

# **GAS DAILY**

Wednesday, June 13, 2018

#### **NEWS HEADLINES**

#### FERC skeptical of leaked DOE coal, nuclear plan

- Adverse market impacts seen without corresponding benefits
- Details lacking on FERC's role if plan implemented

(continued on page 2)

#### Markets will drive economic benefit of LNG exports

- DOE says LNG export will provide benefits regardless of volume level
- Uncertainty weighs on LNG market

(continued on page 3)

#### Pipeline developers to press build-out hopes

- Need 'more proactive approach to messaging': Millennium
- Hope remains for Access Northeast developers

(continued on page 4)

#### Production aiding LNG exports in 2018, 2019: EIA

- Marketed gas production estimated at 90 Bcf/d in 2019
- Wind seen overtaking hydro generation in coming years

(continued on page 5)

6 7

7 8

9 9

11 12

16

#### SPOT PRICE AND BASIS CHANGES



#### **INSIDE THIS ISSUE**

FERC looking to grease the skids, says McIntyre Rockies production dip strengthens regional prices Bakken growth limited until processing capacity is online Southwestern to appeal fracking 'trespassing' ruling Atlantic Coast foes ask FERC to reconsider approval MVP developers respond to state violation notice July settles at \$2.939; fundamentals mixed **Regional Gas Markets** Gas Daily Supplement Links

| FINAL DAILY PRICE SU  |                    | PLAT     | TS LC            | CATIONS                    | (\$/MMBtu                  | (ר         |           |
|---|--------------------|----------|------------------|----------------------------|----------------------------|------------|-----------|
| NATIONAL AVERAGE PRICE: 2.610<br>Trade date: 12-Jun<br>Flow date(s): 13-Jun |                    |          |                  |                            | Powerea<br>bv              | ,          | ce        |
|   | I                  | Midpoint | +/-              | Absolute                   | 5                          | Vol. [     |           |
| Northeast   |                    |          |                  |                            |                            |            |           |
| Algonquin, city-gates   | IGBEE21            | 2.445    | -0.120           | 2.400-2.500                | 2.420-2.470                | 38         | 7         |
| Algonquin, receipts   | IGBDK21            | 2.280    | -0.480           | 2.280-2.280                | 2.280-2.280                | 3          | 1         |
| Dracut, Mass.   | IGBDW21            | _        | —                |                            |                            | -          | _         |
| Iroquois, receipts  | IGBCR21            |          | -0.050           | 2.730-2.750                | 2.730-2.735                | 43         | 12        |
| Iroquois, zone 2  | IGBEJ21            |          | -0.035           | 2.730-2.830                | 2.730-2.770                | 68         | 12        |
| Niagara   | IGBCS21            |          | +0.115           | 2.530-2.600                | 2.550-2.585                | 29         | 5         |
| Tennessee, z6 (300 leg) del.  | IGBJC21<br>IGBEI21 |          | -0.140           | 2.550-2.700                | 2.600-2.675                | 60         | 12        |
| Tennessee, zone 6 del.<br>Tx. Eastern, M-3                                  | IGBEI21<br>IGBEK21 |          | +0.020           | 2.260-2.350                | 2.280-2.325                | 69<br>153  | 35        |
| Transco, zone 5 del.  | IGBEN21            |          | -0.010           | 2.920-3.015                | 2.930-2.980                | 96         | 20        |
| Transco, zone 5 del. North  | IGCGL21            |          | -0.030           | 2.920-3.015                | 2.925-2.975                | 59         | 11        |
| Transco, zone 5 del. South  | IGCHL21            |          | +0.010           | 2.945-3.015                | 2.950-2.985                | 37         | 9         |
| Transco, zone 6 N.Y.  | IGBEM21            | 2.860    | +0.015           | 2.750-2.980                | 2.805-2.920                | 63         | 15        |
| Transco, zone 6 non-N.Y.  | IGBEL21            | 2.810    | -0.015           | 2.800-2.990                | 2.800-2.860                | 36         | 14        |
| Transco, zone 6 non-N.Y. North  | IGBJS21            | 2.810    | -0.015           | 2.800-2.990                | 2.800-2.860                | 36         | 14        |
| Transco, zone 6-non-N.Y. South  | IGBJT21            | _        | _                |                            |                            | -          | _         |
| Northeast regional average  | IGCAA00            | 2.635    |                  |                            |                            |            |           |
| Appalachia  |                    |          |                  |                            |                            |            |           |
| Columbia Gas, App.  | IGBDE21            | 2.790    | -0.010           | 2.780-2.800                | 2.785-2.795                | 703        | 89        |
| Columbia Gas, App. non-IPP  | IGBJU21            |          | _                |                            |                            | _          | _         |
| Dominion, North Point   | IGBDB21            | 2.240    | +0.000           | 2.200-2.270                | 2.225-2.260                | 208        | 47        |
| Dominion, South Point   | IGBDC21            | 2.235    | -0.020           | 2.200-2.280                | 2.215-2.255                | 764        | 161       |
| Lebanon Hub   | IGBFJ21            | 2.680    | -0.020           | 2.675-2.690                | 2.675-2.685                | 136        | 16        |
| Leidy Hub   | IGBDD21            | _        | _                |                            |                            | _          | _         |
| Millennium, East receipts   | IGBIW21            | 2.060    | -0.025           | 2.060-2.095                | 2.060-2.070                | 35         | 13        |
| REX, Clarington Ohio  | IGBG021            |          | —                |                            |                            | -          | _         |
| Tennessee, zone 4-200 leg   | IGBJN21            |          | -0.100           | 2.465-2.530                | 2.465-2.495                | 139        | 46        |
| Tennessee, zone 4-300 leg   | IGBFL21            |          | -0.015           | 1.960-2.030                | 1.980-2.015                | 57         | 13        |
| Tennessee, zone 4-313 pool<br>Tennessee, zone 4-Ohio                        | IGCFL21<br>IGBH021 |          | +0.000           | 2.410-2.440                | 2.425-2.440                | 55         | 21        |
| Texas Eastern, M-2 receipts   | IGBH021<br>IGBJE21 |          | +0.010           | 2.180-2.220                | 2.185-2.205                | 488        | 88        |
| Transco, Leidy Line receipts  | IGBIS21            |          | +0.060           | 2.000-2.160                | 2.070-2.150                | 486        | 92        |
| Appalachia regional average   | IGDAA00            |          |                  |                            |                            |            |           |
|   |                    |          |                  |                            |                            |            |           |
| Midcontinent  |                    |          |                  |                            |                            |            |           |
| ANR, Okla.  | IGBBY21            |          | -0.120           | 2.400-2.480                | 2.420-2.460                | 82         | 17        |
| Enable Gas, East  | IGBCA21            |          | +0.020           | 2.780-2.810                | 2.790-2.805                | 27         | 5         |
| NGPL, Amarillo receipt  | IGBDR21            |          | -0.070           | 2.525-2.550                | 2.535-2.545                | 115        | 30        |
| NGPL, Midcontinent  | IGBBZ21<br>IGBCD21 |          |                  | 2.430-2.470                |                            | 435<br>152 | 56<br>26  |
| Oneok, Okla.<br>Panhandle, TxOkla.  | IGBCD21<br>IGBCE21 |          | -0.075<br>-0.015 | 1.950-2.015<br>2.390-2.440 | 1.975-2.005<br>2.415-2.440 | 361        | 26<br>58  |
| Southern Star   | IGBCE21<br>IGBCF21 |          | -0.125           | 2.425-2.450                | 2.415-2.440                | 74         | 11        |
| Tx. Eastern, M-1 24-in.   | IGBCF21<br>IGBET21 |          | -0.010           | 2.425-2.450                | 2.805-2.830                | 14         | 5         |
| Midcontinent regional average   | IGEAA00            |          | 0.010            | 2.000 2.000                | 2.000 2.000                | 14         |           |
|   |                    |          |                  |                            |                            |            |           |
| Upper Midwest   |                    | 0.075    |                  |                            |                            |            |           |
| Alliance, into interstates  | IGBDP21            |          | -0.010           | 2.665-2.680                | 2.670-2.680                | 721        | 91        |
| ANR, ML 7   | IGBDQ21            |          |                  |                            |                            |            | 117       |
| Chicago city-gates<br>Chicago-Nicor   | IGBDX21<br>IGBEX21 |          | -0.020<br>-0.025 | 2.665-2.735<br>2.665-2.700 | 2.695-2.730<br>2.680-2.700 | 815<br>218 | 117<br>35 |
| Chicago-NIPSCO  | IGBEX21<br>IGBFX21 |          | -0.025           | 2.700-2.730                | 2.715-2.730                | 512        | 66        |
| Chicago-Peoples   | IGBGX21            |          | -0.020           | 2.680-2.735                | 2.680-2.710                | 86         | 16        |
| Consumers city-gate   | IGBDY21            |          | -0.005           | 2.735-2.750                | 2.735-2.745                | 381        | 58        |
| Dawn, Ontario   | IGBCX21            |          | -0.010           | 2.720-2.770                | 2.720-2.745                | 635        | 76        |
| Emerson, Viking GL  | IGBCW21            |          | -0.040           | 2.430-2.550                | 2.475-2.535                | 99         | 28        |
| Mich Con city-gate  | IGBDZ21            |          | -0.005           | 2.730-2.750                | 2.735-2.745                | 709        | 102       |
| Northern Bdr., Ventura TP   | IGBGH21            |          | -0.030           | 2.580-2.650                | 2.590-2.625                | 165        | 24        |
| Northern, demarc  | IGBDV21            | 2.615    | -0.010           | 2.560-2.625                | 2.600-2.625                | 78         | 20        |
| Northern, Ventura   | IGBDU21            | 2.610    | -0.015           | 2.580-2.640                | 2.595-2.625                | 269        | 44        |
| REX, Zone 3 delivered   | IGBR021            |          | -0.025           | 2.650-2.705                | 2.660-2.690                | 901        | 151       |
| Upper Midwest regional average  | IGFAA00            | 2.660    |                  |                            |                            |            |           |



## FERC commissioners skeptical of leaked DOE proposal to save coal, nuclear plants

A leaked Department of Energy proposal for saving struggling coal and nuclear power plants from retirement could face a significant hurdle if its implementation were to require buy-in from the US Federal Energy Regulatory Commission.

Testifying before the Senate Energy and Natural Resources Committee Tuesday, a majority of the commission was highly critical of a plan DOE is considering that would use emergency authority to mandate purchases from resources favored by the Trump administration.

And when asked, no one on the five-member commission said they believed the country was facing a national security emergency — the narrative DOE has pivoted to as the basis for its effort to aid coal and nuclear facilities.

Commissioners Robert Powelson, Richard Glick and Cheryl LaFleur each expressed concern that DOE's initiative could cause (continued on page 3)

#### -

#### **ASSESSMENT RATIONALE**

Platts Gas Daily indices are based upon trade data reported to Platts by market participants and the Intercontinental Exchange.

The indices are calculated using detailed transaction level data from these providers. Platts editors screen the data for outliers that may be further examined and potentially removed. A volume weighted average is then calculated from the remaining set of data. For more details on this methodology please see our North American Natural Gas Methodology and Specifications Guide on Platts.com, located at <a href="http://www.platts.com/lM.Platts.content/Methodology.pdf">http://www.platts.com/lM.Platts.content/</a> <a href="http://www.platts.com/lM.Platts.content/Methodology.pdf">http://www.platts.content/Methodology.pdf</a>

Questions may be directed to Ryan Ouwerkerk at 713-655-2202, or ryan.ouwerkerk@spglobal.com

#### 2-DAY-AHEAD TEMPERATURE FORECAST MAP

June 12 forecast for June 14



Source: S&P Global Platts, Custom Weather

#### DAILY PRICE SURVEY - FINAL PLATTS LOCATIONS (\$/MMBtu)

Trade date: 12-Jun Flow date(s): 13-Jun

| Flow date(s): 13-Jun                     |                    |          |                  |                |                            |            |          |
|--|--------------------|----------|------------------|----------------|----------------------------|------------|----------|
|  | I                  | Midpoint | +/-              | Absolute       | Common                     | Vol. [     | Deals    |
|  |                    |          |                  |                |                            |            |          |
| East Texas                               |                    |          |                  |                |                            |            |          |
| Agua Dulce Hub                           | IGBAV21            | 3.050    | +0.000           | 3.050-3.050    | 3.050-3.050                | 10         | 2        |
| Carthage Hub                             | IGBAF21            | 2.770    | -0.025           | 2.765-2.785    | 2.765-2.775                | 44         | 8        |
| Florida Gas, zone 1                      | IGBAW21            |          | -0.020           | 2.855-2.860    | 2.855-2.855                | 41         | 3        |
| Houston Ship Channel                     | IGBAP21            | 3.030    | +0.030           | 3.030-3.030    | 3.030-3.030                | 2          | 2        |
| Katy                                     | IGBAQ21            |          | +0.005           | 2.990-3.020    | 2.995-3.010                | 372        | 51       |
| NGPL, STX                                | IGBAZ21            |          | -0.025           | 2.930-2.935    | 2.935-2.935                | 12         | 4        |
| NGPL, Texok zone                         | IGBAL21            |          | -0.005           | 2.750-2.760    | 2.755-2.760                | 396        | 48       |
| Tennessee, zone 0                        | IGBBA21            |          | +0.010           | 2.720-2.750    | 2.725-2.740                | 356        | 48       |
| Tx. Eastern, ETX                         | IGBAN21            |          | -0.065           | 2.730-2.745    | 2.730-2.735                | 13         | 7        |
| Tx. Eastern, STX                         | IGBBB21            |          | +0.000           | 2.950-2.980    | 2.970-2.980                | 119        | 22       |
| Transco, zone 1<br>Transco, zone 2       | IGBBC21<br>IGBBU21 |          | -0.070<br>+0.030 | 2.750-2.750    | 2.750-2.750<br>2.840-2.870 | 7          | 2        |
| East Texas regional average              | IGGAA00            |          | +0.030           | 2.130-2.010    | 2.040-2.070                | 103        | 0        |
|  | IGGAAOO            | 2.010    |                  |                |                            |            |          |
| Louisiana/Southeast                      |                    |          |                  |                |                            |            |          |
| ANR, La.                                 | IGBBF21            |          | -0.030           | 2.740-2.740    | 2.740-2.740                | 4          | 4        |
| Columbia Gulf, La.                       | IGBBG21            |          | -0.040           | 2.795-2.830    | 2.805-2.825                | 248        | 26       |
| Columbia Gulf, mainline                  | IGBBH21            |          | -0.060           | 2.770-2.800    | 2.775-2.790                | 415        | 68       |
| Florida city-gates                       | IGBED21            |          |                  |                | 2,000, 2,005               | 100        |          |
| Florida Gas, zone 2                      | IGBBJ21            |          | -0.015           | 2.860-2.870    | 2.860-2.865                | 109        | 25       |
| Florida Gas, zone 3                      | IGBBK21<br>IGBBL21 |          | -0.010           | 2.885-2.920    | 2.890-2.910<br>2.905-2.935 | 181        | 25       |
| Henry Hub<br>Southern Natural, La.       | IGBBL21            |          | -0.030<br>-0.015 | 2.850-2.950    | 2.865-2.890                | 227<br>132 | 29<br>26 |
| Tennessee, zone 1                        | IGBBU21<br>IGBHI21 |          | -0.015           | 2.680-2.730    | 2.690-2.715                | 396        | 66       |
| Tennessee, 500 Leg                       | IGBBP21            |          | -0.015           | 2.840-2.880    | 2.840-2.860                | 266        | 39       |
| Tennessee, 800 Leg                       | IGBBQ21            |          | -0.045           | 2.780-2.820    | 2.780-2.800                | 497        | 82       |
| Tx. Eastern, ELA                         | IGBBS21            |          | +0.035           | 2.785-2.870    | 2.800-2.840                | 101        | 20       |
| Tx. Eastern, M-1 30-in.                  | IGBDI21            |          | -0.010           | 2.830-2.850    | 2.830-2.840                | 40         | 10       |
| Tx. Eastern, WLA                         | IGBBR21            |          | -0.005           | 2.785-2.870    | 2.815-2.855                | 171        | 26       |
| Tx. Gas, zone 1                          | IGBA021            |          | -0.025           | 2.735-2.800    | 2.735-2.765                | 248        | 37       |
| Tx. Gas, zone SL                         | IGBBT21            |          | _                |                |                            | _          |          |
| Transco, zone 3                          | IGBBV21            | 2.845    | -0.010           | 2.830-2.860    | 2.840-2.855                | 205        | 47       |
| Transco, zone 4                          | IGBDJ21            | 2.865    | -0.035           | 2.860-2.880    | 2.860-2.870                | 655        | 85       |
| Trunkline, ELA                           | IGBBX21            | 2.820    | -0.020           | 2.820-2.820    | 2.820-2.820                | 3          | 3        |
| Trunkline, WLA                           | IGBBW21            | 2.920    | +0.190           | 2.920-2.920    | 2.920-2.920                | 1          | 2        |
| Trunkline, zone 1A                       | IGBGF21            | 2.655    | -0.070           | 2.630-2.690    | 2.640-2.670                | 124        | 24       |
| Louisian/Southeast regional average      | IGHAA00            | 2.820    |                  |                |                            |            |          |
| Rockies/Northwest                        |                    |          |                  |                |                            |            |          |
| Cheyenne Hub                             | IGBC021            | 2.460    | -0.115           | 2.390-2.490    | 2.435-2.485                | 709        | 112      |
| CIG, Rockies                             | IGBCK21            |          | -0.150           | 2.335-2.400    | 2.360-2.390                | 174        | 26       |
| GTN, Kingsgate                           | IGBCY21            | 1.945    | -0.010           | 1.920-2.000    | 1.925-1.965                | 15         | 6        |
| Kern River, Opal                         | IGBCL21            | 2.470    | -0.075           | 2.410-2.510    | 2.445-2.495                | 829        | 131      |
| NW, Can. bdr. (Sumas)                    | IGBCT21            | 2.005    | +0.260           | 1.930-2.100    | 1.965-2.050                | 76         | 15       |
| NW, s. of Green River                    | IGBCQ21            | 2.335    | -0.120           | 2.310-2.375    | 2.320-2.350                | 65         | 12       |
| NW, Wyo. Pool                            | IGBCP21            | 2.440    | -0.100           | 2.310-2.500    | 2.395-2.490                | 493        | 75       |
| PG&E, Malin                              | IGBD021            | 2.465    | -0.135           | 2.400-2.550    | 2.430-2.505                | 339        | 70       |
| Questar, Rockies                         | IGBCN21            | _        | _                |                |                            | _          | _        |
| Stanfield, Ore.                          | IGBCM21            | 2.180    | -0.190           | 2.150-2.210    | 2.165-2.195                | 170        | 52       |
| TCPL Alberta, AECO-C*                    | IGBCU21            | 1.035    | +0.480           | 0.780-1.150    | 0.945-1.130                | 909        | 167      |
| Westcoast, station 2*                    | IGBCZ21            |          | +0.295           | 1.045-1.260    | 1.145-1.255                | 117        | 21       |
| White River Hub                          | IGBGL21            |          | -0.065           | 2.400-2.450    | 2.420-2.445                | 125        | 16       |
| Rockies/Northwest regional average       | IGIAA00            | 2.310    |                  |                |                            |            |          |
| Southwest                                |                    |          |                  |                |                            |            |          |
| El Paso, Bondad                          | IGBCG21            | 2.365    | -0.065           | 2.350-2.410    | 2.350-2.380                | 119        | 12       |
| El Paso, Permian                         | IGBAB21            | 2.100    | -0.095           | 1.975-2.330    | 2.010-2.190                | 1275       | 189      |
| El Paso, San Juan                        | IGBCH21            |          | -0.060           | 2.330-2.420    | 2.360-2.405                | 257        | 38       |
| El Paso, South Mainline                  | IGBFR21            |          | -0.120           | 2.640-2.660    | 2.650-2.660                | 107        | 24       |
| Kern River, delivered                    | IGBES21            |          | -0.060           | 2.730-2.810    | 2.775-2.810                | 307        | 59       |
| PG&E city-gate                           | IGBEB21            |          | +0.015           | 3.005-3.050    | 3.010-3.030                | 704        | 99       |
| PG&E, South                              | IGBDM21            |          | -0.070           | 2.430-2.600    | 2.495-2.580                | 110        | 24       |
| SoCal Gas                                | IGBDL21            |          | +0.015           | 2.500-2.750    | 2.660-2.750                | 473        | 71       |
| SoCal Gas, city-gate                     | IGBGG21            |          | -0.015           | 3.290-3.410    | 3.340-3.400                | 775        |          |
| Transwestern, Permian                    | IGBAE21            |          | -0.100           | 2.100-2.110    | 2.100-2.105                | 94         | 16       |
| Transwestern, San Juan                   | IGBGK21            |          | -0.100           | 2.320-2.450    | 2.350-2.415                | 139        | 24       |
| Waha                                     | IGBAD21            |          | -0.130           | 2.000-2.100    | 2.045-2.095                | 781        | 117      |
| Southwest regional average               | IGJAA00            | 2.340    |                  |                |                            |            |          |
| *Price in C\$ per qj; C\$1=US\$0.7690; \ | olume in (         | DOO MMB  | tu/dav. Sv       | mbols represen | t gas flow date            | 2          |          |

\*Price in C\$ per gj; C\$1=US\$0.7690; Volume in 000 MMBtu/day. Symbols represent gas flow date.

more harm than good.

