Southeastern Ohio Oil and Gas Association
Gas Committee Report
November, 2018

PRICING

Prices November 12, 2018

NYMEX Settle – November -2018 $3.18
One Year NYMEX strip (Dec., 2018 – Nov., 2019) $3.07
Summer NYMEX strip for 2019 (April-October, 2019) $2.78

TCO Index Posting –November, 2018 $2.95
DTI Index Posting – November, 2018 $2.78

Working gas in underground storage, Lower 48 states

<table>
<thead>
<tr>
<th>Region</th>
<th>11/02/18</th>
<th>10/26/18</th>
<th>net change</th>
<th>implied flow</th>
<th>Year ago (11/02/17)</th>
<th>5-year average (2013-17)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Bcf</td>
<td>% change</td>
<td>Bcf</td>
<td>% change</td>
</tr>
<tr>
<td>East</td>
<td>831</td>
<td>826</td>
<td>5</td>
<td>5</td>
<td>925</td>
<td>-10.2</td>
</tr>
<tr>
<td>Midwest</td>
<td>980</td>
<td>956</td>
<td>24</td>
<td>24</td>
<td>224</td>
<td>-11.8</td>
</tr>
<tr>
<td>Mountain</td>
<td>182</td>
<td>180</td>
<td>2</td>
<td>2</td>
<td>317</td>
<td>-16.4</td>
</tr>
<tr>
<td>Pacific</td>
<td>265</td>
<td>262</td>
<td>3</td>
<td>3</td>
<td>334</td>
<td>-24.3</td>
</tr>
<tr>
<td>South Central</td>
<td>949</td>
<td>919</td>
<td>30</td>
<td>30</td>
<td>1,210</td>
<td>-21.8</td>
</tr>
<tr>
<td>Salt</td>
<td>253</td>
<td>234</td>
<td>19</td>
<td>19</td>
<td>334</td>
<td>-24.3</td>
</tr>
<tr>
<td>Nonsalt</td>
<td>696</td>
<td>686</td>
<td>10</td>
<td>10</td>
<td>876</td>
<td>-21.5</td>
</tr>
<tr>
<td>Total</td>
<td>3,208</td>
<td>3,143</td>
<td>65</td>
<td>65</td>
<td>3,788</td>
<td>-15.3</td>
</tr>
</tbody>
</table>

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

Working gas in storage was 3,208 Bcf as of Friday, November 2, 2018, according to EIA estimates. This represents a net increase of 65 Bcf from the previous week. Stocks were 580 Bcf less than last year at this time and 621 Bcf below the five-year average of 3,829 Bcf. At 3,208 Bcf, total working gas is below the five-year historical range.

Working gas in underground storage compared with the 5-year maximum and minimum

![Graph showing working gas in underground storage compared with the 5-year maximum and minimum.](image)

Source: U.S. Energy Information Administration

Note: The shaded area indicates the range between the historical minimum and maximum values for the weekly series from 2013 through 2017. The dashed vertical lines indicate current and year-ago weekly periods.

EIA WEEKLY REPORT OCTOBER 4, 2018:

Natural Gas

Northeast prices increase. At the Algonquin Citygate, which serves Boston-area consumers, prices went up 86¢ from $2.90/MMBtu last Wednesday to $3.76/MMBtu yesterday. At the Transcontinental Pipeline Zone 6 trading point for New York City, prices increased 80¢ from $2.75/MMBtu last Wednesday to $3.55/MMBtu yesterday.

For the report week, temperatures in the New England Census division averaged 44°F, 3°F lower than the normal and 9°F lower than last year at this time. Heating degree days (HDD) in the New England Census division totaled 145, compared with 83 last year and a normal of 128.
During this report week, temperatures in the Middle Atlantic Census division averaged 47°F, 1°F lower than the normal and 3°F lower than last year at this time. Heating degree days in the Middle Atlantic Census division totaled 124, compared with 103 last year and a normal of 118.

**The national benchmark average spot price increases for the fourth straight week.** This report week (Wednesday, October 31 to Wednesday, November 7), Henry Hub spot prices rose 22¢ from $3.29/MMBtu last Wednesday to $3.51/MMBtu yesterday. This report week marks the fourth straight week of price increases; during that time, Henry Hub spot prices have risen 20%. Prices generally increased during the report week with lower-than-normal temperatures across the Northeast and low natural gas storage inventories.

