



Weekly Update 04/26/2021

Market News

In the News:

Natural gas storage inventories in Europe enter injection season 11% below the five-year average

Working natural gas inventories in Europe as of March 31, 2021—the traditional end of the winter heating season—totaled 1,087 billion cubic feet (Bcf), or 31% of capacity, according to data from the Gas Infrastructure Europe's (GIE) Aggregated Gas Storage Inventory (AGSI+). This year's end-of-season inventories in Europe were 11% (133 Bcf) lower than the previous five-year (2016–2020) average and 44% lower than record-high storage inventories last year. Working natural gas inventories in Europe at the end of March 2021 were the third-lowest reported in 11 years of publicly available natural gas storage data published by AGSI+. The lowest reported end-of-season working natural gas stock level for March was in 2018 at 620 Bcf.

Europe's natural gas inventories entered the winter heating season in November 2020 at 3,423 Bcf (95% full)—the second-highest end-of-injection season storage level in Europe in over a decade—but declined rapidly in January and February 2021 because of extended periods of cold weather, particularly in Northwest Europe. In February, cold weather prompted record withdrawals from storage amounting to 713 Bcf—one of Europe's largest monthly stock draws in recent years—which was 29% higher than the five-year average February stock draw.

Regionally, the European natural gas pipeline grid is not fully integrated between northern and southern parts, so countries have to rely on domestic natural gas storage and LNG imports to meet peak demand, particularly in winter months. As weather-driven demand for space heating from the residential and commercial sectors increased in Europe in the later months of winter 2020–2021, and domestic natural gas storage in several countries was getting rapidly depleted, additional flexible natural gas supplies, including imports of liquefied natural gas (LNG), were required to meet growing demand. Europe's LNG imports have been increasing since February 2021, and a combined LNG send out from Europe's import terminals grew from 5.0 Bcf/d in January (monthly average) to 7.0 Bcf/d in February, 9.2 Bcf/d in March, and 11.1 Bcf/d in April, according to data from the GIE's Aggregated LNG Storage Inventory (ALSI).

The United States has played a major role in supplying the recent increase in LNG imports to Europe because the United States is the world's largest supplier of flexible LNG volumes, which suppliers of U.S. LNG can ship on a spot basis to various markets worldwide. Throughout 2020 and in January 2021, more than half of U.S. LNG exports were shipped to Asia because a prolonged period of extremely cold weather and unplanned outages at LNG export facilities in several countries reduced global LNG supply and led to record-high spot LNG prices in Asia. In February 2021, more than half (4.2 Bcf/d or 55% of the total) of U.S. LNG exports went to Europe, according to the U.S. Department of Energy's LNG Monthly Report. U.S. Energy Information Administration estimates that of the 10.5 Bcf/d of LNG shipments that left the United States in March 2021 and reached a destination country as of April 20, 2020, 4.1 Bcf/d arrived in Europe.

(Continued)



Weekly Update 04/26/2021

Weekly Weather Outlook

10 Day Weather - Oklahoma City, OK

As of 10:07 am CDT

Wind Advisory >

| | | | | | | |
|--------|---------|--|--------------------|-----|------------|---|
| Today | 84°/65° | | Mostly Cloudy/Wind | 1% | S 24 mph | ▼ |
| Tue 27 | 81°/62° | | PM Thunderstorms | 58% | S 18 mph | ▼ |
| Wed 28 | 75°/55° | | Thunderstorms | 88% | S 12 mph | ▼ |
| Thu 29 | 72°/48° | | AM Clouds/PM Sun | 24% | N 19 mph | ▼ |
| Fri 30 | 74°/53° | | Sunny | 11% | N 10 mph | ▼ |
| Sat 01 | 81°/60° | | Mostly Sunny | 2% | SSW 16 mph | ▼ |
| Sun 02 | 85°/63° | | Partly Cloudy/Wind | 5% | S 22 mph | ▼ |
| Mon 03 | 86°/61° | | Mostly Sunny | 2% | S 20 mph | ▼ |
| Tue 04 | 80°/55° | | Partly Cloudy | 13% | W 15 mph | ▼ |
| Wed 05 | 79°/57° | | Sunny | 10% | E 11 mph | ▼ |
| Thu 06 | 83°/60° | | Mostly Sunny | 17% | S 14 mph | ▼ |
| Fri 07 | 86°/62° | | Partly Cloudy | 10% | S 18 mph | ▼ |
| Sat 08 | 83°/62° | | Partly Cloudy | 24% | SSW 19 mph | ▼ |
| Sun 09 | 81°/60° | | Partly Cloudy | 24% | SSW 18 mph | ▼ |
| Mon 10 | 82°/59° | | Partly Cloudy | 24% | S 17 mph | ▼ |