Powelson touted the "phenomenal success story" of the wholesale power markets.

"A hard and fast mandate on these markets could evaporate all the goodwill consumers have seen," he said. "To erode that would be a real step back in the bulk power system."

#### Adverse market impacts without corresponding benefits

In his written testimony, he warned that an intervention along the lines of the president's directive to DOE "could potentially blow up the market and result in significant price increases without any corresponding reliability, resilience or cybersecurity benefits." He cautioned against action that could bring about the "collapse [of] the wholesale power markets that have long been a cornerstone of FERC policy."

Glick contended: "We cannot try to stop the natural evolution of this industry by declaring a national security emergency unless there is evidence such an emergency exists."

Similarly, LaFleur chimed in that resource mix transitions are not new to the power grid and have been successfully managed without compromising reliability or resilience.

"I believe the resource turnover we're experiencing is an expected consequence of markets and technological change, and the lower prices that result from well-functioning markets are a benefit to consumers, not a problem to be solved," she said.

Details remain murky on DOE's plan for satisfying a June 1 White House directive "to prepare immediate steps to stop the loss of" fuelsecure coal and nuclear resources.

A draft memo prepared for White House National Security Council consideration leaked late May 31 offered a rationale for DOE to use emergency authorities under Section 202(c) of the Federal Power Act and the Defense Production Act. DOE officials have confirmed the document is under consideration as one option for addressing baseload retirements and fuel security issues.

The memo referred to a plan that would require grid operators to buy energy or capacity from designated facilities for two years to prevent retirements.

#### Details lacking on FERC's role if plan implemented

Commissioners on Tuesday said what, if any, role FERC would play if the approach laid out in the memo was pursued was still unclear. Settling rate disputes was a potential area FERC could be called upon to step in.

Chairman Kevin McIntyre agreed with his colleagues that the quality of electric service had not been compromised by recent coal and nuclear retirements. But McIntyre appeared more open to action to ensure coal and nuclear remained a part of the generation mix.

"There is no immediate calamity or threat to our ongoing ability to have our bulk power system operate and satisfy energy needs," he said. "However, when it comes to resilience, I would say we have to take a longer-term lens and ask ourselves what should the future landscape of our generation resource mix look like to ensure we get that right as well."

In the same vein, Commissioner Neil Chatterjee said regulators could not base all their decisions on the fact that most of today's

outages are weather-related. Growing cyber threats to the grid, he said, warranted vigilance in terms of being prepared for what may happen tomorrow.

#### Memo being too quickly dismissed

Chatterjee asserted that the DOE approach in the draft memo was being too quickly dismissed. "There are a number of points in the memo that are thoroughly well cited and researched," he said. "I think we can have disagreements about what the remedy may be, but I think they raise a real issue that we need to look at, and gas infrastructure has to be part of that conversation."

Powelson, however, pushed back on the DOE memo's focus on cybersecurity threats to natural gas pipelines. The memo said it has been widely reported that "natural gas pipelines are increasingly vulnerable to cyber and physical attacks. It also identified disruption of electric generation supplied by gas pipelines as both a higher impact and higher likelihood event.

"Let's not change the narrative and start going after the interstate pipeline system and saying it's unreliable or it's a natural security threat," Powelson told reporters after the hearing. "It's almost like we went through the fuel wars, and now to you're less secure than me. Let's stay away from that argument."

Chatterjee and Glick, in a joint op-ed published in AXIOS Monday, called attention to the lack of mandatory standards to safeguard natural gas pipelines against cybersecurity threats, comparable to those set for the power grid.

While the Transportation Security Administration has authority to set mandatory standards, it relies on voluntary ones, and has only six full-time employees to oversee gas, oil and hazardous liquids pipelines across the country, they said. "Given the high stakes, Congress should vest responsibility for pipeline security with an agency that fully comprehends the energy sector and has sufficient resources to address this growing threat," they wrote, suggesting DOE could be the appropriate choice to fill that role.

- Jasmin Melvin, Maya Weber

## US study says market forces will drive economic benefit of growing LNG exports

The US Department of Energy is embracing the idea in a study released Tuesday that LNG exports from the US will provide broad economic benefits over the next two decades regardless of the level of volumes because of how low natural gas prices are forecast to remain during that period.

The conclusion reflects the effect on prices from the abundance of US shale gas. New technology has allowed producers to unlock vast resources in the Appalachian Basin and, more recently, in the Permian Basin, where significant amounts of associated gas are being lifted with the oil that is luring exploration companies there.

In a research note to clients Tuesday, Height Capital Markets said the latest analysis represents a "major departure" for DOE, which previously argued that the economic benefit of higher exports would be offset at a certain point by rising natural gas prices. "Even the most extreme scenarios of high LNG exports that are outside the more likely probability range, which exhibit a combined probability of less than 3%, show higher overall economic performance in terms of GDP, household income, and consumer welfare than lower export levels associated with the same domestic supply scenarios," the study, prepared by NERA Economic Consulting on behalf of the DOE's Office of Fossil Energy, said.

The latest study, which is the fifth time DOE has done this analysis, said the most likely case — which has a probability of 47% — calls for Henry Hub prices to range from \$5/MMBtu to \$6.50/MMBtu in 2040. There is a case with a 22% probability that prices will range from \$3/ MMBtu to \$4/MMBtu in 2040, while only a 3% chance of prices in a range of \$10/MMBtu-\$13/MMBtu, the study said.

NERA was asked by DOE to examine a wide range of scenarios for future LNG exports, to assess the likelihood of different levels of exports, and to analyze the outcomes of different export levels on natural gas markets and the US economy.

The latest study, dated June 7 and issued in the *Federal Register* on Tuesday, concluded the more likely range of LNG exports in 2040 will be 8.7 Bcf/d to 30.7 Bcf/d. The range is so broad because of uncertainty in the market.

#### Uncertainty weighs on LNG market

While fears of a global LNG supply glut have eased, some US LNG export project developers have delayed final investment decisions as they struggle to secure firm long-term contracts with buyers. There remains uncertainty about how many of the second wave of US projects will be built, and at what level the current crop of projects will be utilized toward the end of the decade.

Some of the first-wave projects have struggled to meet project timelines due to problems with construction, disputes with contractors, and bad weather, especially along the Gulf Coast, which is susceptible to heavy rains and an active hurricane season.

DOE is soliciting public comments over the next several weeks and will place its latest study in the administrative record of the 25 pending applications by developers seeking to export LNG to countries with which the US does not have a Free Trade Agreement pact.

<u>— Harry Weber</u>

## Gas pipeline developers to press build-out hopes in New York and New England

Opportunities exist for a further expansion of Millennium Pipeline and the revival of Access Northeast despite regulatory and environmental hurdles to adding more takeaway capacity designed to move Appalachian Basin gas to downstream markets, senior officials with the developers said Tuesday.

The comments during the second day of the LDC Gas Forums Northeast conference in Boston reflect the confidence midstream operators have that the traditionally pipeline-constrained region can continue to be a growth driver for the sector.

So long as demand pulls producers to boost drilling and industry leaders act collaboratively to counter opponents' concerns, building in New York and New England is within reach, the officials said. "We all need to take a more proactive approach to messaging," Richard Gardner, senior vice president of business development for Millennium Pipeline, told attendees at the conference.

Millennium serves as a significant outlet for production from the long-constrained Northeast Pennsylvania region, primarily delivering gas into downstream markets in New York and Boston.

The pipeline receives approximately 1 Bcf/d of production from Northeast Pennsylvania — last winter more than 75% of that gas ultimately made it to an interconnect with Algonquin for final delivery into the New England markets, data compiled by S&P Global Platts Analytics shows.

Northeast Pennsylvania production receipts that exit the region via Millennium have little additional optionality to make it to demand markets. A maintenance earlier this spring cut production receipts onto Millennium to 0 MMcf/d for several days, bringing down total Northeast Pennsylvania production by nearly the same amount, Platts Analytics data shows.

Millennium, owned by TransCanada's Columbia Gas Transmission and by National Grid and DTE Energy, is currently building its 223,000 Dt/d Eastern System Upgrade in New York, where the project has been met with strong opposition. The operator is targeting a November 1 startup, and Gardner said at the conference "there is no reason for us to believe that in-service date won't be met."

MILLENNIUM PIPELINE EASTERN SYSTEM UPGRADE ROUTE



Source: Millennium Pioeline

As for the future, Gardner said there is no reason for Millennium to stop with the ESU project.

"I think, yes, we can build something else," he said. "It will be a market pull, not a supply push. I think that's out there. I think there's opportunity. I think it will be small scale."

Gardner said the capacity of a potential further expansion could be 150,000 Dt/d, and such a project could find shipper support by being built in conjunction with a wind farm. He wouldn't discuss a possible location, though he suggested the operator wouldn't shy away from New York.

"If I went to New York regulators and say, 'I have a project concept and we don't need to do a lot of looping ... I think it goes a long way to

#### © 2018 S&P Global Platts, a division of S&P Global Inc. All rights reserved.

overcoming some of the challenges in New York," Gardner said.

Access Northeast, meanwhile, has stalled, but the developers aren't giving up on the project that would serve New England.

Erin Petkovich, director of Northeast business development for Enbridge, said at the conference that the pipeline operator, together with its partners Eversource and National Grid, "remain committed to advance a solution for New England."

#### Hope remains for Access Northeast developers

Petkovich said she believes there are several potential paths forward for Access Northeast.

"We're working on a policy level to see if we can develop a uniform New England policy," she said. "We're also working with the market."

In a related move, Eversource on Monday notified the New Hampshire Public Utilities Commission that it will submit an updated proposal to replace the company's agreement to purchase capacity on Access Northeast. The high court there recently reversed the PUC's 2016 dismissal of the original agreement and remanded the issue to the PUC, Eversource said.

Despite the proximity of the Marcellus and Utica shale plays, New England imports significant volumes of gas from Canada via pipeline and other countries via LNG tanker to meet peak demand. Market experts blame insufficient west-to-east and south-to-north pipeline capacity to transport gas there from producers in Pennsylvania and West Virginia.

"We are actively developing there," Petkovich said of Access Northeast. "We feel like the need is there. Hopefully, we will have some more tangible events to share at this event next year."

— <u>Harry Weber and John McManus</u>

## US EIA sees record gas production aiding LNG exports in 2018, 2019

The US Energy Information Administration Tuesday estimated record dry natural gas production of 81 Bcf/d in 2018, which could help pave the way for LNG exports to reach 3 Bcf/d in 2018 and 5 Bcf/d in 2019.

"Increased production and added infrastructure have positioned LNG exports for considerable growth in 2018 and 2019," EIA Administrator Linda Capuano said in a statement accompanying the agency's Short-Term Energy Outlook.

"EIA's June outlook is that US LNG exports will exceed an average of 5 Bcf/d in 2019, compared to last year's average of just under 2 Bcf/d," she said. "Assuming the forecast holds, US exports of LNG will more than double over a 24-month period."

The agency noted that Dominion Energy's Cove Point LNG facility is ramping up exports. "In April, the facility exported an estimated 13.4 Bcf, implying baseload utilization of 65% and, in May, it exported an estimated 23.5 Bcf, implying baseload utilization of 94%," the outlook said.

In addition, EIA's June outlook increased the forecast for dry gas production this year, Capuano said. "We now expect production to increase by more than 10% from 2017, reaching a record 81 Bcf in 2018," she said.

#### US NATURAL GAS SUPPLY AND DEMAND



Note: Data for June 2018 and beyond are forecasts. Source: US EIA's Short-Term Energy Outlook

#### Marketed gas production estimated at 90 Bcf/d in 2019

EIA also boosted its estimates for total marketed gas production compared to its May forecast. For example, the June outlook raised its second-quarter natural gas marketed production estimate by 1.17 Bcf/d to 87.35 Bcf/d and it increased its Q3 marketed production forecast by 1.09 Bcf/d to 88.22 Bcf/d. The agency also raised its marketed gas production forecast for 2018 by 0.9 Bcf/d to 87.26 Bcf/d, and it raised its 2019 estimate by 0.61 Bcf/d to 90.27 Bcf/d.

Total marketed gas production includes volumes that are later extracted to become natural gas liquids such as ethane, propane and butane. In comparison, the dry gas production number reflects the volume after NGLs have been removed.

At the same time, the agency raised its gas consumption estimates 0.83 Bcf/d to 69.95 Bcf/d for Q2, and 0.36 Bcf/d to 69.54 Bcf/d for Q3. EIA increased its consumption estimates for 2018 0.51 Bcf/d to 79.57 Bcf/d, and it raised its 2019 consumption forecast 0.02 Bcf/d to 79.41 Bcf/d.

EIA lowered its forecast for Q2 Henry Hub natural gas spot prices 1 cent to \$2.84/MMBtu. The Q3 forecast also dropped 1 cent from the previous month to \$3.01/MMBtu. The agency projected Henry Hub gas prices would average \$2.99/MMBtu for the full year and \$3.08/MMBtu in 2019.



#### HENRY HUB NATURAL GAS PRICE

Note: Data for June 2018 and beyond are forecasts Source: EIA's Short-Term Energy Outlook Regarding gas storage, EIA noted that the coldest April in the past 21 years resulted in a delayed start to this year's summer injection season. "Working natural gas stocks as of June 1 were [1.817 Tcf], 31% lower than the year-ago level and 22% lower than the five-year (2013– 17) average for that time of year," the outlook said.

#### Wind seen overtaking hydro generation in coming years

The agency also noted upcoming changes in the power generation mix. "EIA's June forecast is for wind energy to overtake hydro in terms of electricity generation in 2019, which marks a historic shift in the share of renewables generation," Capuano said. "We can attribute this shift, in large part, to significant increases in wind generation capacity, going from about 81 GW in 2016 to a forecasted 104 GW in 2019," she explained.

EIA forecasted that wind generation will rise to 746,000 MWh/d in 2018 and to 777,000 MWh/d in 2019. "If factors such as precipitation and snowpack remain as forecast, conventional hydropower is forecast to generate 752,000 MWh/d in 2019, which would make it the first year that wind generation exceeds hydropower in the United States."

#### US ELECTRICITY GENERATION BY FUEL



Source: EIA's Short-Term Energy Outlook

The agency also estimated that the share of US total utility-scale electricity generation from natural gas-fired power plants will rise to 34% in 2018 and 2019 from 32% in 2017. Electricity generation's share from coal is expected to average 28% in 2018 and 2019, down from 30% in 2017, EIA said. The nuclear share of generation was 20% in 2017 and is forecast to be 20% in 2018 and 19% in 2019, the agency said. — Kate Winston

## With pipeline certificate review, FERC looking to grease the skids, says McIntyre

US Federal Energy Regulatory Commission Chairman Kevin McIntyre on Tuesday made clear his intent in reviewing the commission's gas pipeline certificate policy is to streamline, rather than slow, the process.

His comments offered some insight into his thinking as FERC in April issued a notice of inquiry to consider whether to adjust the nearly 20-year-old policy in light of dramatic changes in energy markets.

The agency has come under competing pressures as a surge of proposed projects has accompanied the rise in shale production, with

industry groups worrying FERC review times have stretched out, while some environmental groups have complained the commission has too easily signed off on projects without fully considering whether they are needed or the full extent of their impacts.

In testimony before the Senate Energy and Natural Resources Committee, McIntyre noted that he was "but one of five voices" at the commission and anticipates "thoughtful input" from each of his colleagues.

"I will say for my own part, though, I have no interest in initiating a review of our gas certificate policy area for the purpose of slowing anything down," he said. "My interest is in streamlining and making more efficient the processes that we have."

Topics under consideration as part of FERC's review include how the commission determines whether projects are needed and whether it should begin to look beyond precedent agreements, as well as eminent domain and landowner impacts, and environmental concerns such as how the commission considers climate change. FERC also sought feedback on how to improve the efficiency and effectiveness of its certificate processes. Some industry executives have expressed concern that questions posed in the review have added to unknowns, even as the administration's steel tariffs have added hesitancy to commercial decisions about a next batch of potential projects.

#### Senators press for more action on pipelines, LNG

McIntyre's comments came as he faced questioning from several senators geared toward advancing more efficient government reviews of infrastructure projects.

Committee Chairman Lisa Murkowski, Republican-Alaska, stressed that amid conversations about resilience and reliability and providing affordable energy dominating debate, "we've got to figure out how we facilitate greater pipeline infrastructure," particularly in areas of "very high need" in the Northeast.

It is not the first time that McIntyre made clear his interest in finding ways to streamline the process, but his comments make more clear that he would like the review of the certificate policy to drive toward that goal as well. Previously, McIntyre signed on to a White House memorandum of understanding with multiple agencies that set a target of trimming reviews to a two-year period.

McIntyre on Tuesday also laid out steps he is taking to help FERC adapt to the rise in its LNG project workload, which he noted had jumped from four LNG terminals in FERC's queue in 2008, compared with 14 today, along with six projects under construction requiring FERC attention.

FERC has brought in private contractors to add to its workforce assessing projects and is seeking to hire more engineering staff, he said. It may also reallocate commission resources toward LNG project reviews, bring in further third-party assistance, and is looking for ways to streamline its internal processes, he said.

Senator Cory Garner, Republican-Colorado, was among those pressing for faster LNG reviews. He called attention to a need for a West Coast LNG export terminal as an outlet for Rocky Mountain natural gas supplies, saying leaders in Taiwan, Japan and South Korea are looking for ways to do business with US energy producers to diversify their supplies. He raised concerns that limited staff resources could lengthen permitting timelines.

#### FERC pushed to follow FAST-41, post timelines

Separately, Senator Robert Portman, Republican-Ohio, sought to take FERC to task for failing to be fully transparent about its pipeline permitting schedules. Portman played a rule in steering the FAST-41 Act, which established a public website to track progress of major infrastructure projects in order to increase transparency and provide for a more predictable schedule. In his understanding, FERC has not been willing to post its schedule and has indicated it could not do so because of internal regulations, he said.

"Statutes trump regulation," he said, asserting that the statutory requirement is clear.

While McIntyre said he would need to confer with staff on the matter, Portman pushed for an answer within a week on whether FERC would commit to publicly post its timelines.

<u> — Maya Weber</u>

## Rockies production dip strengthens regional gas prices

Average Rockies basis rose about 31 cents/MMBtu for Gas Day 12 as apparent processing plant maintenance events have limited regional production by an average of 600 MMcf/d over the past two days, according to data by S&P Global Platts Analytics.

Total Rockies production dipped to 7.8 Bcf/d since Monday after maintaining an average of 8.4 Bcf/d over the prior two weeks. Recent production limitations have been concentrated at processing plant points in the Denver-Julesburg and Green River Overthrust producing areas.

DJ declines have been observed on Colorado Interstate Gas at the Fort Lupton and Lancaster plants, with the bulk of it coming from the latter. Lancaster sample receipts have fallen as low as zero after averaging about 385 MMcf/d for the previous 30 days.

Green River Overthrust production has fallen to just 2.6 Bcf/d, with most of the decline coming from the Echo Springs and Pioneer processing plant points across a number of systems.

#### Maintenance events likely cause of declines

It is unclear whether the declines were driven by maintenance events as processing plants, unlike pipelines, are not required to report

#### ROCKIES PRODUCTION DIP STRENGTHENS BASIS



maintenance outages. However, this is the time of year when processing plants are more likely to conduct maintenance. While it is possible there are constraints from a natural gas liquids perspective, as the Conway NGL storage hub in Kansas is getting flooded with Rockies' NGLs, the day-on-day drop is too large to be attributed to raw mix pipelines alone.

Rockies basis support should be expected through the conclusion of this activity, although it is important to highlight the relative strength of basis to start the month.

#### Average basis climbs 36 cents in two weeks

Rockies production dipped slightly to start June as did backhaul flows from the Southwest and Pacific Northwest. With June production (prior to this recent drop) falling about 0.2 Bcf/d from May and western outflow demand also picking up by about 0.2 Bcf/d, average Rockies basis has picked up to minus 59 cents/MMBtu month-to-date, up 36 cents the prior two weeks.

Average Rockies basis is an average of prices at Kern River Opal, Cheyenne and CIG-Rockies hubs.

