

Winter Freeze Fueling Natural gas

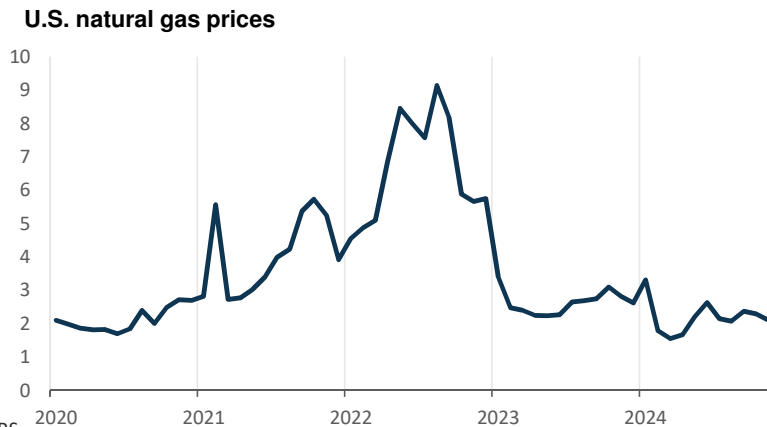


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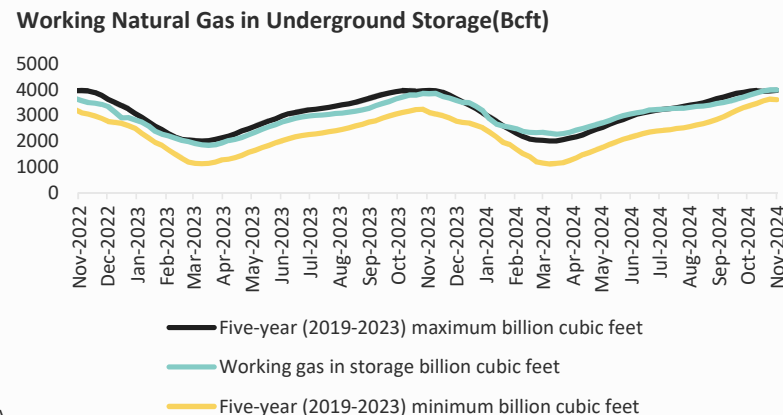
What's Happening!

