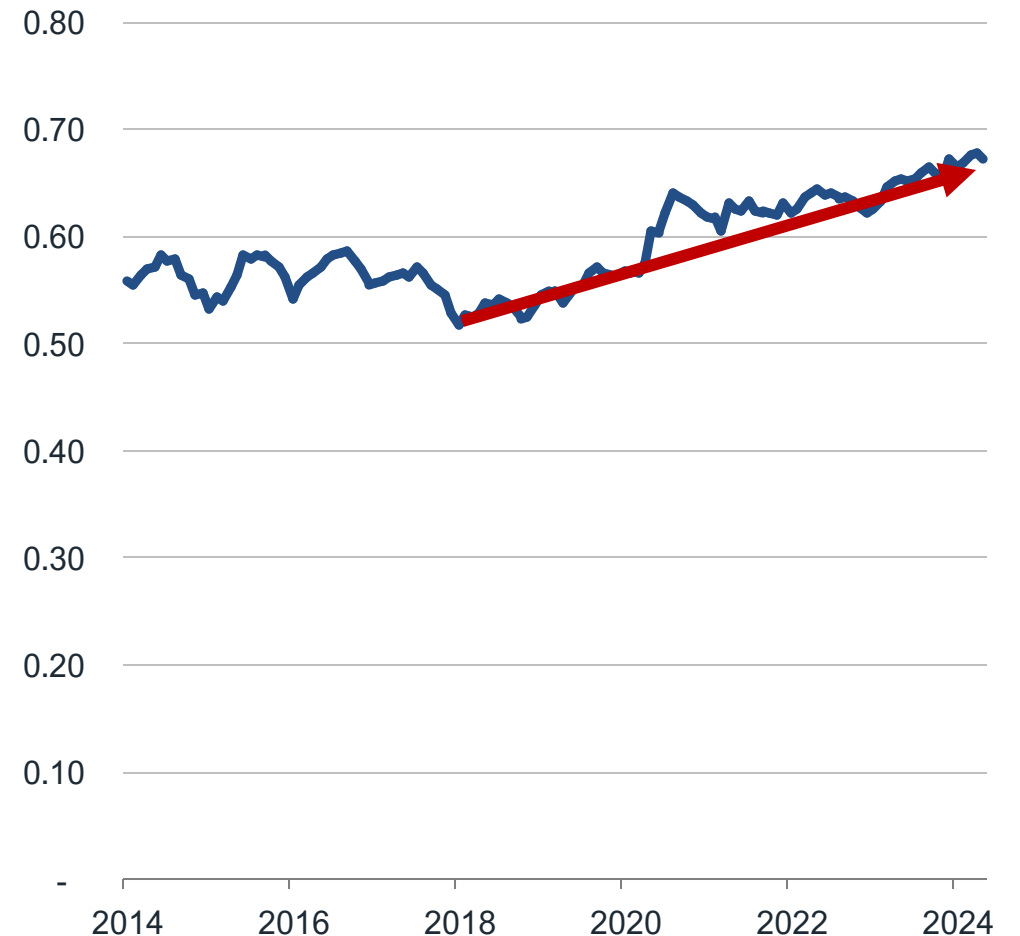
# Permian wells are getting “gassier”

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- Wells shift from oil to gas as they age.
- The “oiliest” wells have already been drilled.
- Both new wells and old wells are gradually producing more gas per barrel of oil.

## Ratio of Gas to Oil, Permian Basin

Barrels of oil equivalent



\*Boe = barrels of oil equivalent. Source: [Novi Labs](#)