— <u>Brandon Evans, Mason McLean</u>

## Bakken growth limited until new processing capacity comes online

Rising oil prices have driven internal rates of return in the Bakken to nearly 50% since May, but due to flaring restrictions, gas production is likely to be largely flat until new processing capacity is brought online later this year.

WTI prices have risen from about \$57/b at end of 2017 to an average of \$66.50/b since the start of April, and this has increased the incentive to produce in the Bakken. As oil prices have climbed, IRRs in the Bakken have reached a staggering 47% this June, which is the second highest in the US, according to S&P Global Platts Analytics. It only trails the prolific Permian.

This is stimulating drilling activity in the region as North Dakota's Bakken Shale has averaged 37 active rigs so far this June, which is the most rig activity the region has seen since fall 2015. Even with strong returns and strong rig activity, gas production is likely to stay mostly flat for the next several months, as the region has flared an average of





over 12% of the gas it has produced since last November out of an allowable 15% and processing capacity is near full utilization.

Platts Analytics' processing plant sample in the Bakken indicates that the output from processing plants is averaging a record high over the past 30 days, but there appears to be little upside potential beyond this. Output from Bakken processing plants has averaged 990 MMcf/d over the past month, and a quick look at the listed capacity for Bakken processing plants shows more than 1 Bcf/d of spare processing capacity, but this is inflated and the actual capacity is much lower.

#### Several legacy plants lie outside current active areas

According to the North Dakota Pipeline Authority, some of the processing plants in the Bakken were built to process gas in areas that are not in today's high activity areas. What's more, some of these legacy plants were built just to serve the needs of a single producer in one field.

#### **BAKKEN PROCESSING OUTPUT vs CAPACITY**



Source: S&P Global Platts Analytics

This is why many processing facilities in the region, such as the Belfield, Little Knife and McKenzie Grasslands plants, run well below their listed capacity. For example, the Little Knife plant was designed just to meet Petro-Hunts needs in and around the Little Knife Field, while Belfield was built for Whiting Petroleum's gas capture in Stark and Billings counties.

"In general, it is very important to have gas processing capacity positioned in the correct area of development in order to maximize gas captures," said Justin Kringstand, director of the NDPA. "Belfield, Little Knife and McKenzie Grasslands are positioned just outside of the current highly active portions of the play. New plants in development are being strategically located to match producer development plans and existing gas infrastructure."

#### 358 MMcf/d of new capacity to come online in 2018

If every processing plant in the Bakken ran at its 12-month high, Bakken processing output could reach up to 1.22 Bcf/d, or about 230 MMcf/d higher than the past month's total average output, according to Platts Analytics. However, there are likely to be outages and maintenances that will keep the region from hitting this 1.22 Bcf/d limit regularly.

Relief should come later this year when Oasis Midstream's Wild Basin is slated to come online and add 265 MMcf/d of processing capacity to its existing 80 MMcf/d facility. In addition to this, Targa and Hess have plans to bring a 200 MMcf/d facility online sometime in the fourth quarter of 2018. But until then, expect Bakken production to hover around current levels as some producers struggle to meet the state's flaring requirements.

— <u>Brandon Evans, Richard Frey</u>

#### Southwestern to appeal fracking 'trespassing' ruling to Pa. high court

Southwestern Energy plans to go to the Pennsylvania Supreme Court to reverse an appeals court ruling on property rights that an industry group said has the potential to upend shale drilling in the secondlargest gas-producing state in the US.

Drillers would be "trespassing" and liable for any gas taken from beneath unleased lands neighboring their hydraulically fractured wells if an April decision by a two-judge panel of the state's Superior Court stands. The Superior Court ruled that the long-standing "rule of capture" does not apply to hydraulically fractured wells, reversing an earlier trial court decision.

Holding shale gas drillers liable for trespassing on their neighbors' property because of the uncontrollable direction and length of the fractures they induce would upend Pennsylvania's shale gas industry, Southwestern told the court. The court denied Southwestern's appeal for a rehearing in front of a seven-judge panel June 8.

"We believe the trial court correctly applied established law that has stood for over a century, and plan to petition the Pennsylvania Supreme Court to hear this important issue," Southwestern Director of Communications Jan Sieving said. "This law encourages responsible use of Pennsylvania's natural resources and is helping establish US energy independence while creating jobs."

Under the rule of capture, drillers are not liable for hydrocarbons that may seep into their wells from other properties. The Superior Court's initial April ruling held that because hydraulic fracturing releases trapped gas by fracturing rock, drillers could trespass on neighboring properties as the fractures spread out underground. The release of trapped gas by fracking makes the process fundamentally different from conventional drilling, in which a vertical well is drilled into a reservoir of gas or liquids, the appeals court ruled.

Allowing the Superior Court's ruling to stand would bury shale gas drillers in lawsuits and bring the 16-Bcf/d industry to a halt, business groups warned. "The risk of complex litigation may lead to a vast reduction of development activities throughout the commonwealth," the Marcellus Shale Coalition said in its April brief to the appeals court.

The Superior Court decision reversed the trial court, which had ruled that the "rule of capture" protected Southwestern from any potential damages. In the initial suit, the Briggs family of property owners claimed that Southwestern's drilling operations next door took an unknown quantity of gas from under their 11-acre Susquehanna County farm (Superior Court of Pennsylvania No. 1351 MDA 2017).

The Superior Court is one of Pennsylvania's two intermediate appeals courts between local trial courts and the state Supreme Court. — <u>Bill Holland, S&P Global Market Intelligence</u>

## Atlantic Coast foes ask FERC to reconsider construction approval

Opponents of the Dominion Energy-led Atlantic Coast natural gas pipeline asked the US Federal Energy Regulatory Commission to reconsider the 1.5 Bcf/d project's full construction authorization and to stay its authorization for work to proceed.

The coalition of environmental groups — Defenders of Wildlife, the Sierra Club and the Virginia Wilderness Committee — argued in a Tuesday FERC request for rehearing that the developers of the pipeline should be stripped of their authorization because they lack an incidental-take statement related to protected species.

The US Court of Appeals for the 4th Circuit on May 15 vacated Dominion's incidental-take permit, issued by the US Fish and Wildlife Service, saying the agency failed to appropriately limit the authority granted by the permit (US Court of Appeals for the 4th Circuit docket 18-1082).

Shortly after the permit's revocation, the environmental groups asked FERC to order a stop to Atlantic Coast's construction. In addition, the Southern Environmental Law Center and Appalachian Mountain Advocates on March 19 asked FERC to deny authorization for tree-felling activities related to Atlantic Coast.

The project, which would include about 600 miles of 42-inchdiameter pipeline, is a joint venture of Dominion, Duke Energy and Southern Co.'s Southern Co. Gas. FERC authorized the pipeline in an October 2017 certificate order (CP15-554).

— Miguel Angel Cordon, S&P Global Market Intelligence

## MVP developers respond to state violation notice regarding water runoff

The developers of the Mountain Valley Pipeline say they are working with West Virginia officials after environmental regulators issued two notices citing the company for failing to control wastewater runoff from construction sites along the pipeline route.

The West Virginia Department of Environmental Protection recently cited the pipeline developers for failing to install erosion and sedimentcontrol devices at a construction site in Wetzel County. As a result, sediment-laden water was released from the site, resulting in pollution to a nearby stream, according to DEP.

"The MVP project team immediately worked to install new devices and increased staffing on crews that are responsible for monitoring, maintaining and repairing them," Natalie Cox, a spokeswoman for the project, said in an email Tuesday.

There was no delay in MVP's projected in-service date, currently targeted for late 2018, Cox said.

The 303-mile Mountain Valley Pipeline will carry gas from the southwestern Appalachian Marcellus and Utica plays to markets in the US Mid- and South Atlantic regions. The 2 million Dt/d pipeline will run from the Equitrans transmission system in Wetzel County, West Virginia, to Transcontinental Gas Pipe Line's Zone 5 compressor station 165 in Pittsylvania County, Virginia.

The project is a joint venture of EQT Midstream Partners, NextEra US Gas Assets, Con Edison Transmission, WGL Midstream and RGC

#### MOUNTAIN VALLEY PIPELINE



Source: Mountain Valley Pipeline

Midstream. EQT Midstream Partners will operate the pipeline.

Under state regulations, the pipeline developers were given 20 days to reply in writing with details of the compliance measures being taken. The DEP notice was issued on May 9 and followed a similar notice sent to the pipeline developers the previous month. The notices do not carry monetary penalties.

#### Project has seen long-standing issues with runoff

Critics of the MVP project have long complained that the pipeline's construction sites, some of which are located along steep slopes in a mountainous region of the state, were especially vulnerable to problems with water run-off.

State regulators had addressed some similar water-related issues in regard to the pipeline last fall. Last November, the DEP lifted a suspension of MVP's state storm water permit, which had been put in place last September to allow the agency to properly respond to all the public comments received on the topic.

At the same time, the state said it was choosing to waive the individual 401 Certification of the federal permits for MVP, citing the reissuance by the US Army Corps of Engineers of the Nationwide 12

permit for stream crossings. That permit included provisions specific to West Virginia.

State regulators said these new conditions in the Corps of Engineers' permit, when combined with specific requirements included in the state's storm water permit, would "allow for better enforcement capabilities and enhanced protection for the state's waters" than the individual 401 Certification of the federal permits.

— <u>Jim Magill</u>

#### PIPELINE MAINTENANCE

| Start date | End date | Pipeline  | Description  |
|------------|----------|-----------|--|
| 15-Jun     | 16-Jun   | ANR       | ANR capacity restriction at Eunice Total could constrain flows to the Gulf |
| 19-Jun     | 20-Jun   | Algonquin | Algonquin conducting one-day reduction at Stony Point Compressor           |
| 29-Jul     | 16-Sep   | SOCAL     | Topock maintenance extended through summer                                 |
| 04-Jun     | 29-Jul   | Tennessee | Tennessee cutting receipts at Station 114 by 471 MMcf/d                    |

#### SUBSCRIBER NOTES

#### Platts to discontinue daily and monthly natural gas locations

Based on a review of historical liquidity and market feedback, S&P Global Platts will discontinue North American natural gas daily and monthly indices for the following Platts locations:

Location:

REX, Clarington, Ohio IGBG000 (Daily Trade Date) IGBG003 (Monthly Symbol) Tennessee, zone 4-Ohio IGBH000 (Daily Trade Date) IGBH003 (Monthly Symbol)

The daily prices will be discontinued as of flow date October 1, 2018, and the monthly prices will be discontinued beginning with November 2018 bidweek. Affected publications are Gas Daily, Inside FERC Gas Market Report, Natural Gas Alert pages 1310, 1318, 1350, 1351, 1352, 1353, 1354, 1355, 1357, and Market Data categories GI, GD, GJ, and GM.

Associated daily and monthly symbols will also be discontinued.

Please send any comments to the above to <u>gas survey comments@platts.com</u> and <u>pricegroup@spglobal.com</u>. For written comments, please provide a clear indication if comments are not intended for publication by Platts for public viewing. Platts will consider all comments received and will make comments not marked as confidential available upon request.

## Platts extends feedback for transitioning ICE natural gas locations to Platts locations

S&P Global Platts is extending its feedback period on an original proposal dated March 2 to transition the following daily natural gas ICE locations to Platts locations:

1. The ICE location ICE Iroquois, zone 1 (delivered excl. Waddington) with trade date symbol JAABS00.

2. The ICE location ICE Tennessee, zone 5, 200 Line, dlvd downstream of station 245 with trade date symbol of JAAEV00.

The methodology for these locations would change. Currently only trades executed on ICE are used in final daily indices, the trades are not screened for outliers, and there are no assessments in absence of trading on ICE and no index would be published. As Platts locations, price reporter trades and ICE non-price reporter legs of trades would be included in final daily indices, the trades would be screened for outliers, and there may be assessments in the absence of reported trading activity. In addition, Platts would clearly define the locations in the North American natural gas methodology guide.

Platts has extended the original consultation period and is now seeking feedback on the proposal above until August 31, 2018, to gas survey comments@platts.com and pricegroup@spglobal.com.

For written comments, please provide a clear indication if comments are not intended for publication by Platts for public viewing. Platts will consider all comments received and will make comments not marked as confidential available upon request.

#### Platts proposes to expand use of spreads in natural gas indices

Platts is reviewing the use of spread trades in its North American natural gas daily and monthly indices, and invites feedback on proposals to expand the use of these trades beyond the limited cases, reflected currently.

1. Platts includes NGX transport trades at Platts locations TCPL Alberta, AECO and Dawn, Ontario and excludes spread trades at all other locations. These spread trades, often called "NGX transport trades," are screened for outliers on an outright price basis and may be excluded from the final daily and monthly indices. For consistency, Platts proposes to extend this practice and include location and time spread trades at all locations in its preliminary and final daily and monthly indices. In final daily and monthly indices these spread trades, like all other reported trades, would be screened for outliers and potentially excluded from index calculations.

2. Additionally, Platts seeks feedback on a further proposal to include physical basis trades, where the price is expressed as a premium or discount to another location, in all preliminary and final daily and monthly indices. Currently physical basis trades are only used in preliminary and final monthly indices at locations east of the Rocky Mountains. Basis trades, like all other reported trades, would be screened for outliers and potentially excluded from index calculations.

Platts will accept comments on the above proposals through June 29, 2018. Platts invites comments on the merits of these approaches, and potential timelines for making this change to methodology. Please send any comments regarding to <u>gas survey comments@platts.com</u> and <u>pricegroup@spglobal.com</u>. For written comments, please provide a clear indication if comments are not intended for publication by Platts for public viewing. Platts will consider all comments received and will make comments not marked as confidential available upon request.

#### NATURAL GAS FUTURES

#### July settles at \$2.939; fundamentals mixed

The NYMEX July natural gas futures contract settled Tuesday at \$2.939/MMBtu, down 1 cent, on mixed fundamentals after trading between \$2.917/MMBtu and \$2.988/MMBtu.

IAF Advisors analyst Kyle Cooper called the market dip "surprising."

Prices have hovered between \$2.885/MMBtu and \$2.962/MMBtu since July started trading as the front month, averaging \$2.921/MMBtu so far. Prices averaged \$3.037/MMBtu for the July strip for the same period of 2017.

"The market is showing resistance at the \$3[/MMBtu] level," Cooper said.

Record-high production levels so far this year are one of the reasons prices have stayed below the \$3/MMBtu level, even with a 22% deficit in gas storage stocks. The five-year average is \$2.329/MMBtu.

Current working gas in underground storage sits at 1.817 Tcf for the week that ended June 1, according to the US Energy Information Administration.

US production fell 1.4 Bcf day on day to 76.8 Bcf Tuesday, largely because of production declines in the Rockies and the Northeast. Production is likely to rise to 77.9 Bcf/d over the next seven days, based on S&P Global Platts Analytics estimates.

Output so far this month is 78.3 Bcf/d, up 6.1 Bcf from year-ago levels.

The US National Weather Service forecast for the next six to 10 days calls for the likelihood of warmer-than-average weather for much of the country except the Rockies and Southwest, where cooler weather is expected.

US demand edged up 300 MMcf day on day to 72.3 Bcf Tuesday. Platts Analytics projects consumption to increase to 73 Bcf/d over the next seven days.

Consumption stands at 71 Bcf/d so far in June, up 5% from yearago levels.

#### MONTH-AHEAD TEMPERATURE FORECAST MAP

July departure from average



Source: S&P Global Platts, Custom Weather

| NYMEX HENRY HUB | <b>GAS FUTURES</b> | CONTRACT, | <b>JUN 12</b> |
|-----------------|--------------------|-----------|---------------|
|-----------------|--------------------|-----------|---------------|

|          |            |       |       | ,      |        |
|----------|------------|-------|-------|--------|--------|
|          | Settlement | High  | Low   | +/-    | Volume |
| Jul 2018 | 2.939      | 2.988 | 2.917 | -0.010 | 62225  |
| Aug 2018 | 2.929      | 2.974 | 2.912 | -0.012 | 16398  |
| Sep 2018 | 2.902      | 2.943 | 2.886 | -0.009 | 4488   |
| Oct 2018 | 2.917      | 2.954 | 2.899 | -0.006 | 1999   |
| Nov 2018 | 2.964      | 3.000 | 2.947 | -0.006 | 762    |
| Dec 2018 | 3.072      | 3.103 | 3.054 | -0.005 | 619    |
| Jan 2019 | 3.158      | 3.185 | 3.139 | -0.004 | 801    |
| Feb 2019 | 3.130      | 3.158 | 3.110 | -0.002 | 759    |
| Mar 2019 | 3.034      | 3.059 | 3.011 | 0.000  | 706    |
| Apr 2019 | 2.655      | 2.669 | 2.639 | 0.003  | 855    |
| May 2019 | 2.613      | 2.624 | 2.598 | 0.004  | 123    |
| Jun 2019 | 2.640      | 2.650 | 2.624 | 0.005  | 143    |
| Jul 2019 | 2.671      | 2.681 | 2.654 | 0.005  | 62     |
| Aug 2019 | 2.679      | 2.688 | 2.663 | 0.005  | 123    |
| Sep 2019 | 2.666      | 2.673 | 2.650 | 0.005  | 49     |
| Oct 2019 | 2.686      | 2.693 | 2.670 | 0.005  | 162    |
| Nov 2019 | 2.740      | 2.744 | 2.730 | 0.007  | 23     |
| Dec 2019 | 2.870      | 2.870 | 2.857 | 0.008  | 13     |
| Jan 2020 | 2.968      | 2.968 | 2.955 | 0.009  | 52     |
| Feb 2020 | 2.931      | 2.931 | 2.920 | 0.010  | 23     |
| Mar 2020 | 2.836      | 2.836 | 2.822 | 0.012  | 36     |
| Apr 2020 | 2.566      | 2.566 | 2.555 | 0.016  | 105    |
| May 2020 | 2.540      | 2.540 | 2.535 | 0.016  | 2      |
| Jun 2020 | 2.569      | 2.569 | 2.565 | 0.015  | 2      |
| Jul 2020 | 2.602      | 2.602 | 2.602 | 0.015  | 0      |
| Aug 2020 | 2.610      | 2.610 | 2.610 | 0.014  | 0      |
| Sep 2020 | 2.597      | 2.597 | 2.597 | 0.013  | 0      |
| Oct 2020 | 2.619      | 2.619 | 2.619 | 0.013  | 0      |
| Nov 2020 | 2.674      | 2.674 | 2.674 | 0.013  | 0      |
| Dec 2020 | 2.805      | 2.805 | 2.805 | 0.013  | 0      |
| Jan 2021 | 2.905      | 2.905 | 2.895 | 0.014  | 1      |
| Feb 2021 | 2.870      | 2.870 | 2.870 | 0.014  | 0      |
| Mar 2021 | 2.780      | 2.780 | 2.780 | 0.014  | 0      |
| Apr 2021 | 2.535      | 2.535 | 2.535 | 0.016  | 0      |
| May 2021 | 2.510      | 2.805 | 2.805 | 0.016  | 0      |
| Jun 2021 | 2.537      | 2.537 | 2.537 | 0.016  | 0      |
|          |            |       |       |        |        |

Contract data for Monday

Volume of contracts traded: 404,406

Front-months open interest:

Jul, 197,256; Aug, 151,891; Sep, 144.376

Total open interest: 1,507,747

Data is provided by a third-party vendor and is accurate as of 5:30 pm Eastern time.

#### NYMEX PROMPT MONTH FUTURES CONTINUATION



Note: The entire wick of the candlestick depicts the high and low daily front-month Henry Hub futures price range. The body of the candlestick depicts the price range between the open and close, with a red candlestick indicating a close on the downside and a green candlestick indicating a close on the high end. Source: S&P Global Platts

#### US GAS STORAGE SURPLUS vs ROLLING 5-YEAR AVERAGE



#### NORTHEAST GAS MARKETS

#### Northeast prices slide as demand spike passes

Cash prices across the Northeast moved lower on Tuesday as projections show total demand sliding lower through the coming four days, while upstream production region pricing continued to be impacted by last week's pipeline explosion.

Spot trading at Algonquin city-gates slid over 10 cents to trade at \$2.445/MMBtu on Tuesday, just one day after markets spiked over 35 cents on a temporary demand jump.

The slide lower comes as Northeast demand is expected to steadily tick lower starting Wednesday, sliding from Tuesday's sixweek high of 14.4 Bcf/d to a low of 13.4 Bcf/d Saturday, S&P Global Platts Analytics data showed.

Cash prices were largely flat in the New York area, with Transcontinental Gas Pipeline's Transco Zone 6 New York trading at an average of \$2.86/MMBtu. On Monday, Transco Zone 6 NY jumped over 60 cents.