At the Chicago Citygate, prices increased 57¢ from $3.11/MMBtu last Wednesday to $3.68/MMBtu yesterday. Prices at PG&E Citygate in Northern California rose 22¢, up from $3.78/MMBtu last Wednesday to $4.00/MMBtu yesterday. Prices at SoCal Citygate decreased 51¢ from $5.49/MMBtu last Wednesday to $4.98/MMBtu yesterday as a result of temperatures in Southern California that are expected to remain higher than average for the next few days.

**Appalachia prices increase.** Tennessee Zone 4 Marcellus spot prices increased 71¢ from $2.66/MMBtu last Wednesday to $3.37/MMBtu yesterday. Prices at Dominion South in southwest Pennsylvania rose 61¢ from $2.69/MMBtu last Wednesday to $3.30/MMBtu yesterday.

**Nymex futures increase.** At the Nymex, the price of the December 2018 contract increased 29¢, from $3.261/MMBtu last Wednesday to $3.555/MMBtu yesterday. The price of the 12-month strip averaging December 2018 through November 2019 futures contracts climbed 10¢ to $2.974/MMBtu.

**Supply decreases as Canadian imports decline.** According to data from PointLogic Energy, the average total supply of natural gas fell by 1% to 91.1 Bcf/d compared with the previous report week. Dry natural gas production remained constant week over week. Average net imports from Canada decreased by 11% from last week.

**Demand remains flat.** Total U.S. consumption of natural gas was unchanged from the previous report week, averaging 67.9 Bcf/d according to data from PointLogic Energy. Natural gas consumed for power generation declined by 5% week over week. Industrial sector consumption stayed constant, averaging 22.5 Bcf/d. In the residential and commercial sectors, consumption increased by 6%. Natural gas exports to Mexico decreased 1%.

**U.S. LNG exports decrease week over week.** Five LNG vessels (four from the Sabine Pass liquefaction terminal and one from Cove Point) with a combined LNG-carrying capacity of 18.2 Bcf departed the United States from November 1 to November 7. One LNG tanker (capacity 3.5 Bcf) was loading at Sabine Pass on Wednesday.

Natural gas feedstock deliveries to Sabine Pass terminal have been averaging more than 3 Bcf/d (on a weekly basis) since mid-October and reached 3.6 Bcf/d on November 3 according to data from IHS Markit OPIS Point Logic Energy, which suggests ongoing commissioning activities for Train 5. Cheniere Energy, the operator of Sabine Pass, filed a request last week with the
Federal Energy Regulatory Commission for authorization to construct a third loading berth at the terminal. The first LNG production from Train 5 is expected before the end of this year.

Sempra Energy, the developer of Cameron liquefaction facility in Hackberry, Louisiana, announced last week that it began commissioning activities for Train 1. The project has three liquefaction trains under construction, each with a baseload capacity of 0.6 Bcf/d. The first exports from the facility are expected in early 2019.

**Second Quarter – 2018 – Utica Production Volumes:**

During the second quarter of 2018, Ohio’s horizontal shale well produced 4,488,104 barrels of oil and 554,306,916 Mcf (545 billion cubic feet) of natural gas, according to figures released today by the Ohio Department of Natural Resources (ODNR).

Natural gas production from the second quarter of 2018 showed a 42.25% increase over the second quarter of 2017, while oil production increased 10.98% for the same period.

<table>
<thead>
<tr>
<th></th>
<th>2017 Quarter 2 (Shale)</th>
<th>2018 Quarter 2 (Shale)</th>
<th>Percentage Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barrels of oil</td>
<td>4,044,072 bbl</td>
<td>4,488,104 bbl</td>
<td>10.98%</td>
</tr>
<tr>
<td>Mcf of natural gas</td>
<td>389,662,485 Mcf</td>
<td>554,306,916 Mcf</td>
<td>42.25%</td>
</tr>
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</table>

The ODNR quarterly report lists 2,035 horizontal shale wells, 2,002 of which reported oil and natural gas production during the quarter. Of the wells reporting oil and natural gas results:

- The average amount of oil produced was 2,242 barrels.
- The average amount of natural gas produced was 276,877 Mcf.
- The average number of second quarter days in production was 85.

As of November 3, 2018, there have been 2,913 Utica shale permits issues in Ohio, and 2,446 of them have been developed.

There are currently 2,002 Utica shale wells in production, with 17 rigs running.