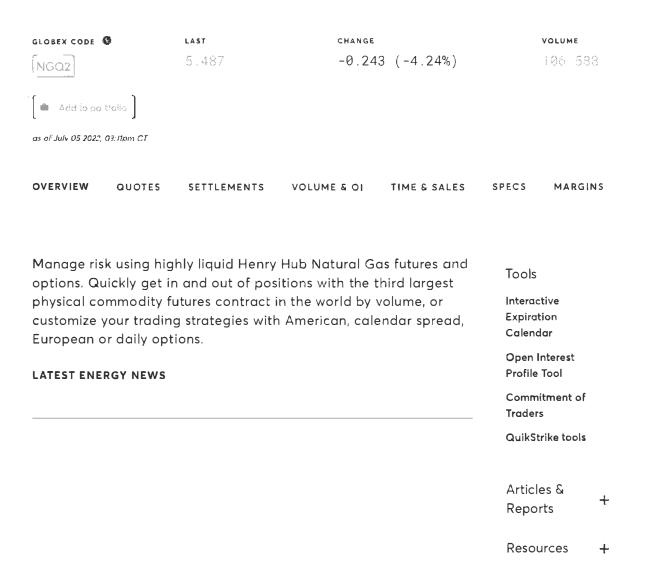
← Platural Gas View on Energy Product

## Henry Hub Natural Gas

**Futures and Options** 



## Features and benefits

Deep, liquid market	Capital efficiency	Physical settlement		
400K contracts are traded daily, with 1.4M of open interest.	Control a large contract value with a small amount of capital. Used properly, it's a powerful way to increase capital efficiency	NYMEX NG futures are closely connected to the spot market, reducing slippage.		
Trading-at-Settlement	Global benchmark	Nearly 24-hour electronic 000201 access		

OVERVIEW

QUOTES

**SETTLEMENTS** 

**VOLUME & OI** 

Page 2 of

utu

MONTH

OPEN

HIGH

LOW

CHANGE

SETTLE

# Henry Hub Natural Gas

Futures and Options

GLOBEX CODE

LAST

CHANGE

VOLUME

NGQ2

6 167

-0.259 (-4.03%)

59., 759

Add to portfolio

as of July 12 2022, 10:05am CT

## **HENRY HUB NATURAL GAS FUTURES - SETTLEMENTS**

TRADE DATE TUESDAY 12 JUL 2022 ▼

#### PRELIMINARY DATA •

Last Updated 12 Jul 2022 09:30:00 AM CT

**ESTIMATED VOLUME TOTALS** 

60,731

PRIOR DAY OPEN INTEREST TOTALS

976,728

MONTH	OPEN	HIGH	LOW	LAST	CHANGE	SETTLE	EST. VOLUME	PRIOR DAY OI
AUG 22	6.525	6.786	6.453	6.595	UNCH	:#X	25,961	76,360
SEP 22	6.395	6.647	6.331	6.439	UNCH	25	13,445	145,963
OCT 22	6.341	6.620	6.315	6.403A	UNCH	-	6,652	90,697
NOV 22	6.457	6.709	6.404	6.490A	UNCH	-	4,059	63,087
DEC 22	6.597	6.800B	6.501	6.586A	UNCH		2,445	51,614
JAN 23	6.635	6.873B	6.572	6.668	UNCH	-	3,593	69,404
FEB 23	6.362	6.600B	6.321	6.433B	UNCH	i <del>se</del>	1,103	31,924
MAR 23	5.585	5.754B	5.558	5.637B	UNCH		964	48,472
APR 23	4.610	4.653B	4.571	4.625B	UNCH	rian	923	66,387 00020

DG 21-130

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TIME & SALES FUTU

Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty Winter 2021/2022 Cost of Gas and Summer 2022 Cost of Gas DOE EXHIBIT 52