Further upstream, movements were more muted, with Appalachian benchmark Dominion South Point cash prices trading just 3 cents lower at \$2.235/MMBtu.

Nearby, Transco Leidy continued its ascent, gaining 6 cents to trade at \$2.11/MMBtu, its highest point since April 10, the last day of flow before maintenance constrained capacity on the pipeline.

Since last Thursday, when an explosion on Leech XPress limited southbound flows on Columbia Gulf, Transco Leidy has seen its cash price gain over 30 cents as gas has tried to find alternate routes out of the producing region.

Since the explosion, southbound flows on Columbia Gulf, much of which are sourced upstream at Columbia Appalachia Pool, have averaged just less than 500 MMcf/d, compared to an average of around 1.4 Bcf/d in the previous month.

Total southbound flows have averaged 3.6 Bcf/d, around 400 MMcf/d lower than the previous two weeks.

Despite the lower flow optionality, Northeast production has actually ticked slightly higher, averaging around 27.4 Bcf/d since last Thursday, about 175 MMcf/d stronger than the previous two weeks, Platts Analytics data also shows.

|                             |        | Spot basis |       |  |             |                  |       | Prompt forward basis |   |        | basis |
|-----------------------------|--------|------------|-------|--|-------------|------------------|-------|----------------------|---|--------|-------|
|                             | 12-Jun | 11-Jun     | Chg   |  | MTD<br>Avg. | MTD<br>last year | Chg   | 12-Ju                | n | 11-Jun | Chg   |
| Henry Hub                   | 2.92   | 2.95       | -0.03 |  | 2.90        | 2.93             | -0.03 | 2.94                 | 1 | 2.95   | -0.01 |
| Northeast region            |        |            |       |  |             |                  |       |                      |   |        |       |
| Algonquin CG                | -0.48  | -0.39      | -0.09 |  | -0.42       | -0.61            | +0.19 | -0.35                | 5 | -0.34  | -0.01 |
| Iroquois Zn2                | -0.18  | -0.17      | -0.01 |  | -0.25       | -0.55            | +0.30 | -0.06                | 3 | -0.06  | 0.00  |
| Tenn Zn6 Dlvd               | -0.29  | -0.18      | -0.11 |  | -0.25       | -0.54            | +0.28 | -0.17                | 7 | -0.17  | -0.01 |
| Transco Zn 6 NY             | -0.06  | -0.11      | 0.05  |  | -0.23       | -0.65            | +0.42 | -0.15                | 5 | -0.15  | 0.00  |
| Transco Zn5 Dlvd            | 0.04   | 0.02       | 0.02  |  | 0.03        | 0.01             | +0.02 | 0.00                 | ) | 0.00   | 0.00  |
| Transco Zn6 Non-NY          | -0.11  | -0.13      | 0.02  |  | -0.25       | -0.59            | +0.34 | -0.18                | 3 | -0.18  | 0.00  |
| TX Eastern M-3              | -0.62  | -0.67      | 0.05  |  | -0.53       | -0.86            | +0.33 | -0.62                | 2 | -0.63  | 0.01  |
| Appalachia                  |        |            |       |  |             |                  |       |                      |   |        |       |
| Col Gas Appal               | -0.13  | -0.15      | 0.02  |  | -0.17       | -0.15            | -0.02 | -0.16                | 3 | -0.17  | 0.01  |
| Dominion N Pt               | -0.68  | -0.71      | 0.03  |  | -0.59       | -0.91            | +0.32 | -0.80                | כ | -0.82  | 0.02  |
| Dominion S Pt               | -0.69  | -0.70      | 0.01  |  | -0.59       | -0.90            | +0.31 | -0.7                 | 1 | -0.73  | 0.02  |
| Lebanon Hub                 | -0.24  | -0.25      | 0.01  |  | -0.24       | -0.93            | +0.69 | -0.3                 | 1 | -0.32  | 0.01  |
| Millennium East Receipts    | -0.86  | -0.87      | 0.01  |  | -0.99       | -0.95            | -0.04 | -0.93                | 3 | -0.93  | 0.00  |
| Tenn Zn4-200 Leg            | -0.44  | -0.37      | -0.07 |  | -0.36       | -0.80            | +0.44 | -0.56                | 3 | -0.57  | 0.01  |
| Tennessee zone 4-300 leg    | -0.93  | -0.94      | 0.02  |  | -1.07       | -1.00            | -0.07 | -1.02                | 2 | -1.04  | 0.02  |
| Texas Eastern M-2 receipts  | -0.73  | -0.77      | 0.04  |  | -0.61       | -0.95            | +0.34 | -0.74                | 4 | -0.75  | 0.02  |
| Transco Leidy Line receipts | -0.81  | -0.90      | 0.09  |  | -1.05       | -0.95            | -0.10 | -0.93                | 3 | -0.93  | 0.00  |
| Other locations             |        |            |       |  |             |                  |       |                      |   |        |       |
| Dracut MA                   | _      | _          | _     |  | 0.80        | _                | _     | 0.03                 | 3 | 0.04   | 0.00  |
| Iroquois Receipts           | -0.19  | -0.17      | -0.02 |  | -0.22       | -0.53            | +0.31 | -0.17                | 7 | -0.17  | 0.00  |
| Niagara                     | -0.36  | -0.50      | 0.15  |  | -0.35       | _                | _     | -0.2                 | 7 | -0.26  | -0.01 |
| Source: Platts M2M data     |        |            |       |  |             |                  |       |                      |   |        |       |

NORTHEAST SPOT AND FORWARD BASIS (\$/MMBtu)

#### NORTHEAST DEMAND FORECAST



Source: S&P Global Platts

#### NORTHEAST FORWARD BASIS (\$/MMBtu) — Algonquin CG 8



#### **APPALACHIA FORWARD BASIS**

- Col Gas App - Dominion S - Tennessee Z4-300 - Transco Leidy (\$/MMBtu) 0.00 -0.25 -0.50 -0.75 -1.00 -1.25 Jul-18 Jan-19 Jul-19 Jan-20 Jul-20 Jan-21 Jul-21 Source: S&P Global Platts

#### SOUTHEAST GAS MARKETS

#### SE, Texas steady on balanced fundamentals

Southeast and Texas gas prices were showing little movement Tuesday as market fundamentals remained balanced.

At Henry Hub, trades were being conducted at \$2.92/MMBtu, showing a drop of 3 cents, while Houston Ship Channel was up 3 cents to \$3.03/MMBtu.

Total supply into the region looked to total 29.871 Bcf/d, according to S&P Global Platts Analytics. That level was a 1%, or 240 MMcf/d, drop from Monday's gas on hand of 30.111 Bcf/d.

Tuesday also marked the first time in six days that supply dipped below the 30 Bcf/d mark.

Over the course of June, supply has averaged 30.162 Bcf/d.

While supply was remaining virtually steady, consumption was too, with Platts Analytics forecasting need at 30.271 Bcf/d.

That demand was some 368 MMcf/d less than Monday's consumption of 30.639 Bcf/d.

June demand has averaged 30.114 Bcf/d.

Demand in Texas was holding steady. Tuesday's consumption level was seen at 10.68 Bcf/d. Over the last three days, consumption in the Lone Star State averaged 10.6 Bcf/d.

Looking ahead, Texas demand was forecast to average 10.594 Bcf/d over the next seven days and then 10.91 Bcf/d in the following week.

Demand in the Southeast was on a similar path, with consumption at 19.592 Bcf/d Tuesday after averaging 19.345 Bcf/d over the last three days.

The outlook for the upcoming week saw an average demand of 20.192 Bcf/d, with 21.009 Bcf/d being needed in the following week.

The lion's share of the demand in the Southeast was for thermal power generation, which is expected to total 10.088 Bcf/d Tuesday.

That level of demand for power looked to continue for some time, with the Southeast averaging 10.75 Bcf/d over the next week.

Like the cash market, futures prices were largely bobbing in place.

The Houston Ship Channel July contract was down 0.49 cent to Henry Hub basis plus 7.5 cents, while August was down 0.64 cent to Henry Hub plus 7.13 cents/MMBtu.

|                         |        |        | Spot  | basis       |                  |       | Prompt | forward | basis |
|-------------------------|--------|--------|-------|-------------|------------------|-------|--------|---------|-------|
|                         | 12-Jun | 11-Jun | Chg   | MTD<br>Avg. | MTD<br>last year | Chg   | 12-Jun | 11-Jun  | Chg   |
| Henry Hub               | 2.92   | 2.95   | -0.03 | 2.90        | 2.93             | -0.03 | 2.94   | 2.95    | -0.01 |
| Southeast               |        |        |       |             |                  |       |        |         |       |
| ANR LA                  | -0.18  | -0.18  | 0.00  | -0.17       | -0.09            | -0.09 | -0.16  | -0.16   | 0.00  |
| Col Gulf LA             | -0.11  | -0.10  | -0.01 | -0.10       | -0.09            | -0.01 | -0.14  | -0.14   | 0.00  |
| Col Gulf-Mainline       | -0.14  | -0.11  | -0.03 | -0.14       | -0.09            | -0.04 | -0.14  | -0.14   | 0.01  |
| FL Gas Zn1              | -0.07  | -0.08  | 0.01  | -0.07       | -0.07            | +0.00 | -0.04  | -0.04   | 0.00  |
| FL Gas Zn2              | -0.06  | -0.08  | 0.02  | -0.07       | -0.05            | -0.02 | -0.04  | -0.04   | 0.00  |
| FL Gas Zn3              | -0.02  | -0.04  | 0.02  | -0.01       | -0.03            | +0.02 | 0.01   | 0.01    | 0.00  |
| Florida CG              | _      | _      | _     | 0.15        | 0.42             | -0.27 | 0.30   | 0.30    | 0.00  |
| SoNat LA                | -0.05  | -0.06  | 0.02  | -0.05       | -0.06            | +0.02 | -0.07  | -0.07   | 0.00  |
| Tenn LA 500 Leg         | -0.07  | -0.09  | 0.02  | -0.06       | -0.08            | +0.02 | -0.07  | -0.07   | 0.00  |
| Tenn LA 800 Leg         | -0.13  | -0.12  | -0.02 | -0.12       | -0.08            | -0.03 | -0.05  | -0.06   | 0.01  |
| TETCO-M1                | -0.09  | -0.11  | 0.02  | -0.10       | -0.11            | +0.01 | -0.07  | -0.07   | 0.00  |
| Texas Gas Zn SL         | _      | _      | _     | -0.17       | -0.12            | -0.04 | -0.16  | -0.17   | 0.01  |
| Texas Gas Zn1           | -0.17  | -0.18  | 0.01  | -0.16       | -0.12            | -0.04 | -0.16  | -0.17   | 0.01  |
| Transco Zn2             | -0.05  | -0.11  | 0.06  | -0.01       | -0.08            | +0.06 | -0.06  | -0.06   | 0.00  |
| Transco Zn3             | -0.08  | -0.10  | 0.02  | -0.08       | -0.06            | -0.02 | -0.04  | -0.04   | 0.00  |
| Transco Zn4             | -0.06  | -0.05  | -0.01 | -0.04       | -0.05            | +0.00 | -0.03  | -0.03   | 0.00  |
| Trunkline E LA          | -0.10  | -0.11  | 0.01  | -0.10       | -0.12            | +0.02 | -0.10  | -0.10   | 0.01  |
| Trunkline WLA           | 0.00   | -0.10  | _     | 0.00        | -0.02            | +0.02 | -0.06  | -0.06   | 0.00  |
| Tx Eastern E LA         | -0.10  | -0.17  | 0.07  | -0.13       | -0.10            | -0.03 | -0.09  | -0.09   | 0.00  |
| TX Eastern W LA         | -0.09  | -0.11  | 0.03  | -0.10       | -0.06            | -0.04 | -0.07  | -0.07   | 0.00  |
| East & South Texas      |        |        |       |             |                  |       |        |         |       |
| Agua Dulce              | 0.13   | 0.19   | -0.06 | 0.15        | 0.06             | +0.09 | 0.09   | 0.09    | 0.00  |
| Carthage Hub            | -0.15  | -0.16  | 0.01  | -0.13       | -0.09            | -0.05 | -0.09  | -0.09   | 0.00  |
| Houston Ship Channel    | 0.11   | 0.05   | 0.06  | 0.10        | 0.12             | -0.03 | 0.08   | 0.08    | 0.00  |
| Katy                    | 0.08   | 0.05   | 0.04  | 0.08        | 0.11             | -0.03 | 0.08   | 0.08    | 0.00  |
| NGPL S TX               | 0.02   | 0.01   | 0.01  | -0.02       | -0.08            | +0.07 | 0.03   | 0.03    | 0.00  |
| NGPL Texok Zn           | -0.17  | -0.19  | 0.03  | -0.17       | -0.11            | -0.06 | -0.17  | -0.18   | 0.01  |
| Tenn Zn0                | -0.19  | -0.23  | 0.04  | -0.16       | -0.17            | +0.01 | -0.13  | -0.13   | 0.00  |
| Transco Zn1             | -0.17  | -0.13  | -0.04 | -0.10       | -0.11            | +0.01 | -0.04  | -0.05   | 0.01  |
| TX Eastern E Tx         | -0.19  | -0.16  | -0.04 | -0.12       | -0.09            | -0.03 | -0.07  | -0.07   | 0.00  |
| TX Eastern S TX         | 0.06   | 0.03   | 0.03  | 0.07        | -0.01            | +0.07 | 0.03   | 0.03    | 0.00  |
| Source: Platts M2M data |        |        |       |             |                  |       |        |         |       |

SOUTHEAST SPOT AND FORWARD BASIS (\$/MMBtu)

Source: Platts M2M data

#### SOUTHEAST & TEXAS DEMAND FORECAST



#### EAST AND SOUTH TEXAS FORWARD BASIS

(\$/MMBtu) — Agua Dulce — Houston Ship Chnl — NGPL Texok Zn — TX Eastn S TX



#### SOUTHEAST FORWARD BASIS



#### **CENTRAL GAS MARKETS**

#### Upper Midwest cash basis strengthens

Cash natural gas markets across the Upper Midwest moved higher Tuesday as demand is expected to build through Thursday, although from a broader perspective, basis prices have sat relatively lower as inflows on Rover Pipeline are driving significant storage builds and weighing on regional markets.

Total demand across the Upper Midwest is expected to jump as much as 600 MMcf between Tuesday and Thursday, when consumption will reach 9.4 Bcf, according to S&P Global Platts Analytics.

The demand jump will largely be driven by weather-driven power burn, but will recede moving into the weekend as temperatures cool and demand eases, averaging around 8.8 Bcf/d Friday through Saturday.

The near-term demand build supported spot markets Tuesday, with Consumers Energy cash basis trading around 2.5 cents higher day on day at around 18 cents/MMBtu below Henry Hub.

Similarly, NIPSCO cash basis was trading around 2 cents higher at around minus 20 cents/MMBtu.

From a broader perspective, Upper Midwest markets have been under pressure as additional Northeast to Midwest flows on Phase 2 of Rover have boosted injections into Dawn storage to record highs.

So far in June, injections into Dawn Storage on the Union Gas System have increased by 464 MMcf/d to 890 MMcf/d, more than double the May average of 425 MMcf/d, and the highest June average on record.

These builds have been driven by the surge in flows on Vector Pipeline, which has seen receipts from Rover's Market Zone North, which entered service June 1, average 750 MMcf/d so far in June. Once on Vector, the gas can reach Union Gas' system through the St. Claire interconnect.

Despite this build, storage levels on the system, reported at 33 Bcf on June 1, remain within 2 Bcf of the record low from 2014 due to the strong and longer-than-usual withdrawal season.

The inflows have pressured prices elsewhere across the Upper Midwest, with MichCon cash basis trading at an average of 16 cents/ MMBtu below Henry Hub and a low of minus 21 cents/MMBtu since Rover Phase 2 began operations, compared with an average of minus 12 cents/MMBtu in the two weeks prior.

On Tuesday, MichCon cash basis was trading at around minus 18 cents/MMBtu, about 3 cents higher day on day. MIDWEST FORWARD BASIS



#### CENTRAL SPOT AND FORWARD BASIS (\$/MMBtu)

|                         |        |        | Spot  | t ba | əsis        |                  |       | Promp  | t forward | basis |
|-------------------------|--------|--------|-------|------|-------------|------------------|-------|--------|-----------|-------|
|                         | 12-Jun | 11-Jun | Chg   |      | MTD<br>Avg. | MTD<br>last year | Chg   | 12-Jun | 11-Jun    | Chg   |
| Henry Hub               | 2.92   | 2.95   | -0.03 |      | 2.90        | 2.93             | -0.03 | 2.94   | 2.95      | -0.01 |
| Midwest/East Canada     |        |        |       |      |             |                  |       |        |           |       |
| ANR ML 7                | _      | _      | _     | 1    | -0.22       | -0.12            | -0.10 | -0.20  | -0.20     | 0.01  |
| Chicago CG              | -0.21  | -0.22  | 0.01  | 1    | -0.20       | -0.14            | -0.06 | -0.24  | -0.25     | 0.01  |
| Consumers Energy CG     | -0.18  | -0.21  | 0.03  | 1    | -0.17       | -0.05            | -0.12 | -0.19  | -0.21     | 0.02  |
| Dawn Ontario            | -0.19  | -0.21  | 0.02  | 1    | -0.17       | -0.01            | -0.16 | -0.22  | -0.21     | -0.01 |
| Mich Con CG             | -0.18  | -0.21  | 0.03  |      | -0.17       | -0.05            | -0.12 | -0.21  | -0.23     | 0.02  |
| Northern Ventura        | -0.31  | -0.33  | 0.02  |      | -0.32       | -0.27            | -0.05 | -0.35  | -0.36     | 0.01  |
| Viking-Emerson          | -0.42  | -0.41  | -0.01 |      | -0.43       | -0.37            | -0.06 | -0.46  | -0.46     | 0.00  |
| Midcontinent            |        |        |       |      |             |                  |       |        |           |       |
| ANR OK                  | -0.48  | -0.39  | -0.09 | 1    | -0.50       | -0.33            | -0.17 | -0.65  | -0.65     | 0.00  |
| Enable Gas East         | -0.13  | -0.18  | 0.05  | 1    | -0.19       | -0.17            | -0.02 | -0.25  | -0.26     | 0.01  |
| NGPL Midcontinent       | -0.48  | -0.36  | -0.13 | 1    | -0.46       | -0.33            | -0.13 | -0.61  | -0.61     | 0.00  |
| Northern NG Demarc      | -0.31  | -0.33  | 0.02  | 1    | -0.33       | -0.27            | -0.06 | -0.38  | -0.40     | 0.01  |
| Oneok OK                | -0.93  | -0.89  | -0.05 |      | -0.88       | -0.40            | -0.47 | -1.08  | -1.08     | 0.00  |
| Panhandle TX-OK         | -0.50  | -0.51  | 0.02  |      | -0.54       | -0.35            | -0.19 | -0.68  | -0.68     | 0.00  |
| Southern Star TxOkKs    | -0.48  | -0.39  | -0.10 | [    | -0.49       | -0.37            | -0.12 | -0.66  | -0.66     | 0.00  |
| Source: Platts M2M data |        |        |       | 1    |             |                  |       |        |           |       |

Source: Platts M2M data

#### MIDWEST & MIDCONTINENT DEMAND FORECAST



#### MIDCONTINENT FORWARD BASIS

(\$/MMBtu) - NGPL Midcon - Northern NG Demarc - Panhandle TX-OK - ANR OK



#### WEST GAS MARKETS

#### Calif. rangebound on balanced supply, demand

With supply and demand rising at about the same rate, the California gas markets were trading in a narrow range Tuesday.

In the Southern California Gas service area, the city-gate location was trading at \$3.37/MMBtu, down 1.5 cents, while the Border hub was moving along at \$2.72/MMBtu, up 1.5 cents.

Further north, Pacific Gas & Electric city-gate saw deals at \$3.02/ MMBtu after rising 1.5 cents and the Topock pricing point was trading at \$2.535/MMBtu, showing a decline of 7 cents.

Overall supply into California and the Southwest looked to total 10.111 Bcf/d Tuesday, a 252 MMcf/d, or 3%, increase over Monday's gas on hand of 9.859 Bcf/d, according to S&P Global Platts Analytics.

At the same time, consumption in that region was up 5%, or 422 MMcf/d, to 9.252 Bcf/d.

On a localized level, PG&E's demand looked to come in at 1.73 Bcf/d, an increase of 175 MMcf/d, while SoCal Gas was seeing a 58 MMcf/d increase to 1.989 Bcf/d.

The storage report for California was not robust. The SoCal Gas injection was forecast at 86 MMcf/d, while the PG&E build was seen at 156 MMcf/d.

Although the storage numbers were not impressive, they were not making an impact on the futures market.