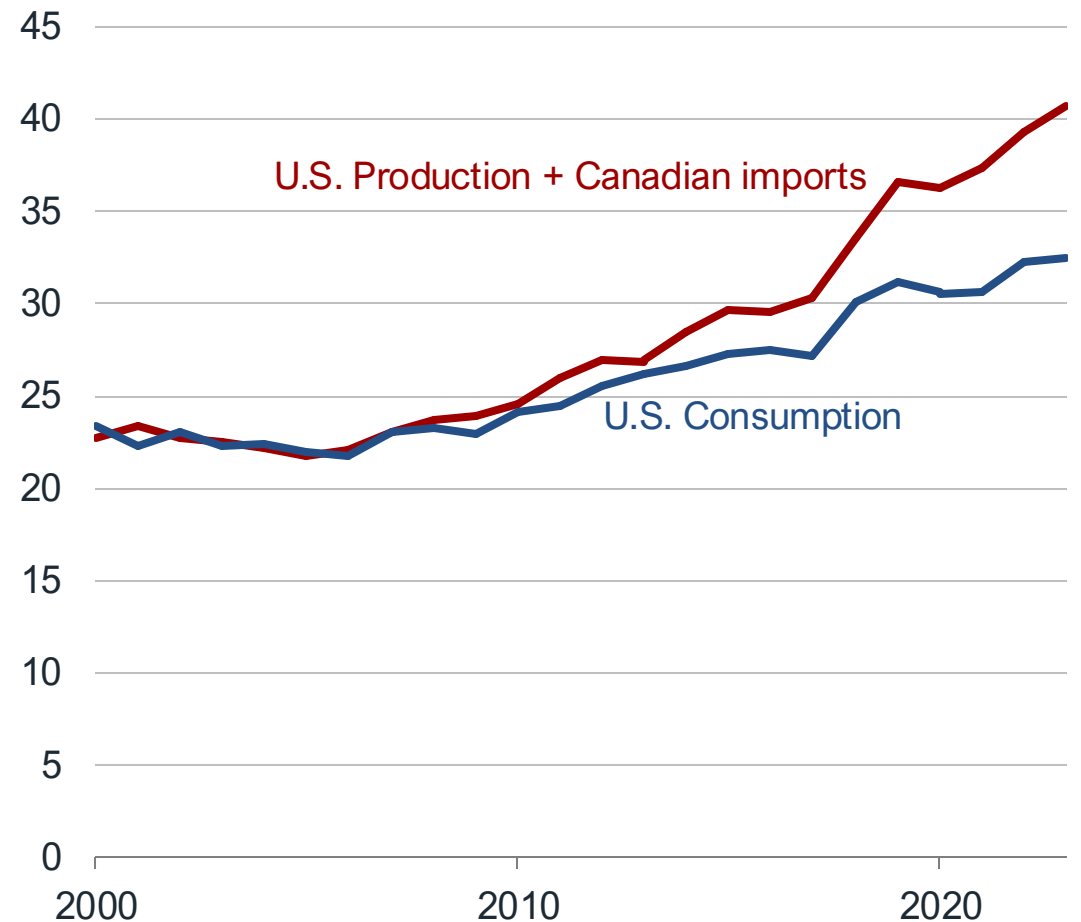


# The U.S. has more gas than it can use

- Gas supplies (red line) are growing faster than consumption (blue line).
- To balance the market, **the U.S. gas industry needs to export.**
- It has 2 main choices for exports: LNG and Mexico.
- Mexican LNG offers both!

## U.S. Gas Supply and Demand

Trillion cubic feet



\*Boe = barrels of oil equivalent. Source: [Novi Labs](#)

# All U.S. LNG export projects are on the Atlantic Coast



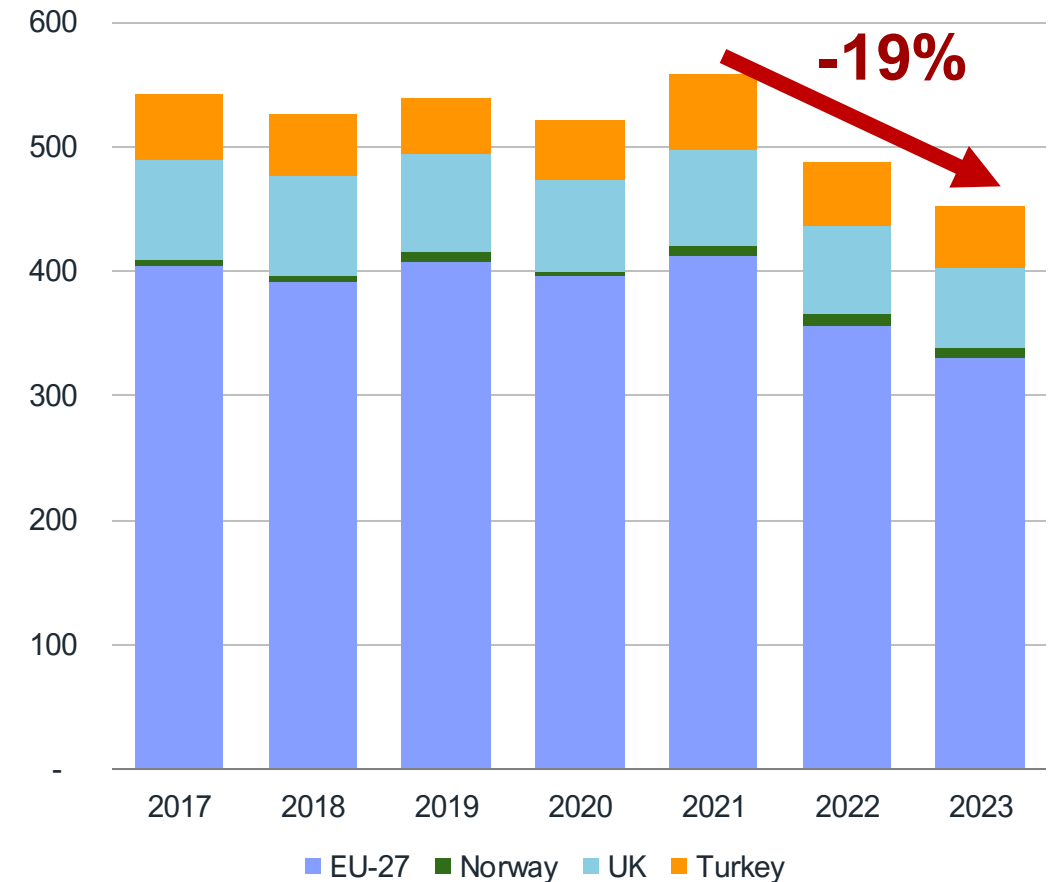
Source: [U.S. Energy Information Administration](https://www.eia.gov)