10 Day Weather - Tulsa, OK

As of 10:23 am CDT

Wind Advisory >

| | | | | | | |
|--------|---------|--|------------------------|-----|------------|---|
| Today | 85°/66° | | Mostly Cloudy/Wind | 1% | S 22 mph | ▼ |
| Tue 27 | 79°/66° | | PM Thunderstorms | 55% | S 16 mph | ▼ |
| Wed 28 | 74°/60° | | Thunderstorms | 90% | S 11 mph | ▼ |
| Thu 29 | 71°/50° | | AM Showers | 31% | N 15 mph | ▼ |
| Fri 30 | 74°/52° | | Sunny | 11% | N 9 mph | ▼ |
| Sat 01 | 81°/59° | | Mostly Sunny | 4% | SSW 13 mph | ▼ |
| Sun 02 | 83°/63° | | Partly Cloudy | 3% | S 19 mph | ▼ |
| Mon 03 | 84°/63° | | Partly Cloudy | 3% | S 18 mph | ▼ |
| Tue 04 | 78°/57° | | Partly Cloudy | 24% | SSW 13 mph | ▼ |
| Wed 05 | 78°/56° | | Mostly Sunny | 18% | WSW 9 mph | ▼ |
| Thu 06 | 79°/59° | | Mostly Sunny | 24% | SSE 11 mph | ▼ |
| Fri 07 | 81°/61° | | Mostly Sunny | 13% | S 15 mph | ▼ |
| Sat 08 | 82°/61° | | Partly Cloudy | 24% | S 16 mph | ▼ |
| Sun 09 | 79°/60° | | Isolated Thunderstorms | 31% | S 15 mph | ▼ |
| Mon 10 | 80°/59° | | AM Thunderstorms | 35% | S 14 mph | ▼ |



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Weekly Weather Outlook

10 Day Weather - Wichita, KS

As of 10:09 am CDT

⚠ Wind Advisory >

| | | | | | |
|--------|---------|---|-----|------------|---|
| Today | 86°/65° |  Partly Cloudy/Wind | 0% | SSW 25 mph | ▼ |
| Tue 27 | 81°/60° |  Mostly Cloudy/Wind | 24% | SSW 20 mph | ▼ |
| Wed 28 | 75°/52° |  Scattered Thunderstorms | 68% | SW 11 mph | ▼ |
| Thu 29 | 72°/45° |  Partly Cloudy | 10% | N 20 mph | ▼ |
| Fri 30 | 75°/52° |  Sunny | 3% | WNW 10 mph | ▼ |
| Sat 01 | 82°/58° |  Mostly Sunny | 2% | SSW 17 mph | ▼ |
| Sun 02 | 86°/60° |  Partly Cloudy | 2% | S 19 mph | ▼ |
| Mon 03 | 86°/58° |  Partly Cloudy | 18% | S 17 mph | ▼ |
| Tue 04 | 73°/52° |  Partly Cloudy | 13% | NNW 15 mph | ▼ |
| Wed 05 | 76°/53° |  Sunny | 5% | NW 13 mph | ▼ |
| Thu 06 | 80°/56° |  Mostly Sunny | 19% | S 16 mph | ▼ |
| Fri 07 | 85°/58° |  Partly Cloudy | 24% | S 18 mph | ▼ |
| Sat 08 | 79°/58° |  Partly Cloudy/Wind | 16% | SSW 21 mph | ▼ |
| Sun 09 | 78°/56° |  Partly Cloudy | 24% | SSW 18 mph | ▼ |
| Mon 10 | 77°/53° |  Partly Cloudy | 24% | SSW 16 mph | ▼ |