The SoCal Gas front-month contract was being traded at Henry Hub basis minus 31.5 cents, a drop of 2.25 cents.

August was down the same 2.25 cents to Henry Hub minus 13 cents.

Meanwhile, September was not seen nearly as bearish, shedding 1 cent to trade at Henry Hub minus 32.5 cents/MMBtu.

The Pacific Northwest had a similar supply and demand picture to that seen in California.

Supply into the region was rising 176 MMcf/d to 3.677 Bcf/d, while demand was up 237 MMcf/d to 3.551 Bcf/d.

That surplus of gas was looking to allow a storage build of 125 MMcf/d. So far this month, injections have averaged 261 MMcf/d.

At the Gas Transmission Northwest Kingsgate hub, trades were heard at \$1.945/MMBtu, showing a fall of 1 cent day on day.

|                      |        |        | Spot  | t b | asis        |                  |       |   | Prompt | forward | basis |
|----------------------|--------|--------|-------|-----|-------------|------------------|-------|---|--------|---------|-------|
|                      | 12-Jun | 11-Jun | Chg   |     | MTD<br>Avg. | MTD<br>last year | Chg   |   | 12-Jun | 11-Jun  | Chg   |
| Henry Hub            | 2.92   | 2.95   | -0.03 |     | 2.90        | 2.93             | -0.03 |   | 2.94   | 2.95    | -0.01 |
| Northwest            |        |        |       |     |             |                  |       |   |        |         |       |
| GTN Kingsgate        | -0.98  | -1.00  | 0.02  |     | -0.93       | -0.68            | -0.25 |   | -0.99  | -0.95   | -0.03 |
| Northwest Sumas      | -0.92  | -1.21  | 0.29  |     | -1.56       | -0.56            | -1.00 |   | -0.98  | -0.97   | -0.01 |
| Northwest Stanfield  | -0.74  | -0.58  | -0.16 |     | -0.74       | -0.51            | -0.23 |   | -0.77  | -0.75   | -0.03 |
| Rockies              |        |        |       |     |             |                  |       |   |        |         |       |
| Cheyenne Hub         | -0.46  | -0.38  | -0.09 |     | -0.51       | -0.39            | -0.11 |   | -0.77  | -0.75   | -0.03 |
| CIG Rockies          | -0.55  | -0.43  | -0.12 |     | -0.59       | -0.42            | -0.16 |   | -0.77  | -0.75   | -0.03 |
| Kern River Opal      | -0.45  | -0.41  | -0.05 |     | -0.51       | -0.37            | -0.14 |   | -0.71  | -0.69   | -0.02 |
| NW WY Pool           | -0.48  | -0.41  | -0.07 |     | -0.52       | -0.41            | -0.12 |   | -0.71  | -0.69   | -0.02 |
| Questar Rky          | -      | _      | _     |     | -0.58       | -0.44            | -0.14 |   | -0.73  | -0.70   | -0.02 |
| Southwest            |        |        |       |     |             |                  |       | . |        |         |       |
| El Paso Permian      | -0.82  | -0.76  | -0.07 |     | -0.76       | -0.40            | -0.36 |   | -1.02  | -0.96   | -0.06 |
| El Paso San Juan     | -0.54  | -0.51  | -0.03 |     | -0.59       | -0.41            | -0.19 |   | -0.72  | -0.73   | 0.01  |
| Kern River Dlvd      | -0.13  | -0.10  | -0.03 |     | -0.26       | -0.30            | +0.04 |   | -0.31  | -0.29   | -0.02 |
| PG&E CG              | 0.10   | 0.06   | 0.05  |     | 0.08        | 0.17             | -0.09 |   | 0.09   | 0.10    | -0.01 |
| PG&E Malin           | -0.46  | -0.35  | -0.11 |     | -0.47       | -0.33            | -0.14 |   | -0.62  | -0.60   | -0.03 |
| PG&E South           | -0.39  | -0.35  | -0.04 |     | -0.48       | -0.31            | -0.17 |   | -0.61  | -0.61   | 0.01  |
| SoCal Gas            | -0.20  | -0.25  | 0.05  |     | -0.33       | -0.31            | -0.03 |   | -0.32  | -0.29   | -0.02 |
| SoCal Gas Citygate   | 0.45   | 0.44   | 0.02  |     | 0.21        | 0.04             | +0.17 |   | 0.66   | 0.71    | -0.05 |
| Transwestern Permian | -0.82  | -0.75  | -0.07 |     | -0.72       | -0.39            | -0.32 |   | -0.95  | -0.90   | -0.05 |
| Waha                 | -0.85  | -0.75  | -0.10 |     | -0.73       | -0.35            | -0.37 |   | -0.97  | -0.90   | -0.07 |
| West Canada          |        |        |       |     |             |                  |       |   |        |         |       |
| AECO-C               | -1.89  | -2.40  | 0.51  |     | -2.11       | -0.31            | -1.80 |   | -1.75  | -1.75   | 0.01  |

WEST SPOT AND FORWARD BASIS (\$/MMBtu)

Source: Platts M2M data

#### SOUTHWEST, NORTHWEST, ROCKIES DEMAND FORECAST



#### WEST DEMAND LOCATIONS FORWARD BASIS



#### WEST SUPPLY LOCATIONS FORWARD BASIS



#### TOTAL NET PIPELINE FLOWS BY REGION (MMcf/d\*)

|                     | 11-Jun             | 12-Jun | Change | MTD<br>avg. | MTD<br>last year | Change |
|---------------------|--------------------|--------|--------|-------------|------------------|--------|
| Supply regions – ne | t pipeline outflo  | WS     |        |             |                  |        |
| Texas               | 8,663              | 8,951  | -288   | 8,415       | 8,101            | 314    |
| West Canada         | 8,881              | 9,188  | -307   | 9,030       | 8,518            | 512    |
| Rockies             | 6,473              | 6,285  | 188    | 6,482       | 5,242            | 1,240  |
| Midcontinent        | 3,489              | 3,475  | 14     | 3,308       | 2,798            | 510    |
| Northeast           | 7,588              | 7,215  | 373    | 8,117       | 6,472            | 1,645  |
| Demand regions – r  | net pipeline inflo | ws     |        |             |                  |        |
| Southwest           | 4,327              | 4,349  | 22     | 4,157       | 4,066            | 91     |
| Southeast           | 9,481              | 9,456  | -25    | 9,939       | 8,565            | 1,374  |
| Northwest           | 1,364              | 1,475  | 111    | 1,329       | 940              | 389    |
| Midwest             | 11,588             | 11,515 | -73    | 11,687      | 10,626           | 1,061  |
| East Canada         | 3,904              | 3,665  | -239   | 3,780       | 3,336            | 444    |

\* Net pipeline flows by region are the aggregated total interstate pipeline flows across the regional border. Net supply regions are those that historically have had more supply than demand within the region and have been net suppliers of gas to other regions. Net demand regions historically have had more demand than supply and have been net receivers of pipeline gas from other regions.

#### **HENRY HUB/NYMEX SPREAD**



#### S&P Global

Platts

#### **GAS DAILY**

Volume 35 / Issue 113 / Wednesday, June 13, 2018 ISSN: 0885-5935

Gas Daily Questions? Email: NAGas&Power@spglobal.com

Managers North America Gas and Power Content Rocco Canonica, +1-720-264-6626 Matthew Eversman, +1-713-655-2238 Joe Fisher, +1-713-658-3290 Chris Newkumet, +1-202-383-2141 Anne Swedberg, +1-720-264-6728

#### Editors

Jared Anderson, +1-212-904-2002 Brandon Evans, +1-720-264-6671 Jim Magill, +1-713-658-3229 Jasmin Melvin, +1-202-383-2135 J. Robinson, +1-720-264-6657 Mark Watson, +1-713-658-3214 Harry Weber, +1-713-658-3257 Maya Weber, +1-202-383-2012

#### Spot Market Editors

John DeLapp, +1-713-655-2279 Eric Janssen, +1-713-655-2261 Samer Mosis, +1-713-655-2271 Ryan Ouwerkerk, +1-713-655-2202

Advertising Tel: +1-720-264-6618 Analysts Eric Brooks Richard Frey John Hilfiker Luke Jackson Tyler Jubert Liz McFarland Mason McLean John McManus Ross Wveno

Director, Americas Generating Fuels and Electric Power Pricing Mark Callahan

Director, Americas Energy News

James O'Connell Global Director of Generating Fuels

Simon Thorne

Platts President Martin Fraenkel

#### Manager, Advertisement Sales Bob Botelho

To reach Platts: E-mail:support@platts.com; North America: Tel:800-PLATTS-8; Latin America: Tel:+54-11-4121-4810; Europe & Middle East: Tel:+44-20-7176-6111; Asia Pacific: Tel:+65-6530-6430

#### **GAS DAILY SUPPLEMENTS**

To access the latest issue of the Gas Daily supplements, click below. <u>Gas Daily Market Fundamentals</u> (pdf)

Gas Daily Market Fundamentals Data (xls)

Gas Daily Monthly Price Guide (pdf)

\*Links require PMC login. For login help, contact support platts.com.

#### SHALE VALUE CHAIN ASSESSMENTS, JUN 12

|  | \$/MMBtu | +/-    |
|--|----------|--------|
| Gulf Coast ethane fractionation spread               | 1.782    | -0.011 |
| Gulf Coast E/P mix fractionation spread              | 1.632    | -0.011 |
| E/P mix Midcontinent to Rockies fractionation spread | -1.285   | 0.169  |
| E/P mix Midcontinent fractionation spread            | -1.350   | 0.174  |
| National raw NGL basket price                        | 8.727    | -0.056 |
| National composite fractionation spread              | 5.697    | -0.086 |

The methodology for these assessments is available at: www.platts.com/IM.Platts.Content/MethodologyReferences/MethodologySpecs/shale-value-chain.pdf

#### PLATTS OIL PRICES, JUN 12

| (\$/b)      | (\$/MMBtu)  |   |
|-------------|---|---|
|             |   |   |
| 64.29-64.31 | 10.29   |   |
| 63.29-63.31 | 10.13   |   |
|             |   |   |
| 66.38-66.40 | 11.45   |   |
|             |   |   |
| 85.00-85.04 | 13.60   |   |
| 75.36-75.38 | 12.06   |   |
| 75.36-75.38 | 12.06   |   |
| 67.36-67.38 | 10.78   |   |
| 65.36-65.38 | 10.46   |   |
|             | 64.29-64.31<br>63.29-63.31<br>66.38-66.40<br>85.00-85.04<br>75.36-75.38<br>75.36-75.38<br>67.36-67.38 | 64.29-64.31         10.29           63.29-63.31         10.13           66.38-66.40         11.45           85.00-85.04         13.60           75.36-75.38         12.06           75.36-75.38         12.06           67.36-67.38         10.78 |

1= barge delivery; 2= pipeline delivery; 3= cargo delivery

*Gas Daily* is published daily by Platts, a division of S&P Global, registered office: Two Penn Plaza, 25th Floor, New York, N.Y. 10121-2298.

Officers of the Corporation: Charles E. Haldeman, Jr., Non-Executive Chairman; Doug Peterson, President and Chief Executive Officer; Ewout Steenbergen, Executive Vice President, Chief Financial Officer; Steve Kemps, Executive Vice President, General Counsel

© 2018 S&P Global Platts, a division of S&P Global Inc. All rights reserved.

The names "S&P Global Platts" and "Platts" and the S&P Global Platts logo are trademarks of S&P Global Inc. Permission for any commercial use of the S&P Global Platts logo must be granted in writing by S&P Global Inc.

You may view or otherwise use the information, prices, indices, assessments and other related information, graphs, tables and images ("Data") in this publication only for your personal use or, if you or your company has a license for the Data from S&P Global Platts and you are an authorized user, for your company's internal business use only. You may not publish, reproduce, extract, distribute, retransmit, resell, create any derivative work from and/or otherwise provide access to the Data or any portion thereof to any person (either within or outside your company, including as part of or via any internal electronic system or intranet), firm or entity, including any subsidiary, parent, or other entity that is affiliated with your company, without S&P Global Platts' prior written consent or as otherwise authorized under license from S&P Global Platts. Any use or distribution of the Data beyond the express uses authorized in this paragraph above is subject to the payment of additional fees to S&P Global Platts.

S&P Global Platts, its affiliates and all of their thirdparty licensors disclaim any and all warranties, express or implied, including, but not limited to,

any warranties of merchantability or fitness for a particular purpose or use as to the Data, or the results obtained by its use or as to the performance thereof. Data in this publication includes independent and verifiable data collected from actual market participants. Any user of the Data should not rely on any information and/or assessment contained therein in making any investment, trading, risk management or other decision. S&P Global Platts, its affiliates and their third-party licensors do not guarantee the adequacy. accuracy, timeliness and/or completeness of the Data or any component thereof or any communications (whether written, oral, electronic or in other format), and shall not be subject to any damages or liability, including but not limited to any indirect, special, incidental, punitive or consequential damages (including but not limited to, loss of profits, trading losses and loss of goodwill).

ICE index data and NYMEX futures data used herein are provided under S&P Global Platts' commercial licensing agreements with ICE and with NYMEX. You acknowledge that the ICE index data and NYMEX futures data herein are confidential and are proprietary trade secrets and data of ICE and NYMEX or its licensors/suppliers, and you shall use best efforts to prevent the unauthorized publication, disclosure or copying of the ICE index data and/or NYMEX futures data.

Permission is granted for those registered with the Copyright Clearance Center (CCC) to copy material herein for internal reference or personal use only, provided that appropriate payment is made to the CCC, 222 Rosewood Drive, Danvers, MA 01923, phone +1-978-750-8400. Reproduction in any other form, or for any other purpose, is forbidden without the express prior permission of S&P Global Inc. For article reprints contact: The YGS Group, phone +1-717-505-9701 xIDS (800-501-9571 from the U.S.).

For all other queries or requests pursuant to this notice, please contact S&P Global Inc. via email at support@platts.com.

#### FINAL DAILY GAS INDICES - ICE LOCATIONS (\$/MMBtu)

| FINAL DAILY GAS INDICES - ICE LOCATIONS (\$/MI   | 4Btu)              |       |        |          |          |        |        | Device of |       |
|--|--------------------|-------|--------|----------|----------|--------|--------|-----------|-------|
| Trade date: 12-Jun   |                    |       |        |          |          |        |        | Powered   | Ice   |
| Flow date(s): 13-Jun   |                    |       | Daily  | Absolute | Absolute | Common | Common | Ny        |       |
| Location   | Symbol             | Index | Change | Low      | High     | Low    | High   | Volume    | Deals |
| Northeast  |                    |       | -      |          | -        |        | •      |           |       |
| ICE Algonquin CG (Excl. J and G Lateral deliveries)  | JAAAA21            | 2.455 | -0.145 | 2.400    | 2.500    | 2.430  | 2.480  | 28        | 6     |
| ICE Algonquin Citygates (Excl. J Lateral deliveries)   | JAAAB21            |       |        |          |          |        |        |           |       |
| ICE Algonquin, Millennium-Ramapo receipts  | JAAHF00            | _     | _      | _        | _        | _      | _      | _         | _     |
| ICE Algonquin, TGP-Mahwah receipts   | JAAHG00            | _     |        | _        | _        | _      | _      | _         | _     |
| ICE Iroquois, zone 1 (delivered excl. Waddington)  | JAABS21            | _     | _      | _        | _        | _      | _      |           | _     |
| ICE Iroquois, zone 2 (non-Hunts Point/Eastchester Lateral)   | JAABT21            | 2.730 | -0.030 | 2.730    | 2.760    | 2.730  | 2.740  | 40        | 8     |
| ICE Iroquois, zone 2 Hunts Point/Eastchester Lateral   | JAABU21            | _     | _      | _        | _        | _      | _      |           | _     |
| ICE Maritimes, Hubline and Beverly Salem   | JAACB21            | —     | _      | —        | —        | —      | —      |           |       |
| ICE Maritimes and Northeast Pipeline US (buyer's choice delivered)                                   | JAACC21            | 3.250 | -0.250 | 3.250    | 3.250    | 3.250  | 3.250  | 6         | 4     |
| ICE PNGTS (buyer's choice delivered)   | JAADH21            | —     | —      | —        | —        | —      |        |           | _     |
| ICE Stagecoach Marcellus Hub   | JAAEN21            |       |        |          |          |        | _      |           |       |
| ICE Tennessee, zone 5, 200 Line, delivered downstream of station 2-                                  |                    |       |        | _        |          |        | _      |           |       |
| ICE Transco, Covo Point, Pleasant Valley Interconnect  | JAAEW21            |       |        |          |          | _      |        |           |       |
| ICE Transco, Cove Point, Pleasant Valley Interconnect<br>ICE Transco, zone 6 (non-NY north mainline) | JAAAY21<br>JAAEZ21 |       |        |          |          |        |        |           |       |
| ICE Transco, zone 6 station 210 Pool   | JAAE221<br>JAAFA21 | 2.800 | -0.020 | 2.800    | 2.990    | 2.800  | 2.850  | 31        | 12    |
|  | JANI AZI           | 2.000 | 0.020  | 2.000    | 2.000    | 2.000  | 2.000  | 51        | 12    |
| Appalachia   |                    |       |        |          |          |        |        |           |       |
| ICE Clarington Tennessee   | JAAFI21            |       |        |          |          |        | _      |           |       |
| ICE Columbia Gas, A04 Pool<br>ICE Columbia Gas, A06 Pool   | JAAAU21<br>JAAAV21 |       |        |          |          |        |        |           |       |
| ICE Columbia Gas, Segmentation Pool  | JAAAV21<br>JAAAW21 |       |        |          |          |        |        |           |       |
| ICE Millennium Pipeline (buyers' choice delivered)   | JAAAW21<br>JAAHA21 |       |        |          |          |        |        |           |       |
| ICE Tennessee, zone 4, station 219 Pool  | JAAET21            | 2.480 | -0.100 | 2.465    | 2.530    | 2.465  | 2.495  | 129       | 40    |
| ICE Texas Eastern, M2 Zone (delivered)   | JAAEV21            | _     | _      | _        | _        | _      | _      |           | _     |
| Midcontinent   |                    |       |        |          |          |        |        |           |       |
| ICE Bennington, Oklahoma   | JAAAM21            | _     | _      | _        | _        | _      | _      |           |       |
| ICE Enable Gas, Flex Pool only   | JAAAH21<br>JAABE21 | 2.780 | +0.025 | 2.780    | 2.780    | 2.780  | 2.780  | 1         | 2     |
| ICE Enable Gas, North Pool only  | JAABF21            | _     | _      | _        | _        | _      |        |           | _     |
| ICE Enable Gas, West (W1 or W2 as mutually agreed)   | JAABI21            | _     | _      | _        | _        | _      | _      | _         | _     |
| ICE Enable Gas, West Pool  | JAABJ21            | _     | _      | _        | _        | _      | _      |           | _     |
| ICE NGPL, Gulf Coast Mainline Pool   | JAACI21            | _     | _      | _        | _        | _      | _      | _         | _     |
| ICE NGPL, Mid-Continent Storage PIN  | JAAC021            | —     | —      | —        | —        | —      | —      | —         | —     |
| ICE Northern Natural, Mid 13 - 16A Pool  | JAACW21            | _     | -      | _        | _        | -      |        |           | _     |
| ICE Northern Natural, Mid 1-7 Pool   | JAACX21            | 2.095 | -0.135 | 2.080    | 2.100    | 2.090  | 2.100  | 38        | 8     |
| ICE Northern Natural, Mid 8 - 12 Pool  | JAACY21            | _     | _      | _        | _        | _      | _      |           | _     |
| ICE Salt Plains Storage (buyers' choice)   | JAADV21            | _     | —      | —        | _        | _      |        |           |       |
| ICE Salt Plains Storage (in-ground transfer only)  | JAADW21            |       | _      | _        | _        | _      | _      |           |       |
| Upper Midwest  |                    |       |        |          |          |        |        |           |       |
| ICE Alliance, Chicago Exchange Hub   | JAAAC21            | 2.675 | -0.010 | 2.665    | 2.680    | 2.670  | 2.680  | 713       | 90    |
| ICE Alliance, ANR Interconnect   | JAAAD21            | _     | _      | _        | _        | _      | _      |           |       |
| ICE Alliance, Midwestern Interconnect  | JAAFX21            | _     | —      | —        | _        | _      |        |           |       |
| ICE Alliance, NGPL Interconnect  | JAAAF21            | _     | _      | _        | _        | _      | _      | _         | _     |
| ICE Alliance, Nicor Interconnect   | JAAAG21            | _     | _      | _        | _        | _      | _      |           | _     |
| ICE Alliance, Vector Interconnect  | JAAAH21            |       |        | _        |          | _      | _      |           |       |
| ICE ANR, Joliet Hub CDP  | JAAAK21            |       | _      |          | _        |        | _      |           |       |
| ICE Bluewater Gas Storage<br>ICE Great Lakes Gas, St. Clair  | JAAAN21<br>JAABM21 |       |        |          |          |        |        |           |       |
| ICE Guardian, Guardian Hub   | JAABH21<br>JAABN21 |       |        |          |          |        |        |           |       |
| ICE NGPL, Amarillo Pooling PIN   | JAACG21            | 2.540 | -0.070 | 2.525    | 2.550    | 2.535  | 2.545  | 115       | 30    |
| ICE NGPL, Amarillo Storage PIN   | JAACG21<br>JAACH21 | 2.340 | -0.070 |          | 2.330    | 2.335  | 2.345  |           |       |
| ICE NGPL, Iowa-Illinios Pooling PIN  | JAACJ21            | _     | _      | _        | _        | _      | _      | _         | _     |
| ICE NGPL, Iowa-Illinois Storage PIN  | JAACK21            | _     | _      | _        | _        | _      | _      | _         | _     |
| ICE NGPL, Mid-American Citygate  | JAACN21            | 2.680 | -0.020 | 2.680    | 2.680    | 2.680  | 2.680  | 21        | 2     |
| ICE Northern Border, Harper Transfer Point   | JAACS21            | 2.630 | -0.040 | 2.630    | 2.630    | 2.630  | 2.630  | 15        | 2     |
| ICE Northern Border, Nicor Interconnect  | JAACT21            | _     | _      | _        | _        | _      | _      | _         | _     |
| ICE Northern Border, Vector Interconnect   | JAACU21            | 2.670 | -0.015 | 2.660    | 2.675    | 2.665  | 2.675  | 323       | 36    |
| ICE Northern Border, Will County   | JAACV21            | 2.670 | -0.015 | 2.665    | 2.675    | 2.670  | 2.675  | 94        | 12    |
| ICE REX (East), delivered into ANR   | JAADK21            | 2.670 | -0.030 | 2.650    | 2.675    | 2.665  | 2.675  | 175       | 44    |
| ICE REX (East), delivered into Lebanon Hub   | JAAHC21            | _     | _      | _        | _        | _      | _      |           | _     |
| ICE REX (East), delivered into Midwestern Gas  | JAADL21            | 2.670 | -0.035 | 2.665    | 2.680    | 2.665  | 2.675  | 156       | 24    |
|  |                    |       |        |          |          |        |        |           |       |