Natural gas prices, out of woodlocks



Source: RTRS

Natural Gas inventories at 6% above 5 year average

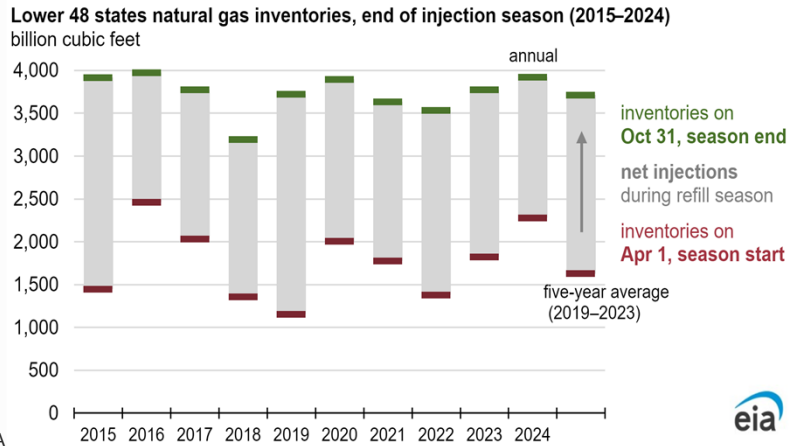


Source: EIA

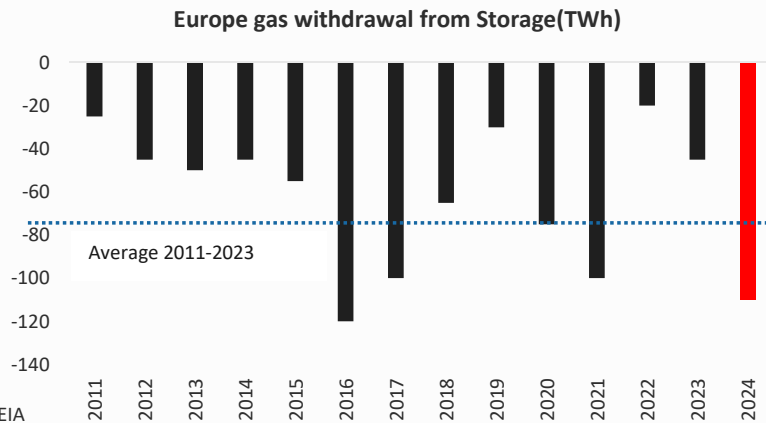
- Global natural gas prices traded positive lifted by colder weather, rising geopolitical tensions
- U.S. natural gas prices are supported by colder weather forecasts for late November into early December, leading to higher heating demand
- Expansion in electricity output in the U.S. is further boosting natural gas usage
- U.S. electricity demand is projected to surge nearly 16% over the next five years, more than triple last year's estimate, driven by new data centres and factories consuming significant power
- Inventories are currently 6% above the five-year (2019–23) average, despite less-than-average injections into storage throughout the entire injection season, which runs April 1 through October 31
- European natural gas prices have reached a fresh one-year high of approximately, supported by concerns over Russian supply and strong demand following a period of unusually cold weather,
- LNG exports have been the largest source of natural gas demand growth in U.S. in recent years
- Expansion of LNG export infrastructure and cargo destination flexibility have positioned the U.S. as the world's largest LNG exporter
- U.S. LNG exports increased by 12% in 2023 compared to the previous year, reaching 11.9 Bcfd, surpassing Qatar and Australia

U.S. Natural Gas inventory

U.S. inventories enter the winter with the most natural gas since 2016



European natural gas storage withdrawals in November, 2nd largest since at least 2011

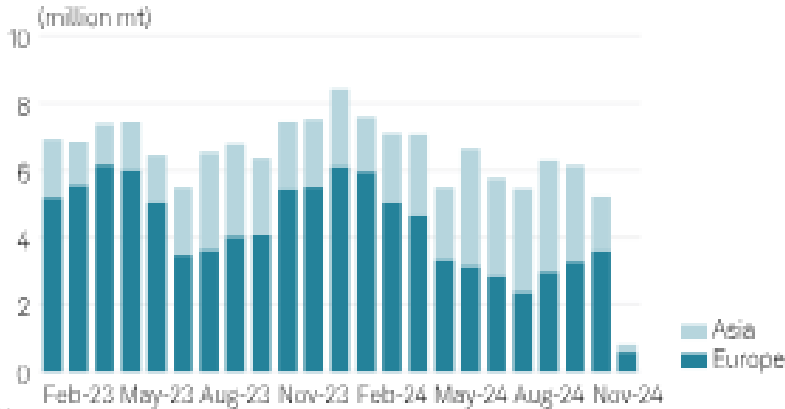


- Natural gas is typically injected in summer, but occasional withdrawals occur, especially in Pacific and South Central regions.
- U.S. inventories are starting winter 2024–25 with the most natural gas since 2016.
- Natural gas were less injected than the five-year average in nearly every week during the 2024 injection season, in part because starting inventories were relatively full.
- Natural gas inventories are expected to remain above the five-year average throughout winter.
- Net injections during the injection season totaled 1,640 Bcf, 21% below the five-year average.
- EIA forecasts 1,957 Bcf of natural gas withdrawals for the 2024–25 heating season
- Projected inventories at the end of March 2025 are expected to be 6% above the five-year (2020–24) average
- European natural gas storage withdrawals in November were the 2nd largest since at least 2011 (and about double the long-term average)
- Increased demand from Europe could cause demand for LNG to rise as Europe could turn to the U.S. to replace Russian natural gas deliveries.