10 Day Weather - Kansas City, KS

As of 10:27 am CDT

⚠ Wind Advisory >

| | | | | | |
|--------|---------|--|-----|------------|---|
| Today | 86°/66° |  Partly Cloudy/Wind | 1% | SSW 23 mph | ▼ |
| Tue 27 | 86°/62° |  Mostly Cloudy | 17% | SSW 20 mph | ▼ |
| Wed 28 | 75°/55° |  Thunderstorms | 74% | SSE 8 mph | ▼ |
| Thu 29 | 70°/45° |  Partly Cloudy | 24% | NNW 14 mph | ▼ |
| Fri 30 | 72°/52° |  Sunny | 3% | NW 9 mph | ▼ |
| Sat 01 | 80°/60° |  Mostly Sunny | 3% | SSW 15 mph | ▼ |
| Sun 02 | 81°/60° |  Partly Cloudy | 9% | SSW 16 mph | ▼ |
| Mon 03 | 80°/59° |  Partly Cloudy | 11% | S 13 mph | ▼ |
| Tue 04 | 74°/54° |  Partly Cloudy | 21% | SSW 13 mph | ▼ |
| Wed 05 | 73°/52° |  Partly Cloudy | 18% | NW 11 mph | ▼ |
| Thu 06 | 74°/54° |  Partly Cloudy | 24% | SSW 11 mph | ▼ |
| Fri 07 | 77°/58° |  Partly Cloudy | 24% | S 13 mph | ▼ |
| Sat 08 | 76°/57° |  Partly Cloudy | 24% | S 15 mph | ▼ |
| Sun 09 | 76°/57° |  Partly Cloudy | 24% | SSW 15 mph | ▼ |
| Mon 10 | 75°/54° |  Mostly Cloudy | 24% | SW 13 mph | ▼ |



Weekly Update 04/26/2021

Weekly Natural Gas Storage Report

for week ending April 16, 2021 | Released: April 22, 2021 at 10:30 a.m. | Next Release: April 29, 2021

Working gas in underground storage, Lower 48 states

[Summary text](#) [CSV](#) [JSON](#)

| Region | Stocks billion cubic feet (Bcf) | | | | Historical Comparisons | | | |
|---------------|------------------------------------|----------|------------|--------------|------------------------|----------|-----------------------------|----------|
| | 04/16/21 | 04/09/21 | net change | implied flow | Year ago (04/16/20) | | 5-year average (2016-20) | |
| | | | | | Bcf | % change | Bcf | % change |
| East | 325 | 311 | 14 | 14 | 400 | -18.8 | 309 | 5.2 |
| Midwest | 421 | 414 | 7 | 7 | 492 | -14.4 | 401 | 5.0 |
| Mountain | 118 | 118 | 0 | 0 | 96 | 22.9 | 109 | 8.3 |
| Pacific | 210 | 205 | 5 | 5 | 209 | 0.5 | 203 | 3.4 |
| South Central | 810 | 798 | 12 | 12 | 937 | -13.6 | 849 | -4.6 |
| Salt | 256 | 251 | 5 | 5 | 299 | -14.4 | 268 | -4.5 |
| Nonsalt | 554 | 547 | 7 | 7 | 638 | -13.2 | 582 | -4.8 |
| Total | 1,883 | 1,845 | 38 | 38 | 2,134 | -11.8 | 1,871 | 0.6 |

Totals may not equal sum of components because of independent rounding.