# Europe's gas demand may have peaked

- After the Ukraine invasion, Europe's gas consumption fell by about one-fifth.
- Gas demand is down another ~5% in the first half of 2024.
- Falling gas demand means falling LNG imports.
- Compared with the first half of 2023, European LNG imports are down ~20%.

## European gas consumption

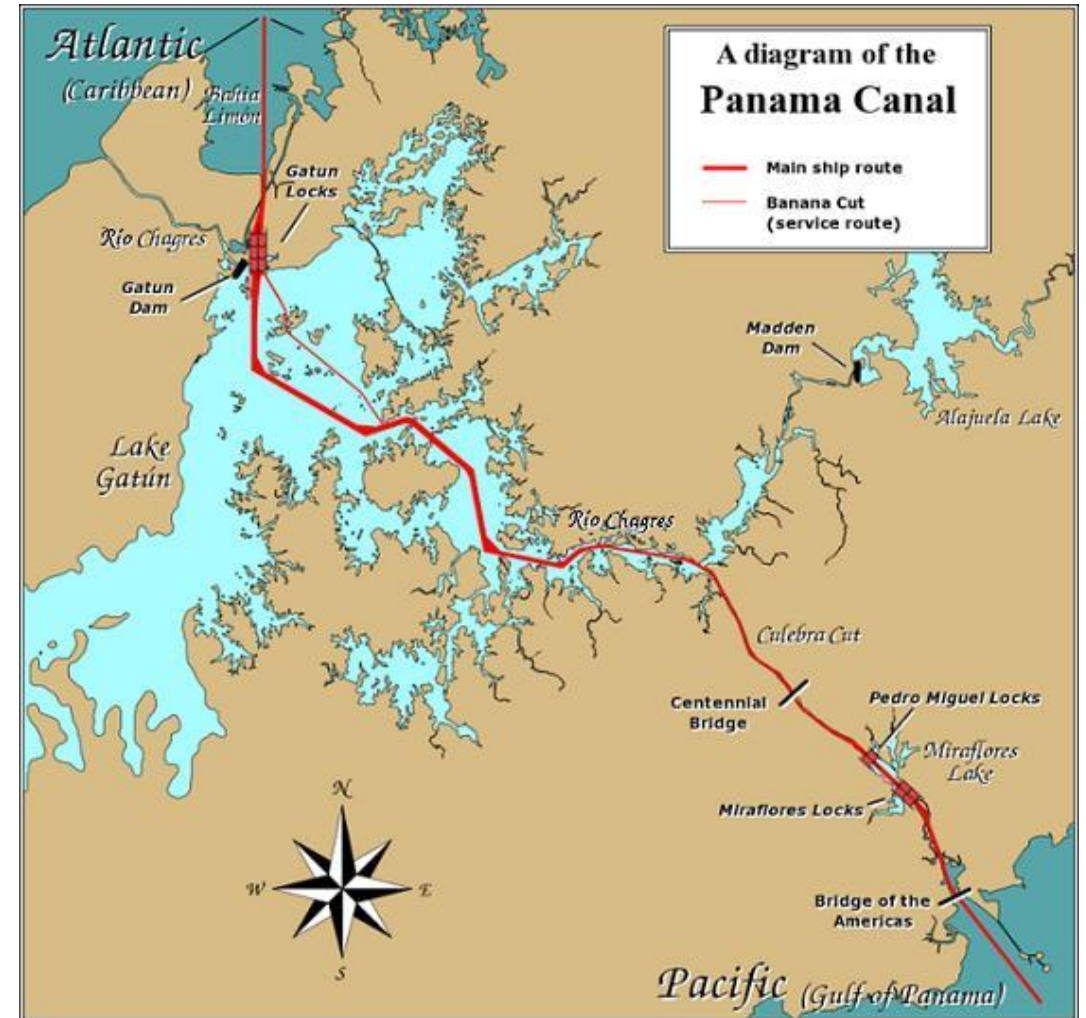
Billion cubic meters



Source: IEEFA, based on Eurostat, GECF, UK Duke.