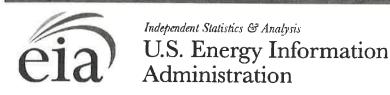
SETTLEMENTS

**VOLUME & OI** 

QUOTES

OVERVIEW

MONTH HIGH LOW CHANGE OPEN LAST SETTLE **JUN 23** 4.580 4,606 4.534 4.585B UNCH 292 20,657 JLY 23 UNCH 185 20,009 4.628 4,664B 4.600 4.644 4.683B UNCH 182 16,642 AUG 23 4.649 4.625 4.663B SEP 23 4.660 4.675 4.652B UNCH 128 15,704 4.616A OCT 23 4.700 4.725B 4.670A 4.700A UNCH 128 41,091 NOV 23 4.880 4.892B 4.879 4.888B UNCH 39 12,292 **DEC 23** 5.144 5.146B 5.136 5.146B UNCH 14 11,905 UNCH ~ : 14 18,630 JAN 24 5.297 5.297 5.243A 5.273 UNCH 7,586 FEB 24 5.121B 1 MAR 24 4.773B UNCH 1 15,660 4.245 UNCH 13,490 APR 24 4.240 4.240 4.240A 113 UNCH 0 6,437 MAY 24 2,385 **JUN 24** UNCH 0 JLY 24 UNCH 0 2,126 AUG 24 UNCH 0 3,112 **SEP 24** UNCH 0 1,593 **OCT 24** UNCH 100 8,116 UNCH 0 4,707 NOV 24 **DEC 24** UNCH 0 7,127 0 14,724 **JAN 25** UNCH 0 841 FEB 25 UNCH UNCH MAR 25 0 4,447 APR 25 UNCH 0 4,557



June 2022

## **Short-Term Energy Outlook**

## Forecast highlights

### Global liquid fuels

- The June Short-Term Energy Outlook (STEO) is subject to heightened levels of uncertainty resulting from a variety of factors, including Russia's full-scale invasion of Ukraine. Global macroeconomic assumptions in STEO are from Oxford Economics and include global GDP growth of 3.1% in 2022 and 3.4% in 2023, compared with growth of 6.0% in 2021. A range of potential macroeconomic outcomes could affect energy markets in the forecast period. Factors driving energy supply uncertainty include how sanctions affect Russia's oil production, the production decisions of OPEC+, and the rate at which U.S. oil and natural gas producers increase drilling.
- The Brent crude oil spot price averaged \$113 per barrel (b) in May. We expect the Brent price will average \$108/b in the second half of 2022 (2H22) and then fall to \$97/b in 2023. Current oil inventory levels are low, which amplifies the potential for oil price volatility. Actual price outcomes will largely depend on the degree to which existing sanctions imposed on Russia, any potential future sanctions, and independent corporate actions affect Russia's oil production or the sale of Russia's oil in the global market.
- We forecast Russia's production of total liquid fuels will decline from 11.3 million b/d in the first quarter of 2022 (1Q22) to 9.3 million b/d in 4Q23. This STEO incorporates the recently announced EU ban of seaborne crude oil and petroleum product imports from Russia. We assume the crude oil import ban will be imposed in six months and the petroleum product import ban in eight months. This forecast does not reflect restrictions on shipping insurance, as details regarding such restrictions were not available when we finalized this forecast on June 2. The possibility that these sanctions or other potential future sanctions reduce Russia's oil production by more than expected creates upward risks for crude oil prices during the forecast period.
- At its June 2 meeting, OPEC+ announced an upward adjustment of production targets for July and August. We updated our forecast to reflect these targets. We expect OPEC crude oil production to average 29.2 million b/d in 2H22, up 0.8 million b/d from 1H22.
- The U.S. average retail price for regular grade gasoline averaged \$4.44 per gallon (gal) in May, and the average retail diesel price was \$5.57/gal. Rising prices for gasoline and diesel reflect refining margins for those products that are at or near record highs amid

low inventory levels. We expect the gasoline wholesale margins (the difference between the wholesale gasoline price and Brent crude oil price) to fall from \$1.17/gal in May to average 81 cents/gal in 3Q22, and we expect retail gasoline prices to average \$4.27/gal in 3Q22. Diesel wholesale margins in the forecast fall from \$1.53/gal in May to \$1.07/gal in 3Q22, and retail diesel averages \$4.78/gal in 3Q22.

U.S. refinery utilization averages 94% in 3Q22 in our forecast, as a result of high
wholesale product margins. Despite our expectation that refinery utilization will be at or
near the highest levels in the past five years, operable refinery capacity is about 900,000
b/d less than at the end of 2019, and as a result, we do not expect total refinery output
of products to reach its highest level in the past five years. Although we expect high
refinery utilization will help bring wholesale margins down from record levels.