#### FINAL DAILY GAS INDICES - ICE LOCATIONS (\$/MMBtu)

| Trade date: 12-Jun  |                    |       |        |                |                |                |        |            |          |
|---|--------------------|-------|--------|----------------|----------------|----------------|--------|------------|----------|
| Flow date(s): 13-Jun  |                    |       | Daily  | Absolute       | Absolute       | Common         | Common |            |          |
| Location  | Symbol             | Index | Change | Low            | High           | Low            | High   | Volume     | Deals    |
| Upper Midwest   |                    |       |        |                |                |                |        |            |          |
|   |                    |       |        |                |                |                |        |            |          |
| ICE REX (East), delivered into NGPL   | JAADM21            | 2.675 | -0.025 | 2.655          | 2.700          | 2.665          | 2.685  | 513        | 74       |
| ICE REX (East), delivered into Panhandle  | JAADN21            | _     |        |                |                |                | _      |            |          |
| ICE REX (East), delivered into Trunkline  | JAAD021            | 2.665 | +0.065 | 2.665          | 2.665          | 2.665          | 2.665  | 26         | 6        |
| ICE REX (West), delivered into ANR  | JAADP21            |       |        |                | _              | _              | _      |            |          |
| ICE REX (West), delivered into Northern Natural   | JAADQ21            | _     | _      |                |                | _              |        |            |          |
| ICE REX (West), delivered into Panhandle  | JAADR21            |       |        |                |                |                |        |            |          |
| East Texas  |                    | 0.050 |        | 0.050          | 0.050          | 0.050          | 0.050  | 10         |          |
| ICE Agua Dulce Hub  | JAAGI21            | 3.050 | +0.050 | 3.050          | 3.050          | 3.050          | 3.050  | 10         | 2        |
| ICE Atmos, zone 3, receipts   | JAAAL21            | 2.775 | -0.050 | 2.750          | 2.800          | 2.765          | 2.790  | 186        | 34       |
| ICE Carthage Hub Tailgate ICE ETC, Cleburne   | JAAAQ21<br>JAAHH00 | 2.770 | -0.020 | 2.765          | 2.700          | 2.765          | 2.775  | 44         | 8        |
| ICE ETC, Maypearl   | JAARHOO<br>JAABK21 | 2.760 | -0.045 | 2.760          | 2.760          | 2.760          | 2.760  | 30         | 4        |
| ICE Golden Triangle Storage & Hub   | JAABK21<br>JAABL21 |       | -0.043 |                |                |                |        |            |          |
| ICE Gulf South, Pool Area #16   | JAABP21            | 2.760 | -0.015 | 2.755          | 2.770          | 2.755          | 2.765  | 89         | 16       |
| ICE HPL, East Texas Pool  | JAABR21            | _     |        | _              | _              | _              |        | _          | _        |
| ICE Katy, ENSTOR Pool (excl. Kinder Morgan Texas)   | JAABW21            | 3.000 | -0.010 | 3.000          | 3.000          | 3.000          | 3.000  | 20         | 6        |
| ICE Katy, Lonestar (warranted as Intrastate)  | JAABX21            | _     | _      | _              | _              | _              |        | _          | _        |
| ICE Katy, Lonestar Interstate   | JAABY21            | 3.000 | +0.020 | 3.000          | 3.000          | 3.000          | 3.000  | 57         | 10       |
| ICE Katy, Oasis Pipeline  | JAABZ21            | 3.000 | +0.010 | 2.990          | 3.000          | 3.000          | 3.000  | 241        | 36       |
| ICE Moss Bluff Interconnect (buyers' choice delivered)  | JAACD21            | 3.000 | +0.010 | 2.985          | 3.010          | 2.995          | 3.005  | 130        | 10       |
| ICE Moss Bluff Storage (in-ground transfers only)   | JAACE21            | _     | —      | _              | _              | _              | _      |            | _        |
| ICE NGPL, TXOK East Pool  | JAACP21            | 2.755 | -0.005 | 2.750          | 2.760          | 2.755          | 2.760  | 396        | 48       |
| ICE NGPL, TXOK West Pool  | JAACQ21            | _     | _      | _              | _              | _              | _      |            |          |
| ICE NorTex, Tolar Hub   | JAACR21            | 2.805 | -0.055 | 2.785          | 2.820          | 2.795          | 2.815  | 223        | 44       |
| ICE Tennessee, zone 0 North   | JAAEP21            |       |        |                |                |                |        |            |          |
| ICE Tennessee, zone 0 South   | JAAEQ21            | 2.730 | +0.010 | 2.720          | 2.750          | 2.725          | 2.740  | 356        | 48       |
| ICE Tree Palacios Hub - Injection   | JAAFE21            | 2.850 | -0.040 | 2.850          | 2.860          | 2.850          | 2.855  | 113        | 18       |
| ICE Tres Palacios Hub - Withdrawal  | JAAFF21            | 2.980 | +0.005 | 2.980          | 2.990          | 2.980          | 2.985  | 109        | 14       |
| Louisiana/Southeast   |                    |       |        |                |                |                |        |            |          |
| ICE ANR, SE Transmission Pool   | JAAAI21            | 2.740 | -0.030 | 2.740          | 2.740          | 2.740          | 2.740  | 4          | 4        |
| ICE ANR, SE Gathering Pool  | JAAAJ21            |       |        |                |                |                |        |            |          |
| ICE Bobcat Interconnect (buyers' choice delivered)  | JAAA021            |       |        |                |                |                |        |            |          |
| ICE Bobcat Storage (in-ground transfer only) ICE Eqan Interconnect (buyers' choice delivered) | JAAAP21<br>JAAAZ21 |       |        |                |                |                |        |            |          |
| ICE Egan Storage (in-ground transfer only)  | JAABA221           |       |        |                | _              |                |        |            |          |
| ICE Enable Gas, Perryville Hub  | JAABG21            | _     |        |                | _              | _              |        |            |          |
| ICE Enable Gas, South Pool only   | JAABH21            |       |        |                | _              | _              |        |            | _        |
| ICE Gulf South, Perryville Exchange Point   | JAAB021            | 2.825 | -0.075 | 2.820          | 2.830          | 2.825          | 2.830  | 90         | 8        |
| ICE Jefferson Island Storage and Hub  | JAABV21            | _     | _      |                |                |                | _      | _          | _        |
| ICE MS Hub Storage  | JAACF21            | _     | _      | _              | _              | _              | _      | _          | _        |
| ICE NGPL, Louisiana Pooling PIN   | JAACL21            | _     | _      | _              | _              | _              | _      | _          | _        |
| ICE NGPL, Louisiana Storage PIN   | JAACM21            | _     | _      | —              | _              | _              | —      | —          | _        |
| ICE Pine Prairie Hub  | JAADF21            | 2.820 | -0.035 | 2.810          | 2.830          | 2.815          | 2.825  | 239        | 26       |
| ICE Sonat, Zone O   | JAAHE21            | _     | _      | —              | _              | _              | —      |            | _        |
| ICE Sonat, Zone O South Louisiana Pool  | JAAEJ21            | 2.875 | -0.010 | 2.850          | 2.900          | 2.865          | 2.890  | 132        | 26       |
| ICE Sonat, Zone 1 North Pool  | JAAEK21            | _     |        |                | —              | —              |        |            |          |
| ICE Southern Pines Hub  | JAAEM21            |       | _      | _              | _              | _              | _      |            |          |
| ICE Stingray, pool delivery   | JAAE021            |       |        |                |                |                |        |            |          |
| ICE Tennessee, zone 1 100 Leg Pool  | JAAER21            | 2.720 | -0.015 | 2.710          | 2.730          | 2.715          | 2.725  | 32         | 8        |
| ICE Tennessee, zone 1, Station 87 Pool<br>ICE Texas Gas, Mainline Pool                        | JAAES21<br>JAAEX21 | 2.695 | -0.015 | 2.680<br>2.735 | 2.720          | 2.685<br>2.735 | 2.705  | 307<br>227 | 56<br>36 |
| ICE Texas Gas, North Louisiana Pool   | JAAEX21<br>JAAEY21 | 2.745 | -0.030 | 2.755          | 2.110          | 2.735          | 2.755  |            |          |
|   | JAALTZI            |       |        |                |                |                |        |            |          |
| Rockies/Northwest   |                    | 0.075 | 0.170  | 0.005          | 2.400          | 2 2 2 2        | 2.200  | 174        |          |
| ICE CIG, Mainline (sellers' choice, non-lateral)  | JAAFY21            | 2.375 | -0.150 | 2.335          | 2.400          | 2.360          | 2.390  | 174        | 26       |
| ICE CIG, Mainline Pool  | JAAFZ21            | 2 200 |        | 2 200          |                | 2 265          |        | 30         |          |
| ICE CIG, Mainline South (sellers' choice) ICE Kern River, on system receipt                   | JAAAT21<br>JAACA21 | 2.300 | +0.305 | 2.200          | 2.350<br>2.510 | 2.265<br>2.445 | 2.340  | 485        | 88       |
| ICE Opal Plant Tailgate   | JAACA21<br>JAADB21 | 2.405 | -0.070 | 2.425          | 2.310          | 2.445          | 2.485  | 339        | 42       |
|   | JAADDZI            | 2.413 | -0.075 | 2.710          | 2.400          | 2.400          | 2.700  | 555        | 44       |

#### FINAL DAILY GAS INDICES - ICE LOCATIONS (\$/MMBtu)

| Flow dete(s): 13-Jun         Daily         Absolute         Absolute         Common         Change         Locs         High         Low         Hugh         Volume         Deals           Location         Symbol         Index         Change         Change         High         Low         Hugh         Volume         Deals           ECE PG6E, Onyx Hill         2040221         -  | Trade date: 12-Jun                                       |         |       |        |          |          |        |        |        |       |
|--|--|---------|-------|--------|----------|----------|--------|--------|--------|-------|
| Bockles/Northwest           ICE PG6E, Onyx Hill         3AA822         -   | Flow date(s): 13-Jun                                     |         |       | Daily  | Absolute | Absolute | Common | Common |        |       |
| ICE PGSE, Onyx Hill         DAMB21   | Location   | Symbol  | Index | Change | Low      | High     | Low    | High   | Volume | Deals |
| ICE Ploneer Plant Tailgate       JAMO221 <td>Rockies/Northwest</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>  | Rockies/Northwest  |         |       |        |          |          |        |        |        |       |
| ICE Ploneer Plant Tailgate       JAMO221 <td></td>   |  |         |       |        |          |          |        |        |        |       |
| ICE Questar, North Pool       JAA0221       —       … <t< td=""><td>ICE PG&amp;E, Onyx Hill</td><td>JAAHB21</td><td>_</td><td>_</td><td>_</td><td>—</td><td>—</td><td>—</td><td>_</td><td>_</td></t<>  | ICE PG&E, Onyx Hill                                      | JAAHB21 | _     | _      | _        | —        | —      | —      | _      | _     |
| ICE Duestar, South Pool       3AA0321  | ICE Pioneer Plant Tailgate                               | JAADG21 | _     | _      | —        | _        | _      | —      | _      | _     |
| ICE Ruby, Onyx Hill       3A00521       2.505       4.0270       2.505       2.505       2.505       2.505       10       2         ICE Ruby, Receipt Pool       3A01721       —       … <t< td=""><td>ICE Questar, North Pool</td><td>JAADI21</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td></t<>   | ICE Questar, North Pool                                  | JAADI21 | —     | —      | —        | —        | —      | —      | —      | —     |
| ICE Ruby, Receipt Pool       JAADT21       —       … <th< td=""><td>ICE Questar, South Pool</td><td>JAADJ21</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td></th<>   | ICE Questar, South Pool                                  | JAADJ21 | —     | —      | —        | —        | —      | —      | —      | —     |
| LCE Ryckman Creek Gas Storage       JAA0221       —       …  | ICE Ruby, Onyx Hill                                      | JAADS21 | 2.505 | +0.270 | 2.505    | 2.505    | 2.505  | 2.505  | 10     | 2     |
| ICE WIC, Pool         JAFH21         —         …   | ICE Ruby, Receipt Pool                                   | JAADT21 | _     | _      | —        | —        | _      | _      | _      | _     |
| Southwest           ICE El Paso, Keystone Pool         3A88221         2.065         -0.085         1.975         2.150         2.020         2.110         672         114           ICE El Paso, Keystone Pool         3A86221         2.305         -0.005         2.280         2.330         2.295         2.320         188         20           ICE El Paso, Waha Pool         3A80221         2.060         -0.115         2.045         2.000         2.035         2.065         35         4           ICE Oasis, Waha Pool         3AA0221         2.060         -0.115         2.045         2.080         2.050         2.070         139         30           ICE POSE, Kern River Station         3AA0221         -  | ICE Ryckman Creek Gas Storage                            | JAADU21 | —     | —      | —        | —        | —      | —      | —      | —     |
| ICE El Paso, Keystone Pool       JAABB21       2.065       -0.095       1.975       2.150       2.020       2.110       672       114         ICE El Paso, Plains Pool       JAABC21       2.305       -0.105       2.280       2.330       2.295       2.320       188       20         ICE El Paso, Waha Pool       JAABC21       2.060       -0.130       2.000       2.100       2.035       2.065       355       4         ICE Dosis, Waha Pool       JAAD21       2.060       -0.115       2.045       2.070       1.39       30         ICE POSE, Maha Pool       JAAD21       2.060       -0.100       2.045       2.070       1.39       30         ICE POSE, Laggett       JAAD21       -   | ICE WIC, Pool  | JAAFH21 | _     | _      | —        | _        | _      | —      | _      | _     |
| ICE EI Paso, Plains Pool       JAABC21       2.305       -0.106       2.280       2.330       2.295       2.320       188       20         ICE EI Paso, Waha Pool       JAAB221       2.060       -0.130       2.000       2.100       2.035       2.085       383       52         ICE OLSS, Waha Pool       JAAC221       2.060       -0.115       2.045       2.070       2.055       2.065       35       4         ICE DROKN, Westex Pool       JAAD21       -<   | Southwest  |         |       |        |          |          |        |        |        |       |
| ICE El Paso, Waha Pool       JAABD21       2.060       -0.130       2.000       2.100       2.035       2.085       383       52         ICE Oasis, Waha Pool       JAAC221       2.060       -0.115       2.045       2.070       2.055       2.065       35       4         ICE ONEOK, Westex Pool       JAA0221       2.060       -0.100       2.045       2.070       2.055       2.065       35       4         ICE PGEE, Laggett       JAA0221       -   | ICE El Paso, Keystone Pool                               | JAABB21 | 2.065 | -0.085 | 1.975    | 2.150    | 2.020  | 2.110  | 672    | 114   |
| ICE Oesis, Waha Pool       JAAC221       2.060       -0.115       2.045       2.070       2.055       2.065       35       4         ICE ONEOK, Westex Pool       JAADA21       2.060       -0.100       2.045       2.080       2.050       2.070       139       30         ICE PGEE, Daggett       JAAD21       -       <   | ICE El Paso, Plains Pool                                 | JAABC21 | 2.305 | -0.105 | 2.280    | 2.330    | 2.295  | 2.320  | 188    | 20    |
| ICE ONEOK, Westex Pool       JAADA21       2.060       -0.100       2.045       2.080       2.050       2.070       139       30         ICE PG6E, Daggett       JAAD21       - <td< td=""><td>ICE El Paso, Waha Pool</td><td>JAABD21</td><td>2.060</td><td>-0.130</td><td>2.000</td><td>2.100</td><td>2.035</td><td>2.085</td><td>383</td><td>52</td></td<>                                       | ICE El Paso, Waha Pool                                   | JAABD21 | 2.060 | -0.130 | 2.000    | 2.100    | 2.035  | 2.085  | 383    | 52    |
| ICE PG&E, Daggett       JAADC21       —       … <td>ICE Oasis, Waha Pool</td> <td>JAACZ21</td> <td>2.060</td> <td>-0.115</td> <td>2.045</td> <td>2.070</td> <td>2.055</td> <td>2.065</td> <td>35</td> <td>4</td>   | ICE Oasis, Waha Pool                                     | JAACZ21 | 2.060 | -0.115 | 2.045    | 2.070    | 2.055  | 2.065  | 35     | 4     |
| ICE PG6E, Kern River Station       JAADD21       —       =       =       =   | ICE ONEOK, Westex Pool                                   | JAADA21 | 2.060 | -0.100 | 2.045    | 2.080    | 2.050  | 2.070  | 139    | 30    |
| ICE PG&E, Topock       JAADE21       2.535       -0.070       2.430       2.600       2.495       2.580       110       24         ICE Socal, Blythe       JAADX21       - <td>ICE PG&amp;E, Daggett</td> <td>JAADC21</td> <td>_</td> <td></td> <td></td> <td>_</td> <td>_</td> <td>_</td> <td>_</td> <td>_</td>   | ICE PG&E, Daggett  | JAADC21 | _     |        |          | _        | _      | _      | _      | _     |
| ICE Socal, Blythe       JAADX21       —       … <td>ICE PG&amp;E, Kern River Station</td> <td>JAADD21</td> <td>_</td> <td>_</td> <td></td> <td>_</td> <td>_</td> <td>_</td> <td>_</td> <td>_</td>  | ICE PG&E, Kern River Station                             | JAADD21 | _     | _      |          | _        | _      | _      | _      | _     |
| ICE Socal, Ehrenberg (delivered)       JAADY21       2.695       +0.025       2.650       2.750       2.670       2.720       110       12         ICE Socal, Firm Storage only (Citygate)       JAAD221       —       …   | ICE PG&E, Topock   | JAADE21 | 2.535 | -0.070 | 2.430    | 2.600    | 2.495  | 2.580  | 110    | 24    |
| ICE Socal, Firm Storage only (Citygate)       JAAD221       —       … <th< td=""><td>ICE Socal, Blythe</td><td>JAADX21</td><td>_</td><td>_</td><td></td><td>_</td><td>_</td><td>_</td><td>_</td><td>_</td></th<>   | ICE Socal, Blythe  | JAADX21 | _     | _      |          | _        | _      | _      | _      | _     |
| ICE Socal, In-ground transfer only (Citygate)       JAAEA21       —       …  | ICE Socal, Ehrenberg (delivered)                         | JAADY21 | 2.695 | +0.025 | 2.650    | 2.750    | 2.670  | 2.720  | 110    | 12    |
| ICE Socal, Interruptible Storage only (Citygate)       JAAEB21       —       …   | ICE Socal, Firm Storage only (Citygate)                  | JAADZ21 | _     | _      |          | —        | —      | —      | —      | _     |
| ICE Socal, Kern River Station       JAAEC21       2.745       -0.075       2.600       2.750       2.710       2.750       141       28         ICE Socal, Kramer Junction       JAAED21       2.745       -0.055       2.720       2.750       2.740       2.750       197       28         ICE Socal, Needles       JAAED21       2.750       -0.065       2.550       2.550       2.550       2.550       20       2         ICE Socal, Sellers' choice delivered incl. CA production       JAAEE21       -   | ICE Socal, In-ground transfer only (Citygate)            | JAAEA21 | _     | _      |          | —        | —      | —      | _      | _     |
| ICE Socal, Kramer Junction       JAAED21       2.745       -0.055       2.720       2.750       2.740       2.750       197       28         ICE Socal, Needles       JAAEE21       2.550       -0.065       2.550       2.550       2.550       2.550       2.0       2         ICE Socal, Sellers' choice delivered incl. CA production       JAAEE21       - <td>ICE Socal, Interruptible Storage only (Citygate)</td> <td>JAAEB21</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> | ICE Socal, Interruptible Storage only (Citygate)         | JAAEB21 | —     | —      | —        | —        | —      | —      | —      | —     |
| ICE Socal, Needles       JAAEE21       2.550       -0.065       2.550       2.550       2.550       2.00       2         ICE Socal, sellers' choice delivered incl. CA production       JAAEE21       —       …  | ICE Socal, Kern River Station                            | JAAEC21 | 2.745 | -0.075 | 2.600    | 2.750    | 2.710  | 2.750  | 141    | 28    |
| ICE Socal, sellers' choice delivered incl. CA production       JAAFE21       —       … <th< td=""><td>ICE Socal, Kramer Junction</td><td>JAAED21</td><td>2.745</td><td>-0.055</td><td>2.720</td><td>2.750</td><td>2.740</td><td>2.750</td><td>197</td><td>28</td></th<>                                    | ICE Socal, Kramer Junction                               | JAAED21 | 2.745 | -0.055 | 2.720    | 2.750    | 2.740  | 2.750  | 197    | 28    |
| ICE Socal, Topock       JAAHD21       —       … <td>ICE Socal, Needles</td> <td>JAAEE21</td> <td>2.550</td> <td>-0.065</td> <td>2.550</td> <td>2.550</td> <td>2.550</td> <td>2.550</td> <td>20</td> <td>2</td>   | ICE Socal, Needles                                       | JAAEE21 | 2.550 | -0.065 | 2.550    | 2.550    | 2.550  | 2.550  | 20     | 2     |
| ICE Socal, Topock, El Paso       JAAE621       -   | ICE Socal, sellers' choice delivered incl. CA production | JAAEF21 | _     | _      | —        | —        | —      | _      | _      | _     |
| ICE Socal, Topock, Transwestern       JAAEH21       -  | ICE Socal, Topock  | JAAHD21 | —     | —      | —        | —        | —      | —      | —      | —     |
| ICE Socal, Wheeler Ridge       JAAEI21       -       <   | ICE Socal, Topock, El Paso                               | JAAEG21 | —     | _      | —        | —        | —      | —      | —      | _     |
| ICE Transwestern, Central Pool       JAAFB21       —       =       =       =   | ICE Socal, Topock, Transwestern                          | JAAEH21 | —     | —      | —        | —        | —      | —      | —      | —     |
| ICE Transwestern, Panhandle Pool       JAAFC21       —       …   | ICE Socal, Wheeler Ridge                                 | JAAEI21 | —     | —      |          | —        | —      | —      | —      | —     |
| ICE Transwestern, West Texas Pool JAAFD21 2.100 -0.090 2.100 2.110 2.100 2.105 94 16   | ICE Transwestern, Central Pool                           | JAAFB21 | —     | —      | —        | —        | —      | —      | —      | —     |
|  | ICE Transwestern, Panhandle Pool                         | JAAFC21 | _     | _      | _        | _        | _      | -      |        | _     |
| ICE Waha Hub, West Texas (buyer's choice delivered) JAAF621 2.090 -0.145 2.040 2.100 2.075 2.100 185 26  | ICE Transwestern, West Texas Pool                        | JAAFD21 | 2.100 | -0.090 | 2.100    | 2.110    | 2.100  | 2.105  | 94     | 16    |
|  | ICE Waha Hub, West Texas (buyer's choice delivered)      | JAAFG21 | 2.090 | -0.145 | 2.040    | 2.100    | 2.075  | 2.100  | 185    | 26    |