# The Panama Canal is growing less reliable

- Due to climate change, Lake Gatun has had lower water levels.
- During droughts, fewer boats can go through the canal.
- To compensate, U.S. exporters ship cargoes around Africa or South America to reach Asia.
- Longer-distance shipping is more expensive.



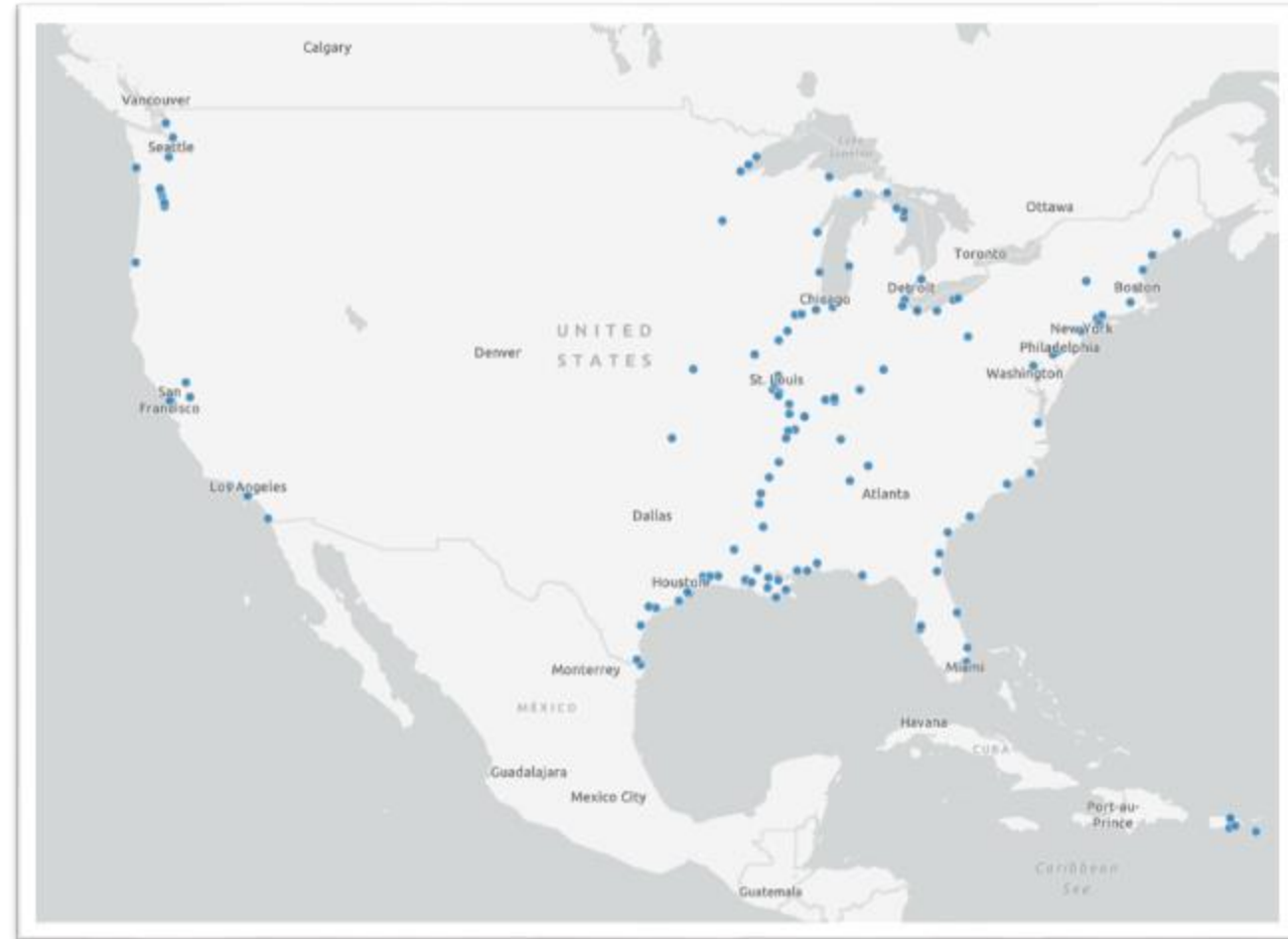
Source: [Wikipedia](https://en.wikipedia.org/wiki/Panama_Canal)

# The U.S. West Coast offers poor prospects

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- There are few ports on the U.S. West Coast.
- Most are near big cities (Seattle, San Francisco, Los Angeles), but LNG plants can explode!
- In the U.S., federal regulations can make it hard to build pipelines between states.
- California, Oregon, and Washington will fight LNG! Two Oregon proposals have already died.