U.S. LNG export

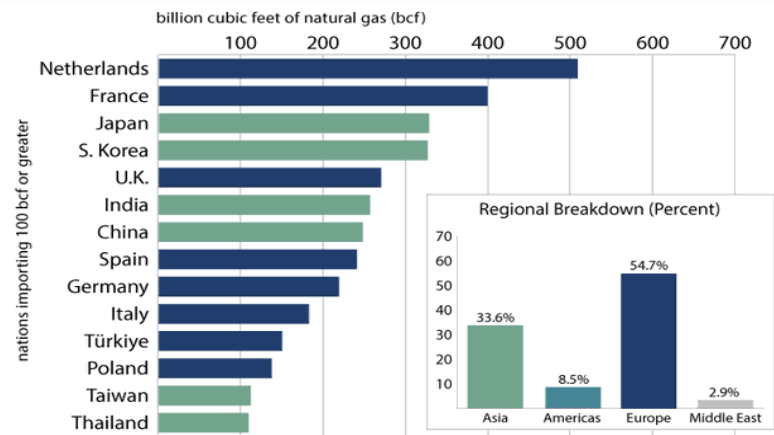
Strong LNG demand = support to prices

US LNG exports to Europe and Asia



Source: EIA

Top LNG Destinations



Source: EIA

- International demand for U.S. liquefied natural gas (LNG) has steadily increased, with Europe relying heavily on American LNG to replace reduced Russian supplies
- U.S. LNG exports are approaching record highs, averaging around 13 bcfd
- The strong export demand, combined with declining domestic production, has tightened the U.S. LNG market
- U.S. became the world’s largest LNG supplier in 2023, surpassing Australia and Qatar
- Higher global LNG prices, supply disruptions, and sanctions linked to Russia's invasion of Ukraine have boosted U.S. LNG export demand
- U.S. LNG exporters are keen to maintain market share in Europe as the cost of serving European buyers is far lower compared to customers in Asia, due to far longer journey times to buyers in Japan, China and South Korea
- Industry leaders are calling for an end to the permitting pause and streamlined regulations to support continued growth in the U.S. LNG sector
- EIA projects U.S. LNG exports to average 12.1 Bcfd in 2024 and 13.8 Bcfd by 2025

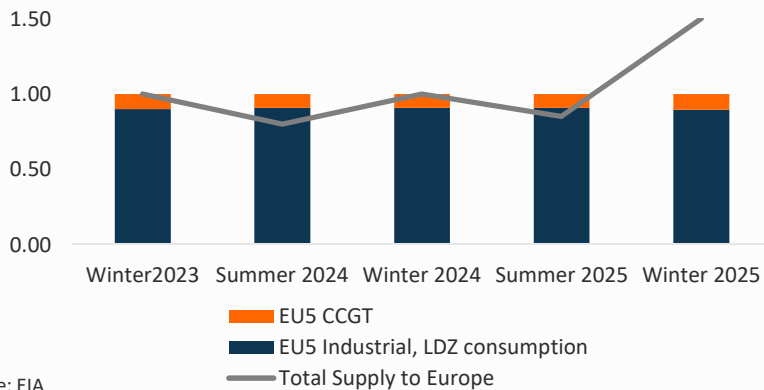
EU Natural Gas Approaches 1-Year High

Europe TTF prices, supporting NYMEX natural gas prices



Source: Terminal

Total gas demand in EU5 market set to rise in Winter 2025 (Billion cu M/d)