#### ICE GAS DAILY ASSESSMENT RATIONALE

The daily indices for ICE locations are a volume weighted average of ICE Exchange trades submitted to Platts by ICE. No other sources of data are used. Platts editors do not screen the data for outliers or assess prices if there are no transactions. Questions may be directed to Ryan Querkerk at 713-655-2202 or ryan.ouwerkerk@spglobal.com

#### **REPRODUCTION OF PRICING TABLE**

Due to an internal error, the table titled "Final Daily Gas Indices – ICE Locations" was not included in the June 12, 2018, issue of *Gas Daily*. Below is the reproduced table reflecting June 12 flow date values. Please reach out to <u>ryan.ouwerkerk@spglobal.com</u> for any questions.

#### FINAL DAILY GAS INDICES JUNE 11- ICE LOCATIONS (\$/MMBtu)

Trade date: 11-Jun Flow date(s): 12-Jun

| Irade date: 11-Jun   |                      |       |        |          |          |        |        |        |       |
|--|----------------------|-------|--------|----------|----------|--------|--------|--------|-------|
| Flow date(s): 12-Jun   |                      |       | Daily  | Absolute | Absolute | Common | Common |        |       |
| Location   | Symbol               | Index | Change | Low      | High     | Low    | High   | Volume | Deals |
| Northeast  |                      |       |        |          |          |        |        |        |       |
| ICE Algonquin CG (Excl. J and G Lateral deliveries)                | JAAAA21              | 2.600 | +0.395 | 2.550    | 2.650    | 2.575  | 2.625  | 39     | 16    |
| ICE Algonquin Citygates (Excl. J Lateral deliveries)               | JAAAB21              | _     |        |          | _        |        | _      |        | _     |
| ICE Algonquin, Millennium-Ramapo receipts                          | JAAHF00              | _     | _      | _        | _        | _      | _      | _      | _     |
| ICE Algonquin, TGP-Mahwah receipts                                 | JAAHG00              | 2.320 | 0.205  | 2.320    | 2.320    | 2.320  | 2.320  | 10     | 2     |
| ICE Iroquois, zone 1 (delivered excl. Waddington)                  | JAABS21              | _     | _      | _        | _        | _      | _      | _      | _     |
| ICE Iroquois, zone 2 (non-Hunts Point/Eastchester Lateral)         | JAABT21              | 2.760 | +0.345 | 2.650    | 2.820    | 2.720  | 2.805  | 94     | 20    |
| ICE Iroquois, zone 2 Hunts Point/Eastchester Lateral               | JAABU21              | _     |        | _        | _        |        | _      |        | _     |
| ICE Maritimes, Hubline and Beverly Salem                           | JAACB21              | _     | _      | _        | _        | _      | _      |        | _     |
| ICE Maritimes and Northeast Pipeline US (buyer's choice delivered) | JAACC21              | 3.500 | -0.150 | 3.500    | 3.500    | 3.500  | 3.500  | 12     | 4     |
| ICE PNGTS (buyer's choice delivered)                               | JAADH21              | _     |        | _        | _        | _      | _      |        | _     |
| ICE Stagecoach Marcellus Hub                                       | JAAEN21              | _     | _      |          | _        | _      | _      |        | _     |
| ICE Tennessee, zone 5, 200 Line, delivered downstream of station 2 |                      | _     | _      |          | _        | _      | _      |        | _     |
| ICE Texas Eastern, Manhattan Lateral (delivered)                   | JAAEW21              | _     | _      |          |          | _      |        |        | _     |
| ICE Transco, Cove Point, Pleasant Valley Interconnect              | JAAAY21              | _     | _      |          | _        | _      | _      |        | _     |
| ICE Transco, zone 6 (non-NY north mainline)                        | JAAEZ21              | _     | _      | _        | _        | _      | _      | _      | _     |
| ICE Transco, zone 6 station 210 Pool                               | JAAFA21              | 2.820 | +0.510 | 2.800    | 2.850    | 2.810  | 2.835  | 31     | 8     |
| Аррајасћіа   |                      |       |        |          |          |        |        |        |       |
| ICE Clarington Tennessee   | JAAFI21              | _     | _      | _        | _        | _      | _      | _      |       |
| ICE Columbia Gas, A04 Pool   | JAAAU21              | _     |        | _        |          |        | _      |        |       |
| ICE Columbia Gas, A06 Pool   | JAAAV21              | _     |        |          |          | _      |        |        |       |
| ICE Columbia Gas, Segmentation Pool                                | JAAAW21              | _     |        | _        |          | _      | _      |        |       |
| ICE Millennium Pipeline (buyers' choice delivered)                 | JAAHA21              | _     |        |          |          | _      |        |        | _     |
| ICE Tennessee, zone 4, station 219 Pool                            | JAAET21              | 2.580 | +0.105 | 2.540    | 2.620    | 2.560  | 2.600  | 114    | 36    |
| ICE Texas Eastern, M2 Zone (delivered)                             | JAAEV21              | _     |        | _        | _        | _      | _      |        | _     |
| Midcontinent   |                      |       |        |          |          |        |        |        |       |
| ICE Bennington, Oklahoma   | JAAAM21              | _     | _      | _        | _        | _      | _      |        |       |
| ICE Enable Gas, Flex Pool only                                     | JAAAH21<br>JAABE21   | 2.755 | +0.110 | 2.730    | 2.760    | 2.750  | 2.760  | 11     | 6     |
| ICE Enable Gas, North Pool only                                    | JAABE21<br>JAABF21   | 2.755 | +0.110 |          | 2.700    | 2.750  |        |        |       |
| ICE Enable Gas, West (W1 or W2 as mutually agreed)                 | JAABI 21<br>JAABI 21 | _     | _      | _        | _        | _      |        |        |       |
| ICE Enable Gas, West Pool  | JAABJ21              | _     |        |          |          | _      |        |        |       |
| ICE NGPL, Gulf Coast Mainline Pool                                 | JAACI21              | _     | _      |          |          | _      | _      |        |       |
| ICE NGPL, Mid-Continent Storage PIN                                | JAAC021              | _     | _      | _        | _        | _      |        |        |       |
| ICE Northern Natural, Mid 13 - 16A Pool                            | JAACW21              | _     | _      | _        | _        | _      | _      |        | _     |
| ICE Northern Natural, Mid 1-7 Pool                                 | JAACX21              | 2.230 | +0.155 | 2.230    | 2.230    | 2.230  | 2.230  | 8      | 2     |
| ICE Northern Natural, Mid 8 -12 Pool                               | JAACY21              | _     | _      |          | _        | _      | _      |        | _     |
| ICE Salt Plains Storage (buyers' choice)                           | JAADV21              | _     | _      | _        | _        | _      | _      | _      | _     |
| ICE Salt Plains Storage (in-ground transfer only)                  | JAADW21              | _     | _      | _        | _        | _      | _      | _      | _     |
| Upper Midwest  |                      |       |        |          |          |        |        |        |       |
| ICE Alliance, Chicago Exchange Hub                                 | JAAAC21              | 2.685 | +0.075 | 2.680    | 2.700    | 2.680  | 2.690  | 545    | 86    |
| ICE Alliance, ANR Interconnect                                     | JAAAD21              | _     | _      | _        | _        | _      | _      |        | _     |
| ICE Alliance, Midwestern Interconnect                              | JAAFX21              | _     | _      | _        | _        | _      | _      | _      | _     |
| ICE Alliance, NGPL Interconnect                                    | JAAAF21              | _     | _      | _        | _        | _      | _      | _      | _     |
| ICE Alliance, Nicor Interconnect                                   | JAAAG21              | _     |        | _        |          |        | _      |        |       |
| ICE Alliance, Vector Interconnect                                  | JAAAH21              | _     | _      | _        | _        | _      | _      | _      | _     |
| ICE ANR, Joliet Hub CDP  | JAAAK21              | _     | _      | _        | _        | _      | _      | _      | _     |
| ICE Bluewater Gas Storage  | JAAAN21              | _     | _      | _        | _        | _      | _      |        | _     |
| ICE Great Lakes Gas, St. Clair                                     | JAABM21              | _     | _      |          |          | _      | _      |        | _     |
| ICE Guardian, Guardian Hub   | JAABN21              | _     | _      | _        | _        | _      | _      | _      | _     |
| ICE NGPL, Amarillo Pooling PIN                                     | JAACG21              | 2.610 | +0.165 | 2.580    | 2.625    | 2.600  | 2.620  | 14     | 4     |
| ICE NGPL, Amarillo Storage PIN                                     | JAACH21              | —     | _      | —        | _        | _      | —      | _      | _     |
| ICE NGPL, Iowa-Illinios Pooling PIN                                | JAACJ21              | —     | _      | _        | _        | _      | -      | —      | _     |
| ICE NGPL, Iowa-Illinois Storage PIN                                | JAACK21              | —     | _      | —        | _        | —      | —      | —      | _     |
| ICE NGPL, Mid-American Citygate                                    | JAACN21              | 2.700 | +0.030 | 2.700    | 2.700    | 2.700  | 2.700  | 25     | 6     |
| ICE Northern Border, Harper Transfer Point                         | JAACS21              | 2.670 | +0.020 | 2.670    | 2.670    | 2.670  | 2.670  | 20     | 2     |
|  |                      |       |        |          |          |        |        |        |       |



#### FINAL DAILY GAS INDICES JUNE 11- ICE LOCATIONS (\$/MMBtu)

| Trade date: 12-Jun<br>Flow date(s): 13-Jun |  |
|--|--|
| Flow date(s): 13- lun                      |  |
|  |  |
| Location                                   |  |

| Flow date(s): 13-Jun   |                    |       | Daily   | Absolute | Absolute | Common | Common |            |          |
|--|--------------------|-------|---------|----------|----------|--------|--------|------------|----------|
| Location   | Symbol             | Index | Change  | Low      | High     | Low    | High   | Volume     | Deals    |
| Upper Midwest  |                    |       |         |          |          |        |        |            |          |
|  |                    |       |         |          |          |        |        |            |          |
| ICE Northern Border, Nicor Interconnect                                      | JAACT21            | _     | _       | _        | _        | _      | _      | _          |          |
| ICE Northern Border, Vector Interconnect                                     | JAACU21            | 2.685 | +0.095  | 2.675    | 2.690    | 2.680  | 2.690  | 276        | 46       |
| ICE Northern Border, Will County   | JAACV21            | 2.685 | +0.010  | 2.675    | 2.690    | 2.680  | 2.690  | 86         | 12       |
| ICE REX (East), delivered into ANR   | JAADK21            | 2.700 | +0.100  | 2.690    | 2.705    | 2.695  | 2.705  | 165        | 30       |
| ICE REX (East), delivered into Lebanon Hub                                   | JAAHC21            | _     | —       | —        | —        | —      | —      | —          | _        |
| ICE REX (East), delivered into Midwestern Gas                                | JAADL21            | 2.705 | +0.100  | 2.700    | 2.710    | 2.705  | 2.710  | 140        | 24       |
| ICE REX (East), delivered into NGPL  | JAADM21            | 2.700 | +0.095  | 2.665    | 2.710    | 2.690  | 2.710  | 234        | 42       |
| ICE REX (East), delivered into Panhandle                                     | JAADN21            | _     | _       | _        | _        | _      | _      | _          | _        |
| ICE REX (East), delivered into Trunkline                                     | JAAD021            | _     | _       | _        |          | _      | _      |            | _        |
| ICE REX (West), delivered into ANR   | JAADP21            | _     |         | _        | _        | _      | _      | _          | _        |
| ICE REX (West), delivered into Northern Natural                              | JAADQ21            | _     | _       | _        | _        | _      | _      | _          |          |
| ICE REX (West), delivered into Panhandle                                     | JAADR21            | _     |         | _        | _        | _      | _      | _          | _        |
| East Texas   |                    |       |         |          |          |        |        |            |          |
| ICE Agua Dulce Hub   | JAAGI21            | _     | _       | _        | _        | _      | _      | _          | _        |
| ICE Atmos, zone 3, receipts  | JAAAL21            | 2.825 | +0.090  | 2.790    | 2.850    | 2.810  | 2.840  | 214        | 30       |
| ICE Carthage Hub Tailgate  | JAAAQ21            | 2.790 | +0.040  | 2.780    | 2.815    | 2.780  | 2.800  | 30         | 4        |
| ICE ETC, Cleburne  | JAAHHOO            | _     | _       |          |          |        | _      | _          |          |
| ICE ETC, Maypearl  | JAABK21            | 2.805 | +0.070  | 2.800    | 2.850    | 2.800  | 2.820  | 148        | 6        |
| ICE Golden Triangle Storage & Hub  | JAABL21            | 2.950 | +0.025  | 2.950    | 2.950    | 2.950  | 2.950  | 20         | 2        |
| ICE Gulf South, Pool Area #16  | JAABP21            | 2.775 | +0.045  | 2.765    | 2.790    | 2.770  | 2.780  | 151        | 24       |
| ICE HPL, East Texas Pool   | JAABR21            |       | - 0.040 |          |          |        |        |            |          |
| ICE Katy, ENSTOR Pool (excl. Kinder Morgan Texas)                            | JAABW21            | 3.010 | +0.080  | 2.970    | 3.040    | 2.995  | 3.030  | 142        | 18       |
| ICE Katy, Lonestar (warranted as Intrastate)                                 | JAABW21<br>JAABX21 |       | -0.000  | 2.510    |          |        |        |            |          |
| ICE Katy, Lonestar Interstate  | JAABY21            | 2.980 | +0.055  | 2.980    | 2.980    | 2.980  | 2.980  | 40         | 4        |
| ICE Katy, Dasis Pipeline   | JAAB721            | 2.990 | +0.055  | 2.980    | 3.000    | 2.985  | 2.995  | 143        | 20       |
| ICE Moss Bluff Interconnect (buyers' choice delivered)                       | JAACD21            | 2.990 | +0.030  | 2.990    | 3.000    | 2.990  | 2.995  | 250        | 22       |
| ICE Moss Bluff Storage (in-ground transfers only)                            | JAACE21            |       | -0.000  |          | 3.000    |        |        |            |          |
| ICE NGPL, TXOK East Pool   | JAACE21<br>JAACE21 | 2.760 | +0.060  | 2.755    | 2.765    | 2.760  | 2.765  | 239        | 30       |
| ICE NGPL, TXOK West Pool   | JAACP21<br>JAACQ21 | 2.700 | +0.000  | 2.755    | 2.705    | 2.700  | 2.705  |            |          |
| ICE NorTex, Tolar Hub  | JAACQ21<br>JAACR21 | 2.860 | +0.095  | 2.800    | 2.890    | 2.840  | 2.885  | 202        | 38       |
| ICE Tennessee, zone 0 North  | JAACR21<br>JAAEP21 | 2.000 | +0.095  | 2.800    | 2.090    | 2.040  | 2.000  |            |          |
| ICE Tennessee, zone 0 South  | JAAEP21<br>JAAEQ21 | 2.720 | +0.020  | 2.720    | 2.730    | 2.720  | 2.725  | 388        | 52       |
| ICE Tres Palacios Hub - Injection  |                    | 2.890 |         | 2.875    | 2.900    | 2.885  | 2.895  | 95         | 24       |
| ICE Tres Palacios Hub - Withdrawal   | JAAFE21            | 2.890 | +0.055  | 2.950    | 2.900    | 2.865  | 2.895  | 236        | 38       |
|  | JAAFF21            | 2.975 | +0.025  | 2.950    | 2.995    | 2.905  | 2.905  | 230        | 30       |
| Louisiana/Southeast  |                    |       |         |          |          |        |        |            |          |
| ICE ANR, SE Transmission Pool  | JAAAI21            | 2.770 | +0.130  | 2.770    | 2.770    | 2.770  | 2.770  | 3          | 2        |
| ICE ANR, SE Gathering Pool   | JAAAJ21            | _     |         | _        |          | _      | _      |            |          |
| ICE Bobcat Interconnect (buyers' choice delivered)                           | JAAA021            | -     |         | _        |          | _      | _      | _          | _        |
| ICE Bobcat Storage (in-ground transfer only)                                 | JAAAP21            | -     |         | _        |          | _      | _      | _          | _        |
| ICE Egan Interconnect (buyers' choice delivered)                             | JAAAZ21            | _     |         | _        |          | —      | _      |            |          |
| ICE Egan Storage (in-ground transfer only)                                   | JAABA21            | -     |         | _        |          | _      | _      | _          | _        |
| ICE Enable Gas, Perryville Hub   | JAABG21            | —     |         |          |          |        |        |            |          |
| ICE Enable Gas, South Pool only  | JAABH21            | _     |         |          |          |        |        |            |          |
| ICE Gulf South, Perryville Exchange Point                                    | JAABO21            | 2.900 | +0.045  | 2.900    | 2.900    | 2.900  | 2.900  | 20         | 2        |
| ICE Jefferson Island Storage and Hub   | JAABV21            | _     |         |          |          |        |        |            | _        |
| ICE MS Hub Storage   | JAACF21            | _     | _       | _        | —        | —      | _      |            |          |
| ICE NGPL, Louisiana Pooling PIN  | JAACL21            | _     |         | —        |          | —      | —      |            | _        |
| ICE NGPL, Louisiana Storage PIN  | JAACM21            | _     | —       | —        | _        | _      | —      |            | _        |
| ICE Pine Prairie Hub   | JAADF21            | 2.855 | +0.050  | 2.830    | 2.865    | 2.845  | 2.865  | 329        | 32       |
| ICE Sonat, Zone O  | JAAHE21            | -     |         | _        |          |        | —      |            | _        |
| ICE Sonat, Zone 0 South Louisiana Pool                                       | JAAEJ21            | 2.885 | +0.070  | 2.880    | 2.895    | 2.880  | 2.890  | 121        | 22       |
| ICE Sonat, Zone 1 North Pool   | JAAEK21            | —     | —       | —        | —        | —      | _      | —          | _        |
| ICE Southern Pines Hub   | JAAEM21            | _     | _       | —        | _        | —      | —      | _          | _        |
| ICE Stingray, pool delivery  | JAAE021            | _     | _       | _        | _        | _      | _      | _          | _        |
|  |                    | 0 705 | 0.075   | 2.720    | 2.740    | 2.730  | 2.740  | 33         | 10       |
| ICE Tennessee, zone 1 100 Leg Pool   | JAAER21            | 2.735 | +0.075  | 2.120    |          |        |        |            |          |
| ICE Tennessee, zone 1 100 Leg Pool<br>ICE Tennessee, zone 1, Station 87 Pool | JAAER21<br>JAAES21 | 2.735 | +0.075  | 2.690    | 2.750    | 2.695  | 2.725  | 259        | 36       |
|  |                    |       |         |          |          |        |        | 259<br>171 | 36<br>28 |