#### Natural gas

- We expect the Henry Hub spot price to average \$8.69 per million British thermal units (MMBtu) in 3Q22, up from an average of \$8.13/MMBtu in May. Natural gas prices are rising mainly because of three factors: natural gas inventories that are below the five-year average, steady demand for U.S. liquefied natural gas (LNG) exports, and high demand for natural gas from the electric power sector given limited opportunities for natural gas-to-coal switching. In 2023, we expect the Henry Hub price will average \$4.74/MMBtu amid rising natural gas production.
- U.S. natural gas inventories ended May at 2.0 trillion cubic feet (Tcf), which is 15% below the five-year average. We forecast that natural gas inventories will end the 2022 injection season (end of October) at just over 3.3 Tcf, which would be 9% below the five-year average.
- We forecast that U.S. LNG exports will average 11.7 billion cubic feet per day (Bcf/d) during 2Q22 and 3Q22 and 11.9 Bcf/d for all of 2022, a 22% increase from 2021, as a result of additional U.S. LNG export capacity that has come online. Since the end of 2021, the EU and the UK imported record-high LNG volumes because of low natural gas inventories. Europe has become the main destination for U.S. LNG exports and accounted for 74% of total U.S. LNG exports during the first four months of 2022. We forecast LNG exports will average 12.6 Bcf/d in 2023. Expected growth in LNG exports in 2023 results from LNG export terminals that came online in mid-2022 being operational for the whole year in 2023.
- U.S. consumption of natural gas in our forecast averages 85.3 Bcf/d in 2022, up 3% from 2021. Rising U.S. natural gas consumption reflects increased consumption across all sectors. In the residential and commercial sectors, increasing consumption results from colder temperatures in 2022 than in 2021, and in the industrial sector, rising economic activity contributes to higher consumption. Limited natural gas-to-coal switching in the

- electric power sector, despite high natural gas prices, results in increased consumption of natural gas for power generation. For 2023, we forecast that natural gas consumption will average 85.1 Bcf/d, about the same as 2022.
- We forecast U.S. dry natural gas production to average 95.7 Bcf/d in June and to average 97.9 Bcf/d in 2H22, which would be 2.7 Bcf/d (3%) more than in 2H21. We expect dry natural gas production to average 101.6 Bcf/d in 2023.

#### Electricity, coal, renewables, and emissions

- The largest increases in U.S. electricity generation in the next two years are likely to come from renewable energy sources, driven by expanded generating capacity from these sources. We expect renewable energy will provide 22% of U.S. generation in 2022 and 24% in 2023, up from a share of 20% last year. Solar capacity additions in the electric power sector total 20 gigawatts (GW) for 2022 and 22 GW for 2023. Solar PV installation delays from 2022 to 2023 account for about 1 GW of the expected installed solar capacity. We expect that small-scale (systems less than 1 GW) solar capacity will grow to a total of 39 GW by the end of 2022 and to 46 GW in 2023. We estimate that wind capacity additions in the U.S. electric power sector will total 11 GW in 2022 and 5 GW in 2023.
- The continued retirement of coal-fired generating capacity in the United States contributes to our forecast that the share of electricity generation from coal will decline from 23% in 2021 to 21% in 2022 and to 20% in 2023. The coal fleet has been facing constraints in raising its share of generation despite high natural gas prices. The constraints include limited rail capacity for fuel delivery, low coal stocks at power plants, reduced coal mining capacity, and rising generation from renewable sources.
- Although we expect annual U.S. natural gas fuel costs for electricity generators will increase 59% in 2022, we do not expect a significant decline in generation from natural gas-fired power plants because of the limited ability of coal power plants to act as an alternative source of generation. We forecast the U.S. natural gas generation share will average 37% in 2022, about the same as last year. The forecast natural gas share averages 36% in 2023 as the share of generation from renewable sources increases.
- We forecast the U.S. residential electricity price will average 14.6 cents/kWh between June and August 2022, up 4.8% from summer 2021. The forecast summer commercial sector price averages 12.0 cents/kWh (up 4.7%) and the forecast industrial sector price averages 7.7 cents/kWh (up 3.2%). Higher retail electricity prices largely reflect higher wholesale power prices and higher natural gas prices. We expect the summer increases in retail residential electricity prices will range from an increase of 2.4% in the West South Central region to a 16.1% increase in New England.