Supply table

Demand table

Daily supply/demand graph

U.S. natural gas supply - Gas Week: (4/15/21 - 4/21/21)

| | Average daily values (Bcf/d): | | |
|-------------------------|-------------------------------|-----------|-----------|
| | this week | last week | last year |
| Marketed production | 102.0 | 102.9 | 103.3 |
| Dry production | 90.6 | 91.4 | 91.9 |
| Net Canada imports | 5.1 | 3.9 | 4.4 |
| LNG pipeline deliveries | 0.1 | 0.1 | 0.1 |
| Total supply | 95.8 | 95.4 | 96.4 |

Source: IHS Markit

Note: LNG pipeline deliveries represent natural gas sendout from LNG import terminals.



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Rigs graph

Rigs table

Rigs

| | Tue, April 13, 2021 | Change from | |
|------------------|---------------------|-------------|-----------|
| | | last week | last year |
| Oil rigs | 344 | 2.1% | -21.5% |
| Natural gas rigs | 94 | 1.1% | 5.6% |

Note: Excludes any miscellaneous rigs

Rig numbers by type

| | Tue, April 13, 2021 | Change from | |
|-------------|---------------------|-------------|-----------|
| | | last week | last year |
| Vertical | 21 | 5.0% | 16.7% |
| Horizontal | 398 | 1.0% | -17.6% |
| Directional | 20 | 11.1% | -28.6% |

Source: Baker Hughes Co.

Temp. table

Average temp.

Diff. b/w average and normal

Temperature – heating & cooling degree days (week ending Apr 15)

| Region | HDD Current | HDD deviation from: | | CDD Current | CDD deviation from: | |
|-----------------|----------------|------------------------|--------------|----------------|------------------------|--------------|
| | | normal | last year | | normal | last year |
| New England | 98 | -44 | -36 | 0 | 0 | 0 |
| Middle Atlantic | 81 | -43 | -33 | 0 | 0 | 0 |
| E N Central | 95 | -32 | -39 | 0 | 0 | 0 |
| W N Central | 129 | 10 | -32 | 0 | -1 | -2 |
| South Atlantic | 32 | -29 | -18 | 20 | 6 | -16 |
| E S Central | 35 | -21 | -29 | 4 | -1 | -6 |
| W S Central | 21 | -5 | -16 | 30 | 11 | -3 |
| Mountain | 126 | 8 | -17 | 9 | 2 | 8 |
| Pacific | 68 | -1 | -23 | 0 | -3 | 0 |
| United States | 77 | -19 | -28 | 8 | 3 | -3 |

Note: HDD = heating degree day; CDD = cooling degree day

Source: National Oceanic and Atmospheric Administration



Weekly Update 04/26/2021

Overview

Overview:

(For the week ending Wednesday, April 21, 2021)

- Natural gas spot prices rose at most locations this report week (Wednesday, April 14 to Wednesday, April 21), in response to rising demand. The Henry Hub spot price rose from \$2.60 per million British thermal units (MMBtu) last Wednesday to \$2.65/MMBtu yesterday.
- At the New York Mercantile Exchange (NYMEX), the price of the May 2021 contract increased 7¢, from \$2.618/MMBtu last Wednesday to \$2.692/MMBtu yesterday. The price of the 12-month strip averaging May 2021 through April 2022 futures contracts climbed 6¢/MMBtu to \$2.899/MMBtu.
- The net injections to working gas totaled 38 billion cubic feet (Bcf) for the week ending April 16. Working natural gas stocks totaled 1,883 Bcf, which is 12% lower than the year-ago level and 1% more than the five-year (2016–2020) average for this week.
- The natural gas plant liquids (NGPL) composite price at Mont Belvieu, Texas, fell by 25¢/MMBtu, averaging \$6.87/MMBtu for the week ending April 21. Propane and butane led the NGPL price decline. The average weekly price of propane fell 8% week over week. U.S. propane consumption also declined last week, according to yesterday's *Weekly Petroleum Status Report*. As the high-vapor-pressure gasoline blending season comes to a close, prices of butane and isobutane fell by 3% and 4%, respectively. The prices of natural gasoline and ethane rose by 3% and 1%, respectively, as recovery in the petrochemical sector continues following winter storm disruptions that shuttered a large share of capacity in mid-February.
- According to Baker Hughes, for the week ending Tuesday, April 13, the natural gas rig count increased by 1 to 94. The number of oil-directed rigs rose by 7 to 344. The total rig count increased for the fifth week in a row, up by 7 from the previous week, and it now stands at 439, the highest level since the first week of May 2020.