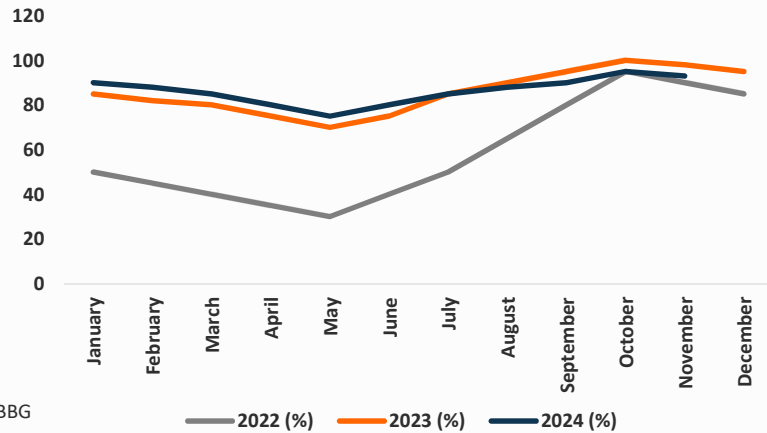


Source: EIA

- European natural gas prices rallied, with the TTF benchmark reaching October 2023 levels.
- Unseasonably cold weather in the Northern Hemisphere sharply increased heating demand
- The price rally is fueled by supply disruptions, geopolitical tensions, and colder-than-expected weather
- European supply remains uncertain amid Russia-Ukraine war impacts and disputes involving Gazprom and Austrian OMV
- Russian gas flows via Ukraine are stable but lower than before the supply halt; these flows are expected to cease by December
- European gas storage is at 88% capacity, 10% lower than the same time last year.

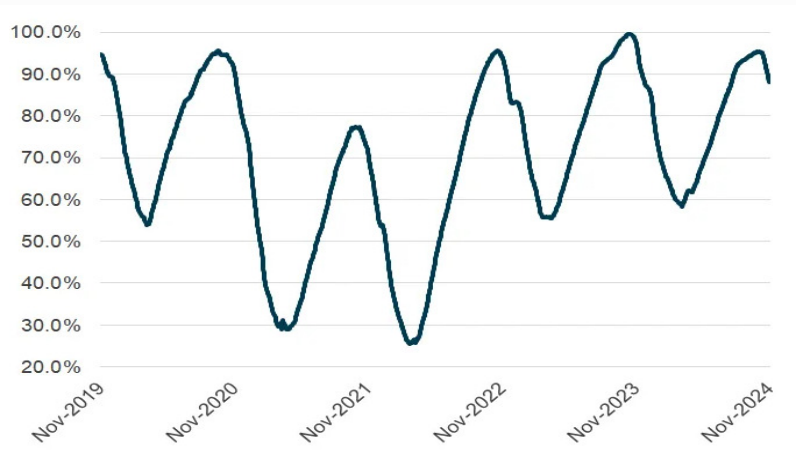
Europe Scrambles for Supply

Europe Gas inventories ready for mild winters



Source: BBG

Europe Natural gas inventories at risky juncture(% full for 5 Year)