Daily

Absolute

Absolute

Common

Common

#### FINAL DAILY GAS INDICES JUNE 11- ICE LOCATIONS (\$/MMBtu)

Trade date: 12-Jun

| ICE Pioneer Plant Tailigate       JAA0621       2.580       4.6400       2.580       2.580       2.580       2.580       2.80       2.80       2.80       4         ICE Questar, North Pool       JAA0721       4.70       4.2470       2.470       2.470       2.470       2.470       0.4       2         ICE Questar, South Pool       JAA0721       -   |  |          |       | Della  | Abaaluta | Abaaluta | 0     | 0     |         |       |
|---|--|----------|-------|--------|----------|----------|-------|-------|---------|-------|
| Reckies/Northwest         CE         Ci, Minline (selier's choice, non-isteral)         JAAFY22         2.525         40.470         2.470         2.540         2.510         2.560         2.610         Zeine         -  |  | 0 set et | 1.1.  | -      |          |          |       |       | Mal and | D I.  |
| ICE CIG, Mainline (sellers' choice, non-lateral)       2A4F21       2.525       +0.470       2.540       2.510       2.540       208       28         ICE CIG, Mainline Pool       3A4F21       -   | Location   | Symbol   | Index | Change | Low      | High     | Low   | High  | Volume  | Deals |
| ICE OG, Mainline Pool       JAM221       —       …  | Rockies/Northwest  |          |       |        |          |          |       |       |         |       |
| ICE CIG, Mainline South (sellers' choice)       3AAT21       —       …       …       …       …       … <t< td=""><td>ICE CIG, Mainline (sellers' choice, non-lateral)</td><td>JAAFY21</td><td>2.525</td><td>+0.470</td><td>2.470</td><td>2.540</td><td>2.510</td><td>2.540</td><td>208</td><td>28</td></t<>   | ICE CIG, Mainline (sellers' choice, non-lateral)         | JAAFY21  | 2.525 | +0.470 | 2.470    | 2.540    | 2.510 | 2.540 | 208     | 28    |
| ICE Kern River, on system receipt       3AACA21       2.535       4.0.355       2.500       2.580       2.515       2.555       305       52         ICE Opal Prant Tailgate       3AAAB21       -       <  | ICE CIG, Mainline Pool                                   | JAAFZ21  | —     | _      | —        | _        | —     | —     | —       | —     |
| ICE OpaR Plant Tailgate       3AA0921       2.550       +0.355       2.500       2.585       2.530       2.570       378       54         ICE PGGE, Onyx Hill       3AA0921       2.580       4.040       2.580       2.580       2.580       2.580       2.680       2.680       2.680       2.680       2.680       2.680       2.680       2.680       2.680       2.670       2.470       0.44       2         ICE Quest, North Pool       3AA0211       - <t< td=""><td>ICE CIG, Mainline South (sellers' choice)</td><td>JAAAT21</td><td>—</td><td>_</td><td>—</td><td>_</td><td>—</td><td>—</td><td>—</td><td>—</td></t<>                                    | ICE CIG, Mainline South (sellers' choice)                | JAAAT21  | —     | _      | —        | _        | —     | —     | —       | —     |
| ICE PGGE, Onyx Hill       JAM821       - </td <td>ICE Kern River, on system receipt</td> <td>JAACA21</td> <td>2.535</td> <td>+0.355</td> <td>2.500</td> <td>2.580</td> <td>2.515</td> <td>2.555</td> <td>305</td> <td>52</td>   | ICE Kern River, on system receipt                        | JAACA21  | 2.535 | +0.355 | 2.500    | 2.580    | 2.515 | 2.555 | 305     | 52    |
| ICE Pioneer Plant Tailgate       JAM0221       2.580       4.0400       2.580       2.580       2.580       2.580       2.680   | ICE Opal Plant Tailgate                                  | JAADB21  | 2.550 | +0.355 | 2.500    | 2.585    | 2.530 | 2.570 | 378     | 54    |
| ICE Questar, North Pool       3AAD221       2.470       4.0280       2.470       2.470       2.470       2.470       0.4       2         ICE Questar, South Pool       3AAD231       -  | ICE PG&E, Onyx Hill                                      | JAAHB21  | —     | _      | —        | _        | —     | —     | —       | —     |
| ICE Questar, South Pool       JAA0321       - <t< td=""><td>ICE Pioneer Plant Tailgate</td><td>JAADG21</td><td>2.580</td><td>+0.400</td><td>2.580</td><td>2.580</td><td>2.580</td><td>2.580</td><td>28</td><td>4</td></t<>  | ICE Pioneer Plant Tailgate                               | JAADG21  | 2.580 | +0.400 | 2.580    | 2.580    | 2.580 | 2.580 | 28      | 4     |
| ICE Ruby, Onyx Hill       JAA0521   | ICE Questar, North Pool                                  | JAADI21  | 2.470 | +0.230 | 2.470    | 2.470    | 2.470 | 2.470 | 0.4     | 2     |
| ICE Ruby, Receipt Pool       JAADT21  | ICE Questar, South Pool                                  | JAADJ21  | —     | —      | —        | —        | —     | —     | —       | —     |
| ICE Ryckman Creek Gas Storage       JAADU21       —       …   | ICE Ruby, Onyx Hill                                      | JAADS21  | —     | —      | —        | —        | _     | —     | —       | —     |
| ICE WC, Pool       JAAFH21       —       …  | ICE Ruby, Receipt Pool                                   | JAADT21  | —     | _      | —        | _        | —     | —     | —       | —     |
| Southwest           ICE El Paso, Keystone Pool         JAABE21         2.150         +0.110         1.980         2.210         2.095         2.210         489         74           ICE El Paso, Velans Pool         JAABE21         2.410         40.320         2.370         2.480         2.385         2.440         122         16           ICE El Paso, Waha Pool         JAABE21         2.115         40.130         2.160         2.200         2.165         2.215         243         28           ICE Oasis, Waha Pool         JAAC21         2.175         40.130         2.160         2.200         2.165         2.185         80         10           ICE OASIS, Waha Pool         JAAD21         2.160         40.120         2.130         2.170         2.150         2.170         38         6           ICE PG6E, Kern River Station         JAAD21         -   | ICE Ryckman Creek Gas Storage                            | JAADU21  | —     | —      | —        | —        | —     | —     | —       | —     |
| ICE EI Paso, Keystone Pool       JAABB21       2.150       +0.110       1.980       2.210       2.095       2.210       489       74         ICE EI Paso, Plains Pool       JAABC21       2.410       +0.320       2.370       2.480       2.385       2.440       122       16         ICE EI Paso, Waha Pool       JAABC21       2.190       +0.145       2.120       2.220       2.165       2.215       243       28         ICE Dasis, Waha Pool       JAAD21       2.175       +0.130       2.160       2.200       2.165       2.185       80       10         ICE NEOK, Westex Pool       JAAD21       2.160       +0.120       2.130       2.170       2.150       2.170       38       6         ICE PG6E, Kern River Station       JAAD21       -  | ICE WIC, Pool  | JAAFH21  | _     | —      | —        | _        | _     | —     | _       | _     |
| ICE El Paso, Plains Pool       JAAB221       2.410       +0.320       2.370       2.480       2.385       2.440       122       16         ICE El Paso, Waha Pool       JAAB221       2.190       +0.145       2.120       2.220       2.165       2.215       243       28         ICE Oasis, Waha Pool       JAAC221       2.175       +0.130       2.160       2.200       2.165       2.185       80       10         ICE NEOK, Westex Pool       JAAD221       -   | Southwest  |          |       |        |          |          |       |       |         |       |
| ICE El Paso, Waha Pool       JAABD21       2.190       +0.145       2.120       2.220       2.165       2.215       243       28         ICE Oasis, Waha Pool       JAAC221       2.175       +0.130       2.160       2.200       2.165       2.185       80       10         ICE Oasis, Waha Pool       JAAD221       2.175       +0.130       2.160       2.200       2.165       2.185       80       10         ICE OASE, Key Rol       JAAD221       -  | ICE El Paso, Keystone Pool                               | JAABB21  | 2.150 | +0.110 | 1.980    | 2.210    | 2.095 | 2.210 | 489     | 74    |
| ICE Dasis, Waha Pool       JAAC221       2.175       +0.130       2.160       2.200       2.165       2.185       80       10         ICE DNEOK, Westex Pool       JAADA21       2.160       +0.120       2.130       2.170       2.150       2.170       38       6         ICE PG6E, Daggett       JAAD21       —       …       …       …       …       …       …       …       … <t< td=""><td>ICE El Paso, Plains Pool</td><td>JAABC21</td><td>2.410</td><td>+0.320</td><td>2.370</td><td>2.480</td><td>2.385</td><td>2.440</td><td>122</td><td>16</td></t<>  | ICE El Paso, Plains Pool                                 | JAABC21  | 2.410 | +0.320 | 2.370    | 2.480    | 2.385 | 2.440 | 122     | 16    |
| ICE ONEOK, Westex Pool       JAADA21       2.160       +0.120       2.130       2.170       2.150       2.170       38       6         ICE PG6E, Daggett       JAAD21       —       …       …       …       …       …       …       …       …       …       …       …       …       …       …       …       …       …       …   | ICE El Paso, Waha Pool                                   | JAABD21  | 2.190 | +0.145 | 2.120    | 2.220    | 2.165 | 2.215 | 243     | 28    |
| ICE PG&E, Daggett       JAADC21       —       … <td>ICE Oasis, Waha Pool</td> <td>JAACZ21</td> <td>2.175</td> <td>+0.130</td> <td>2.160</td> <td>2.200</td> <td>2.165</td> <td>2.185</td> <td>80</td> <td>10</td>   | ICE Oasis, Waha Pool                                     | JAACZ21  | 2.175 | +0.130 | 2.160    | 2.200    | 2.165 | 2.185 | 80      | 10    |
| ICE PG&E, Kern River Station       JAADD21       —       …  | ICE ONEOK, Westex Pool                                   | JAADA21  | 2.160 | +0.120 | 2.130    | 2.170    | 2.150 | 2.170 | 38      | 6     |
| ICE PG&E, Topock       JAADE21       2.605       +0.455       2.580       2.650       2.590       2.625       71       14         ICE Socal, Blythe       JAADX21       —       …       … <td>ICE PG&amp;E, Daggett</td> <td>JAADC21</td> <td>_</td> <td>_</td> <td>_</td> <td>_</td> <td></td> <td>_</td> <td>_</td> <td>_</td>  | ICE PG&E, Daggett  | JAADC21  | _     | _      | _        | _        |       | _     | _       | _     |
| ICE Socal, Blythe       JAADX21       —       … <td>ICE PG&amp;E, Kern River Station</td> <td>JAADD21</td> <td>_</td> <td>_</td> <td>_</td> <td>_</td> <td>_</td> <td>_</td> <td>_</td> <td>_</td>  | ICE PG&E, Kern River Station                             | JAADD21  | _     | _      | _        | _        | _     | _     | _       | _     |
| ICE Socal, Ehrenberg (delivered)       JAADY21       2.670       +0.445       2.550       2.850       2.595       2.745       178       22         ICE Socal, Firm Storage only (Citygate)       JAAD221       —       …  | ICE PG&E, Topock   | JAADE21  | 2.605 | +0.455 | 2.580    | 2.650    | 2.590 | 2.625 | 71      | 14    |
| ICE Socal, Firm Storage only (Citygate)       JAAD221       —       … <th< td=""><td>ICE Socal, Blythe</td><td>JAADX21</td><td>—</td><td>_</td><td>—</td><td>_</td><td>_</td><td>—</td><td>—</td><td></td></th<>  | ICE Socal, Blythe  | JAADX21  | —     | _      | —        | _        | _     | —     | —       |       |
| ICE Socal, In-ground transfer only (Citygate)       JAAEA21       —       …   | ICE Socal, Ehrenberg (delivered)                         | JAADY21  | 2.670 | +0.445 | 2.550    | 2.850    | 2.595 | 2.745 | 178     | 22    |
| ICE Socal, Interruptible Storage only (Citygate)       JAAEB21       —       …  | ICE Socal, Firm Storage only (Citygate)                  | JAADZ21  | —     | _      | —        | _        | —     | —     | —       | —     |
| ICE Socal, Kern River Station       JAAEC21       2.820       +0.555       2.780       2.850       2.805       2.840       76       16         ICE Socal, Kramer Junction       JAAED21       2.800       +0.530       2.780       2.850       2.785       2.820       50       12         ICE Socal, Needles       JAAEE21       2.615       +0.470       2.570       2.670       2.590       2.640       64       10         ICE Socal, sellers' choice delivered incl. CA production       JAAEE21       —       …   | ICE Socal, In-ground transfer only (Citygate)            | JAAEA21  | —     | _      | —        | _        | _     | —     | —       |       |
| ICE Socal, Kramer Junction       JAAED21       2.800       +0.530       2.780       2.850       2.785       2.820       50       12         ICE Socal, Needles       JAAEE21       2.615       +0.470       2.570       2.670       2.590       2.640       64       10         ICE Socal, sellers' choice delivered incl. CA production       JAAEE21       —       …  | ICE Socal, Interruptible Storage only (Citygate)         | JAAEB21  | _     | —      | —        | _        | _     | —     | _       | _     |
| ICE Socal, Needles       JAAEE21       2.615       +0.470       2.570       2.670       2.590       2.640       64       10         ICE Socal, sellers' choice delivered incl. CA production       JAAEE21       —       … <t< td=""><td>ICE Socal, Kern River Station</td><td>JAAEC21</td><td>2.820</td><td>+0.555</td><td>2.780</td><td>2.850</td><td>2.805</td><td>2.840</td><td>76</td><td>16</td></t<>   | ICE Socal, Kern River Station                            | JAAEC21  | 2.820 | +0.555 | 2.780    | 2.850    | 2.805 | 2.840 | 76      | 16    |
| ICE Socal, sellers' choice delivered incl. CA production       JAAEF21       —       … <th< td=""><td>ICE Socal, Kramer Junction</td><td>JAAED21</td><td>2.800</td><td>+0.530</td><td>2.780</td><td>2.850</td><td>2.785</td><td>2.820</td><td>50</td><td>12</td></th<>  | ICE Socal, Kramer Junction                               | JAAED21  | 2.800 | +0.530 | 2.780    | 2.850    | 2.785 | 2.820 | 50      | 12    |
| ICE Socal, Topock       JAAH021       —       … <td>ICE Socal, Needles</td> <td>JAAEE21</td> <td>2.615</td> <td>+0.470</td> <td>2.570</td> <td>2.670</td> <td>2.590</td> <td>2.640</td> <td>64</td> <td>10</td>   | ICE Socal, Needles                                       | JAAEE21  | 2.615 | +0.470 | 2.570    | 2.670    | 2.590 | 2.640 | 64      | 10    |
| ICE Socal, Topock, El Paso       JAAE621 <td>ICE Socal, sellers' choice delivered incl. CA production</td> <td>JAAEF21</td> <td>—</td> <td>_</td> <td>—</td> <td>_</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td>   | ICE Socal, sellers' choice delivered incl. CA production | JAAEF21  | —     | _      | —        | _        | —     | —     | —       | —     |
| ICE Socal, Topock, Transwestern       JAAEH21       —       =       =       =   | ICE Socal, Topock  | JAAHD21  | —     | —      | —        | —        | —     | —     | —       | —     |
| ICE Socal, Wheeler Ridge         JAAEI21         —         … <th< td=""><td>ICE Socal, Topock, El Paso</td><td>JAAEG21</td><td>—</td><td>—</td><td>—</td><td>—</td><td>_</td><td>—</td><td>—</td><td>—</td></th<> | ICE Socal, Topock, El Paso                               | JAAEG21  | —     | —      | —        | —        | _     | —     | —       | —     |
| ICE Transwestern, Central Pool JAAFB21 2.200 +0.200 2.190 2.200 2.200 2.200 25 4  | ICE Socal, Topock, Transwestern                          | JAAEH21  | —     | _      | —        | _        | —     | —     | —       | —     |
|   | ICE Socal, Wheeler Ridge                                 | JAAEI21  | _     | _      | _        | _        | _     | _     | _       | _     |
| ICE Transwestern, Panhandle Pool JAAFC21 — — — — — — — — — — —  | ICE Transwestern, Central Pool                           | JAAFB21  | 2.200 | +0.200 | 2.190    | 2.200    | 2.200 | 2.200 | 25      | 4     |
|   | ICE Transwestern, Panhandle Pool                         | JAAFC21  | _     | _      | _        | _        | _     | _     |         | _     |
| ICE Transwestern, West Texas Pool         JAAFD21         2.190         +0.165         2.150         2.210         2.175         2.205         40         10  | ICE Transwestern, West Texas Pool                        | JAAFD21  | 2.190 | +0.165 | 2.150    | 2.210    | 2.175 | 2.205 | 40      | 10    |
| ICE Waha Hub, West Texas (buyer's choice delivered) JAAFG21 2.235 +0.125 2.180 2.250 2.220 2.250 240 28   | ICE Waha Hub, West Texas (buyer's choice delivered)      | JAAFG21  | 2.235 | +0.125 | 2.180    | 2.250    | 2.220 | 2.250 | 240     | 28    |

#### ICE GAS DAILY ASSESSMENT RATIONALE

The daily indices for ICE locations are a volume weighted average of ICE Exchange trades submitted to Platts by ICE. No other sources of data are used. Platts editors do not screen the data for outliers or assess prices if there are no transactions. Questions may be directed to Ryan Ouwerkerk at 713-655-2202 or ryan.ouwerkerk@spglobal.com

# essentially, clients value five things in a law firm



- strong relationships
- clear communication
  - budget certainty/lean staffing
- 🙎 know-how
  - results

#### TOP LISTED IN THE U.S. IN ENERGY LAW BY THE BEST LAWYERS IN AMERICA®

Sharon O. Flanery • Chair, Energy and Natural Resources Department • sharon.flanery@steptoe-johnson.com THIS IS AN ADVERTISEMENT

Proud sponsor of the 2018 S&P Global Platts Global Energy Outlook Forum



### **S&P Global** Platts



## Are you getting enough bids for your Open Season?

Open Season advertisements in Platts Market Reports will save you time and money by soliciting responses from upstream companies across North America that subscribe to our publications.

Download a copy of our media kit for more information and pricing.

#### http://bit.ly/DownloadMediaKit