Prices/Supply/Demand:

Prices in most markets rise as residential and commercial demand rises significantly week over week. This report week (Wednesday, April 14 to Wednesday, April 21), the Henry Hub spot price rose 5¢ from \$2.60/MMBtu last Wednesday to \$2.65/MMBtu yesterday after hitting a weekly high of \$2.69/MMBtu on Tuesday. The higher Henry Hub price reflects price increases at hubs across most of the Lower 48 states as below-average temperatures drove heating demand significantly higher.

Prices across the Midwest rise in response to unseasonably low temperatures. At the Chicago Citygate, the price increased 12¢ from \$2.56/MMBtu last Wednesday to \$2.68/MMBtu yesterday. The Natural Gas Intelligence Midwest Regional average also rose 12¢, from \$2.50/MMBtu last Wednesday to \$2.62/MMBtu yesterday. Both the Chicago Citygate and the Midwest Regional prices reached a weekly high on Tuesday at \$2.81/MMBtu and \$2.70/MMBtu, respectively. Temperatures across the Midwest were significantly lower than average and an unseasonably late snow storm moved across the region, driving the price increases. On Tuesday, the Chicago daily average temperature dropped to 38°F, which is 14°F below average. Temperatures in Chicago rose only slightly yesterday to a still unseasonably low of 43°F, or 10°F below average.

PG&E Citygate prices in Northern California rise as SoCal Citygate prices in Southern California decline week over week. The price at PG&E Citygate in Northern California rose 18¢, up from \$3.74/MMBtu last Wednesday to a weekly high of \$3.92/MMBtu yesterday. This price increase is largely the result of elevated prices in supply regions. Prices at the natural gas hub in Opal, Wyoming, which supplies the Northern California market via the Ruby Pipeline, increased 11¢ from \$2.63/MMBtu last Wednesday to a weekly high \$2.74/MMBtu yesterday. Demand in the Rocky Mountain region rose as a result of increased heating demand related to colder-than-average temperatures. The price at SoCal Citygate in Southern California decreased 29¢ from \$3.88/MMBtu last Wednesday to \$3.59/MMBtu yesterday after rising to \$4.00/MMBtu last Thursday—the highest level since February 22.

(Continued)



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Overview

The price at SoCal Citygate rose in the middle of last week because of maintenance on the El Paso Natural Gas Company's (El Paso) North Main Line and maintenance-related constraints on deliveries from natural gas storage facilities in Southern California. While SoCalGas reports continuing maintenance at its Honor Rancho gas storage field, maintenance-related constraints on the El Paso North Main Line have decreased.

Northeast prices rise in response to higher space heating demand and to pipeline maintenance. At the Algonquin Citygate, which serves Boston-area consumers, the price went up \$1.78 from \$2.36/MMBtu last Wednesday to a weekly high of \$4.14/MMBtu yesterday. IHS Markit reports that demand in the Northeast rose more than 2 billion cubic feet per day (Bcf/d) week over week as temperatures for most of the week lingered below average, prompting a rise in space heating demand. Supply into the region, particularly north of New York City, was constrained as a result of an outage at the Weymouth compressor station 12 miles northwest of Boston on the Algonquin Gas Transmission, LLC pipeline, prompting Enbridge to declare a *force majeure*. The outage, which has resulted in restricted pipeline flows to delivery points north of the station, has also affected pipeline capacity on the northbound segment between New York City and the Weymouth compressor station. At the Transcontinental Pipeline Zone 6 trading point for New York City, the price increased 32¢ from \$2.25/MMBtu last Wednesday to a weekly high of \$2.57/MMBtu yesterday.