U.S. Ports: Blue dots



Source: [U.S. Department of Transportation](#)

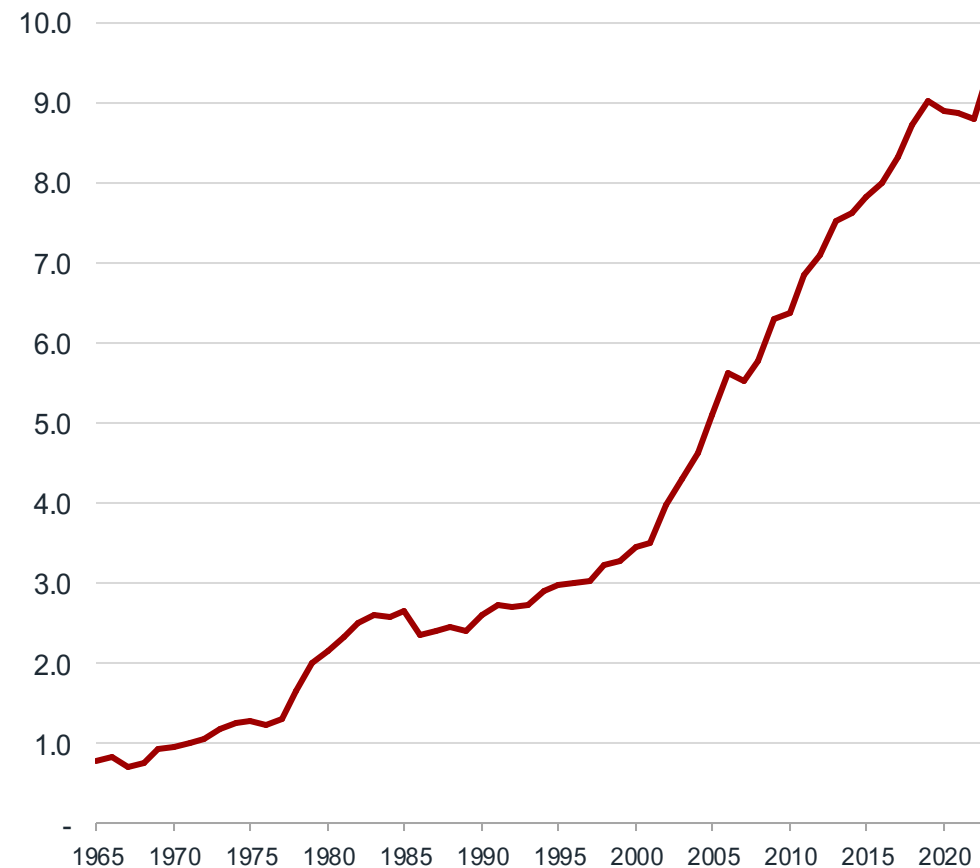
# Mexico's appetite for gas is growing

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- The U.S. gas industry hopes to stimulate further demand growth in Mexico.
- Pipelines that feed Mexican LNG plants can also provide some gas for Mexican domestic consumption.