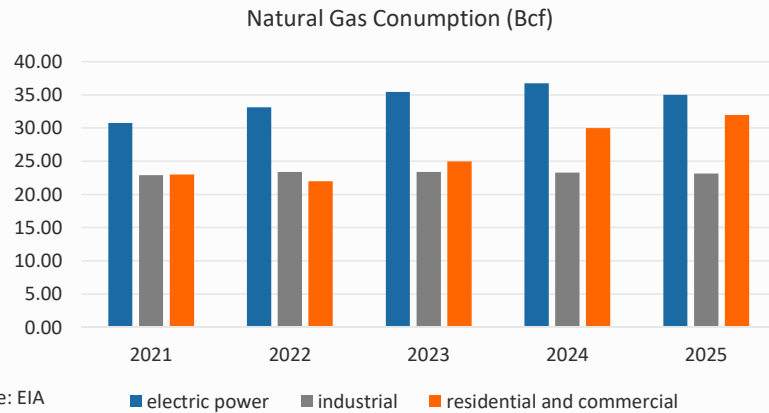


Source: Twitter

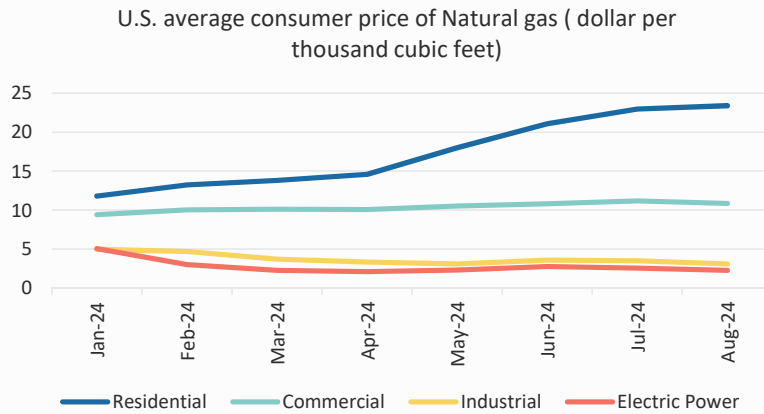
- Key markets like the Netherlands already have storage levels in the low 80% range
- European gas inventories were 92.58% full, down from 99.37% at the same time last year
- The average rate of withdrawals this winter is 0.039%, contrasting with the 0.09% injection rate observed last year during the same period
- Rising winter demand, reduced output, and increased exports to Europe are driving a surge in U.S. natural gas prices
- Record-high storage levels exist, but concerns about future supply security persist as demand exceeds production
- Growing natural gas demand from data centers is expected to further tighten the market and sustain price increases
- Germany, as the rest of Europe, gets a lot of gas in liquefied form from the United States, driving demand there higher

Strong Demand

Strong residential and power demand, supporting prices



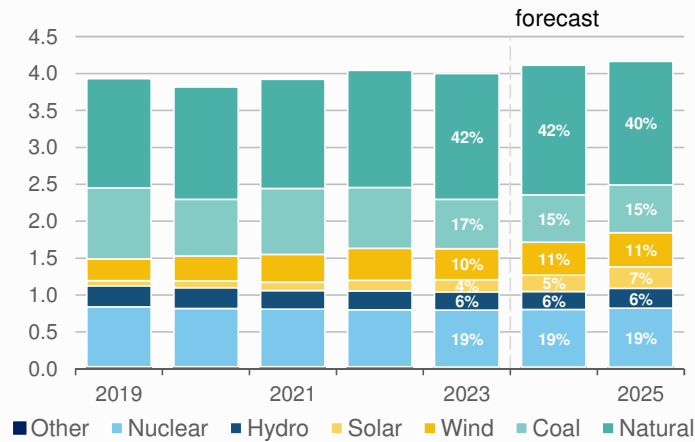
Higher prices due to high demand for natural gas in Winters



- U.S. natural gas consumption in the residential and commercial sectors this winter, which largely reflects space heating, to average 36Bcf/d, 4% more than last winter and close to the five-year (2019–2023) average
- Winter weather events or prolonged low temperatures could increase consumption of natural gas by the residential and commercial sectors
- U.S. sales of 2% more electricity this winter compared with last winter
- The increase is led by 3% more sales to residential customers because of colder weather than last winter
- Although the winter heating season got off to a warm start in November, overall this winter to be colder than last year, with 6% more heating degree days

Demand Centres

U.S. electricity generation by source trillion kilowatthours



Source: EIA

Consumption support from Sectors

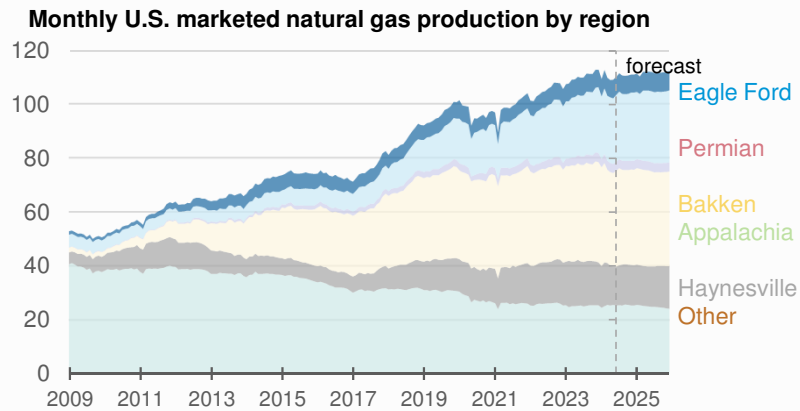
	Consumption (bcfd)				
	2021	2022	2023	2024	2025
Particulars					
Electric power	30.76	33.13	35.43	35.95	34.83
Industrial	22.94	23.39	23.39	23.25	22.94
Residential and commercial	21.93	23.21	21.35	21.58	22.41
Total	83.96	88.46	89.10	89.75	89.22