Prices in the Appalachia Basin production region are mixed. The Tennessee Zone 4 Marcellus spot price decreased 45¢ from \$1.97/MMBtu last Wednesday to \$1.52/MMBtu yesterday. The Tennessee Zone 4 price dropped to \$0.59/MMBtu on Friday, its lowest level in more than five months. The Tennessee pipeline moves natural gas north out of the Appalachia Basin and interconnects with the capacity-constrained Algonquin Gas Transmission pipeline at several points south of Boston. Prices at the Dominion South hub, which interconnects with pipelines moving natural gas out of the Appalachia Basin into most major markets, including the Midwest and Northeast, rose in response to higher heating demand. The price at Dominion South in southwest Pennsylvania rose throughout the week, increasing by 27¢ from \$2.05/MMBtu last Wednesday to a weekly high of \$2.32/MMBtu yesterday.

The price in the Permian production region rises with increased demand and higher capacity on the California-bound El Paso pipeline. The price at the Waha Hub in West Texas, which is located near Permian Basin production activities, rose 10¢ week over week, from \$2.40/MMBtu last Wednesday to \$2.50/MMBtu yesterday. The discount between the Waha Hub and the Henry Hub decreased from 20¢/MMBtu last week to 15¢/MMBtu yesterday as capacity constraints on the El Paso pipeline were reduced and more natural gas from the Permian Basin reached the premium Southern California market.

Imports from Canada increase to meet heating demand. According to data from IHS Markit, the average total supply of natural gas rose slightly by 0.4% compared with the previous report week. Dry natural gas production decreased by 0.9% compared with the previous report week, averaging 90.6 Bcf/d. Average net imports from Canada increased by 30.3% from last week. The increase in imports flowed mainly into the midcontinent region as temperatures were far lower than average, increasing heating demand.

Residential and commercial sectors lead the increase in U.S. natural gas consumption. Total U.S. consumption of natural gas rose by 9.8% compared with the previous report week, according to data from IHS Markit. Natural gas consumed for power generation climbed by 2.0% week over week. Industrial sector consumption increased by 3.8% week over week. In the residential and commercial sectors, consumption increased by 29.6% as cooler temperatures in most of the country resulted in increased heating demand. Natural gas exports to Mexico decreased 5.5% from last week's record-high levels but still exceeded 6 Bcf/d. Natural gas deliveries to U.S. liquefied natural gas (LNG) export facilities (LNG pipeline receipts) remained above 11 Bcf/d this report week, averaging 11.6 Bcf/d, or 0.54 Bcf/d higher than last week.

(Continued)



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Overview

U.S. LNG exports are flat week over week. Twenty LNG vessels (eight from Sabine Pass, five from Corpus Christi, three each from Cameron and Freeport, and one from Elba Island) with a combined LNG-carrying capacity of 73 Bcf departed the United States between April 15 and April 21, 2021, according to shipping data provided by Bloomberg Finance, L.P.

Storage:

The net injections into storage totaled 38 Bcf for the week ending April 16, compared with the five-year (2016–2020) average net injections of 37 Bcf and last year's net injections of 47 Bcf during the same week. Working natural gas stocks totaled 1,883 Bcf, which is 12 Bcf more than the five-year average and 251 Bcf lower than last year at this time.

According to *The Desk* survey of natural gas analysts, estimates of the weekly net change to working natural gas stocks ranged from net injections of 37 Bcf to 59 Bcf, with a median estimate of 48 Bcf.

More storage data and analysis can be found on the [Natural Gas Storage Dashboard](#) and the [Weekly Natural Gas Storage Report](#).