## Mexican gas consumption

Billion cubic feet per day

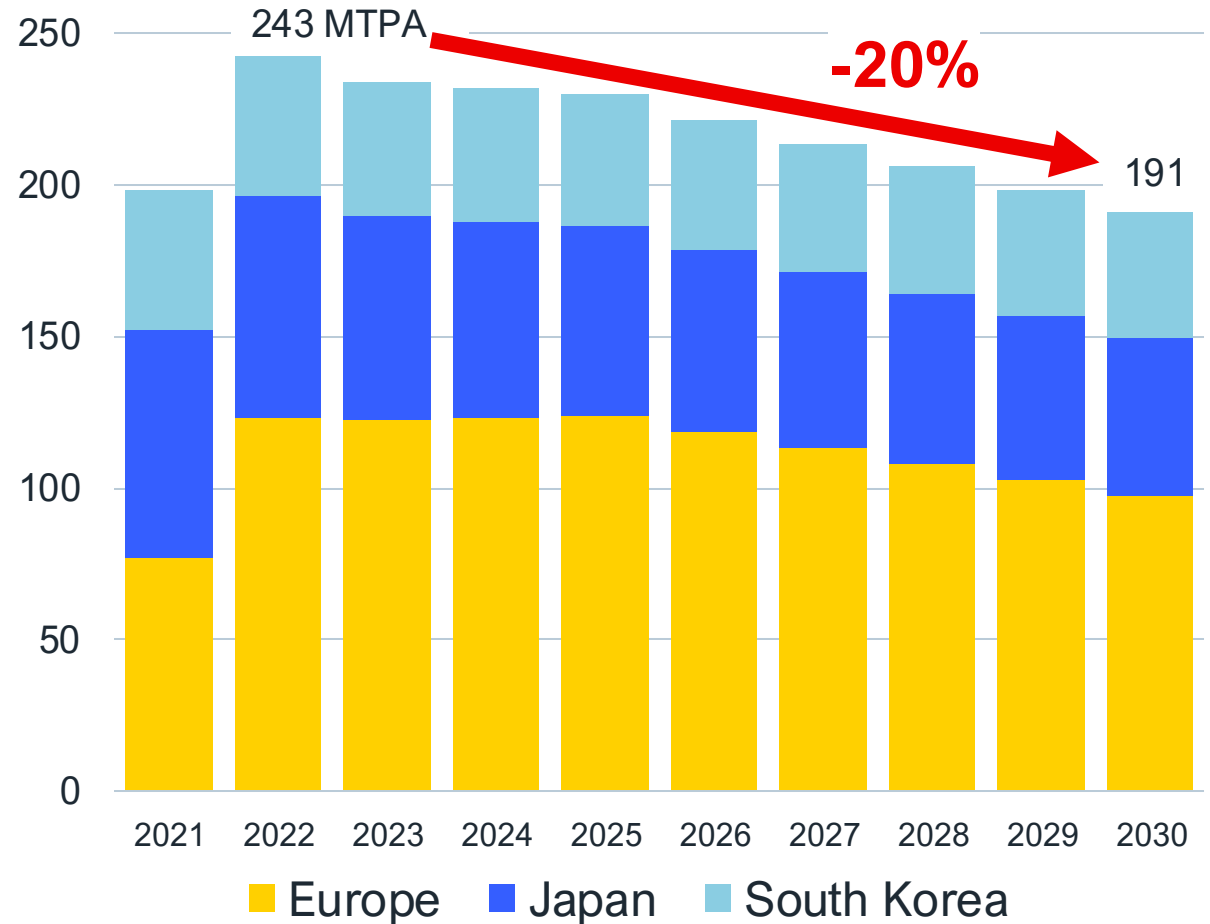


Source: Energy Institute, [Statistical Review of World Energy](#)

# LNG exports face an uncertain future

- Europe, Japan, and South Korea account for 50% of global LNG demand.
- Energy plans in **all three markets** envision long-term declines in LNG demand.
- This chart is already out of date: European LNG demand is down 20% year over year.