Source: RTRS

- Natural gas electricity generation grew by 3% in 2024 due to low fuel prices
- Solar power generation increasing from expanded U.S. generating capacity
- Anticipated 5% reduction in natural gas generation between 2024 and 2025 as prices rise
- U.S. electricity demand is expected to surge nearly 16% over the next five years, driven by data centres and factories
- Renewable energy output decreased by lower wind speeds in the U.S. and Europe
- Increased reliance on natural gas-fired power plants due to reduced renewable generation
- EIA forecasts a 2% increase in electricity sales this winter compared to last. 3% more residential electricity sales expected from colder weather
- Winter heating season projected to have 6% more heating degree days despite a warm November start.

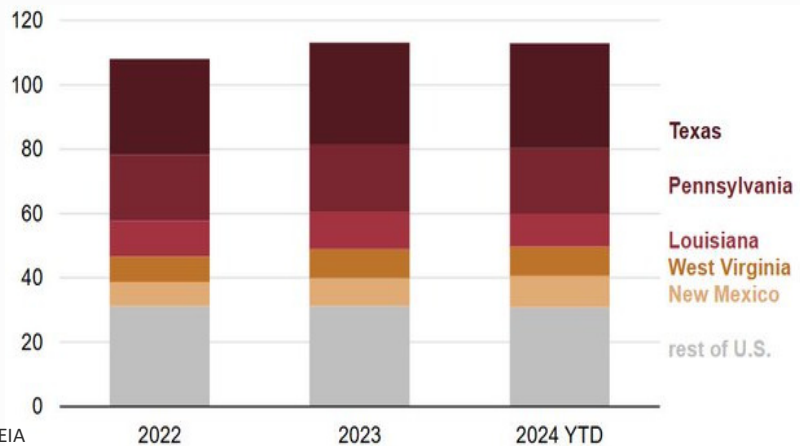
Flat U.S. production

Flat U.S. production, supporting natural gas prices



Source: EIA

Five states drove record U.S. natural gas production in 2023



Source: EIA

- U.S. marketed natural gas production in 2024 remained flat at an average of 113 Bcf/d compared to 2023
- Early 2024 production cuts by shale and tight formation gas producers resulted in lower output compared to 2023
- Production in the Permian Basin increased in 2024, despite overall flat output in other regions
- Haynesville and Appalachia production was impacted by record-low natural gas prices early in 2024, leading to curtailed output
- Permian Basin gas production, linked to crude oil production, grew amid low natural gas prices
- 2025 production forecast: 114 Bcf/d average, a 1% increase, driven by 6% growth in the Permian region and 5% growth in Eagle Ford
- Slight production declines expected in the Appalachian Basin and other U.S. regions in 2025
- Rig count has decreased since its 2022 high of 166 rigs, down from the pandemic low of 68 rigs in July 2020.

- Natural gas prices have been volatile but are expected to stabilize and rise modestly through 2025
- Market outlook will be influenced by global economic recovery, geopolitical dynamics, and climate conditions
- A long, cold winter could challenge the perception of a natural gas surplus
- Prices are rallying due to colder weather, increased heating demand in the U.S., and strong LNG shipments
- In the U.S., winter demand, high LNG exports, and strong storage levels will influence prices, while concerns over production sustainability and rising demand from sectors like data centers may push prices up
- Europe will continue to be a major driver of natural gas demand as the gas that Europe is using to generate power is the same gas that much of Asia has come to rely on for its winter needs: U.S. liquefied natural gas
- Colder weather could increase heating demand and reduced Russian Natural Gas reliance may lead to further price hikes. The ongoing energy transition toward renewables and efficiency will also impact long-term supply and demand
- **U.S. Natural gas markets are expected to remain positive and expected to touch levels MCX Rs. 400 and dip buying is advice.**

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