Forecasted LNG demand, Europe, Japan, S. Korea  
Million tons per year

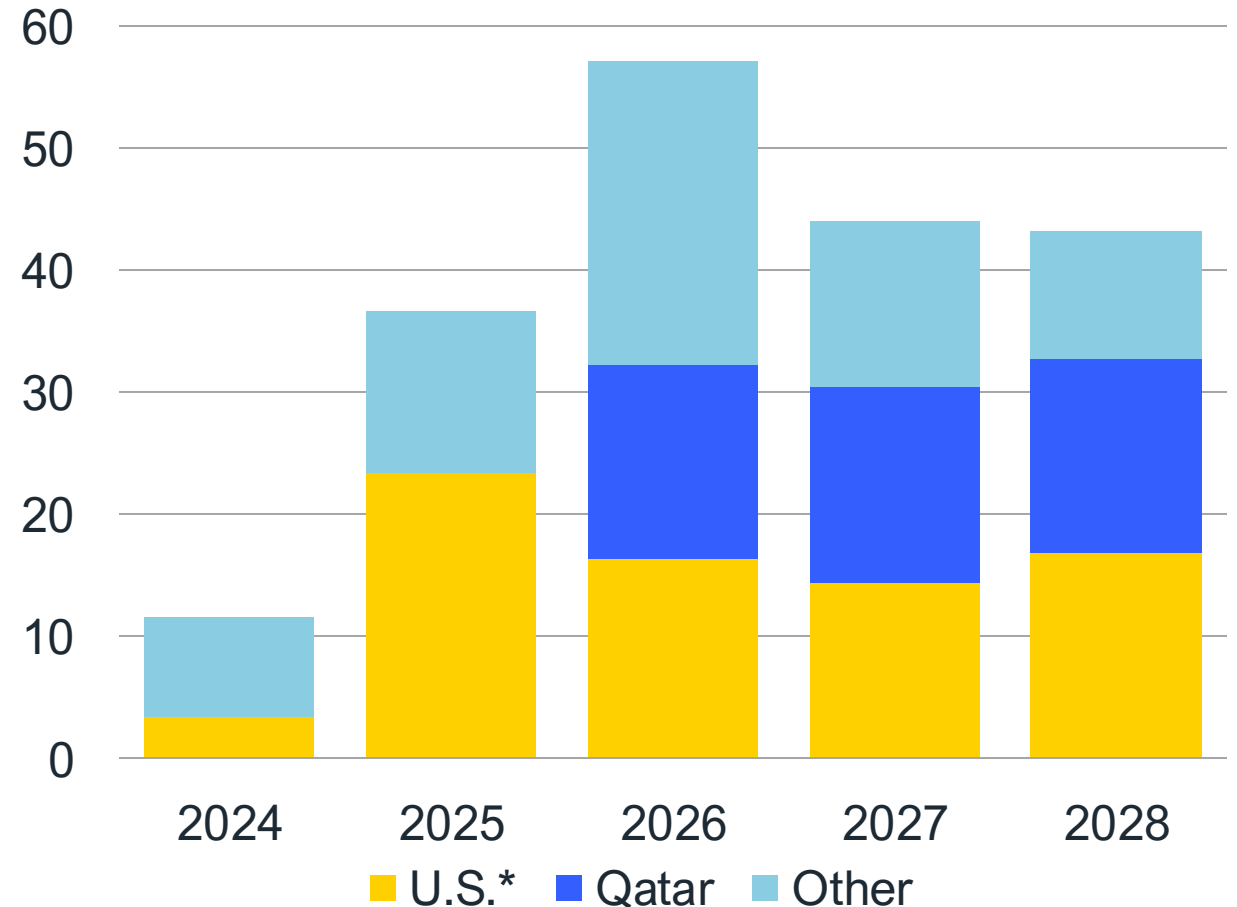


Source: [IEEFA Global LNG Outlook 2024-2028](#)

# Too much LNG within 2 Years

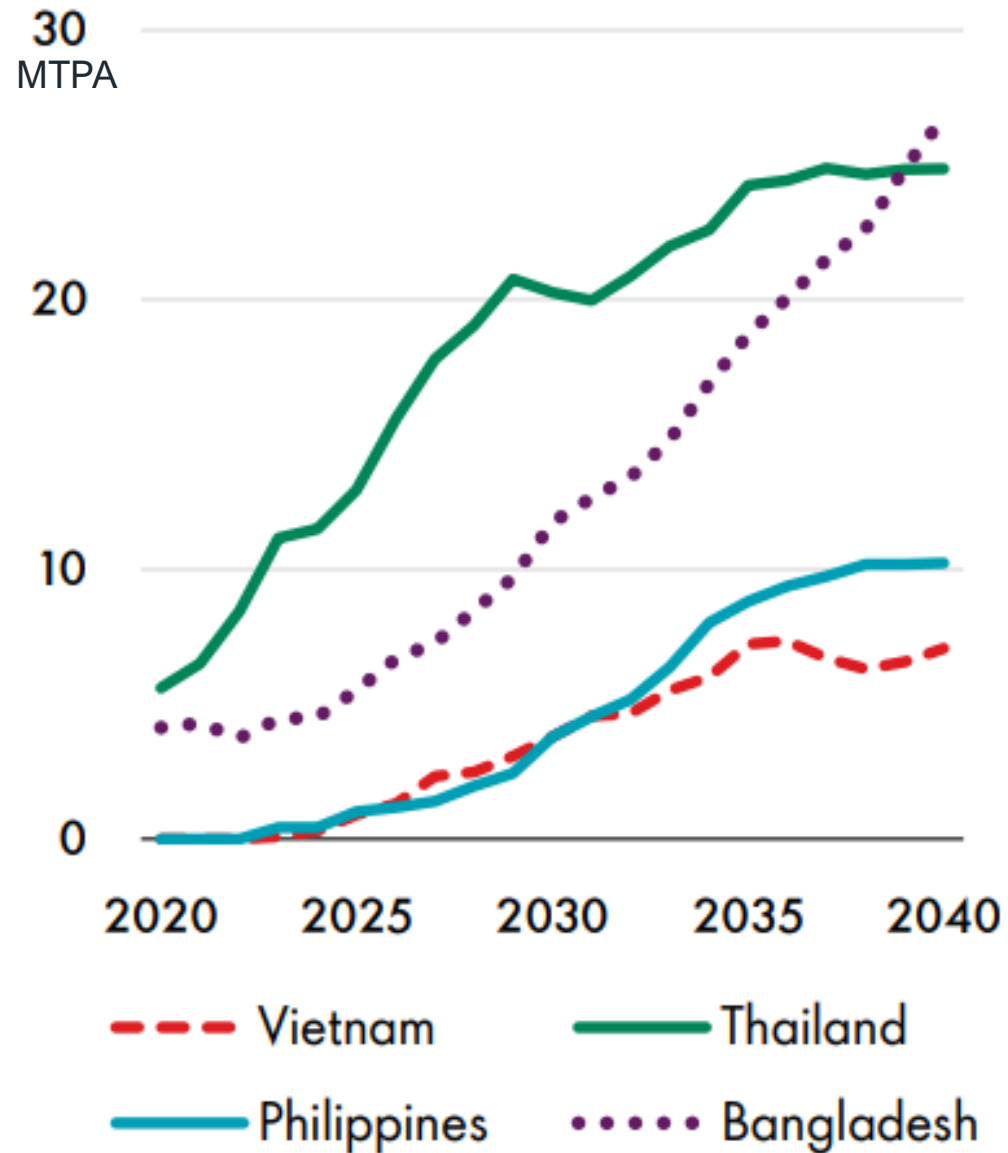
- New supply projects will likely peak in 2026.
- The U.S. and Qatar will add the most.
- Other projects are being built in Australia, Canada, Gabon, Malaysia, Mexico, Nigeria, the Republic of Congo, and Russia.

**Global LNG Supply Additions**  
(Million tons per year of capacity)



Source: IEEFA estimates from IGU, GIIGNL, company reports





Source: Shell LNG Outlook 2024

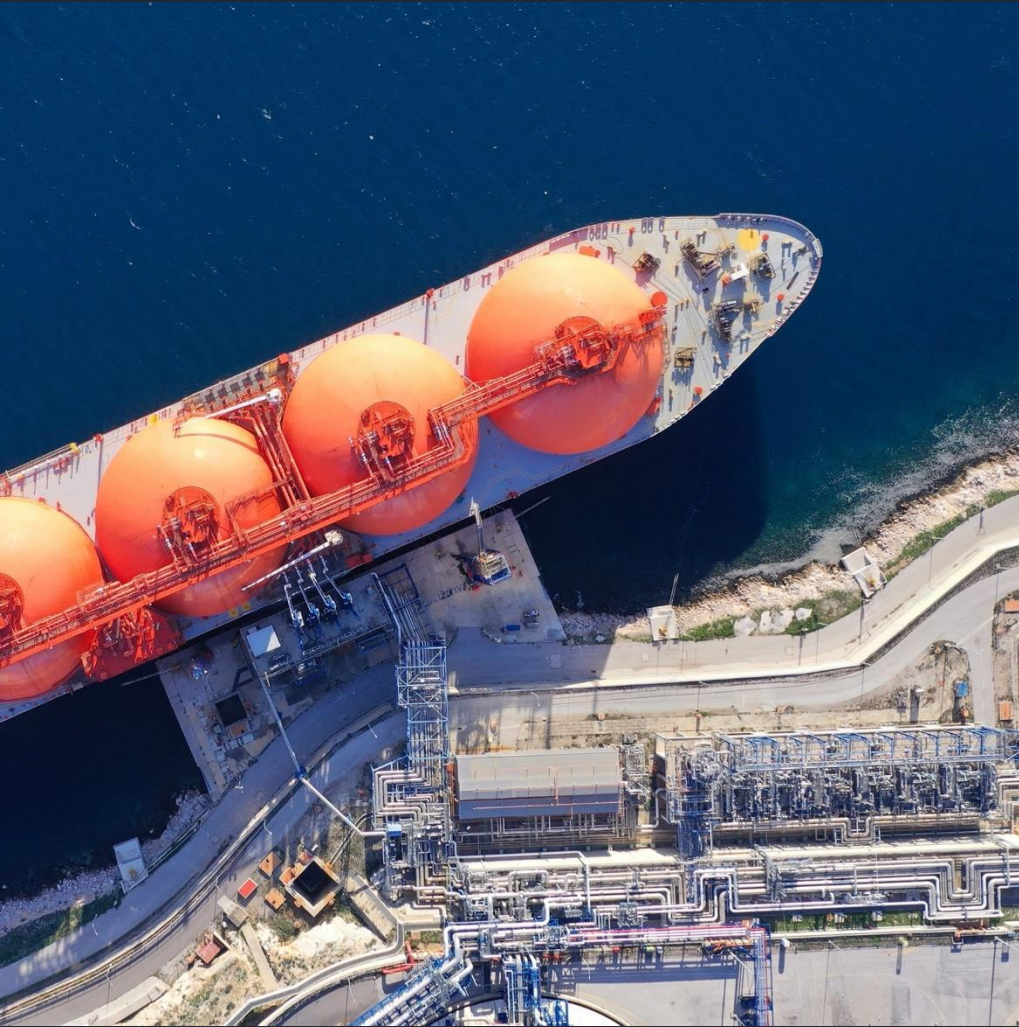
## The LNG industry pins its hopes on developing Asia

However, emerging markets pose new challenges for the LNG industry:

- Less-creditworthy buyers
- Riskier business environments
- Greater price sensitivities
- Extensive project timelines
- Legal uncertainty

# Why all the interest in Mexican LNG plants?

- The U.S. has too much gas.
- The gas industry is under financial pressure because of low prices.
- Boosting LNG exports will help lift U.S. gas prices.
- European gas demand is falling.
- The Panama Canal is not always a reliable route to Asia.
- Mexican gas demand is rising.
- Exports to Mexico can serve two goals: (1) feeding Mexican demand, and (2) finding a reliable export route to Asia.
- **Despite all of this, Mexican LNG exports are a big financial risk.**



# Thank you

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