
Trump Declares That the War on Coal Is Over

U.S. power and gas weekly.

Morningstar Commodities Research
19 September 2018

Matthew Hong
Director of Research, Power and Gas
+1 312 244-7649
matthew.hong@morningstar.com

Data Sources Used in This Publication
Energy Information Administration
S&P Market Intelligence
ICE

Bullish Coal?

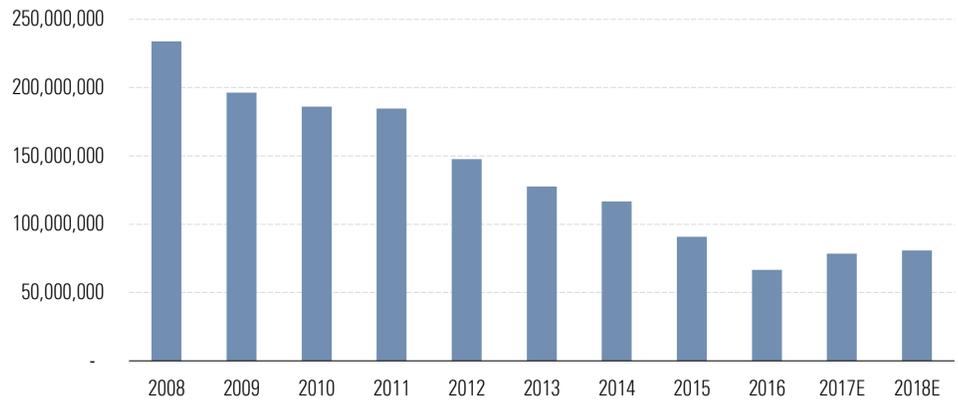
No industry in the United States has seen as much disruption over the past decade as coal. President Donald Trump's campaign promise to end the "war on coal" catapulted his popularity in mining-heavy states. The administration has taken several actions designed to save the sector, which might explain some of the recent bullishness in coal prices, but the actual driver may rest elsewhere. As power generation continues to migrate toward natural gas, coal production in the United States has fallen from 1.2 billion short tons in 2008 to 728 million short tons in 2016, according to the Energy Information Administration. Regionally, central Appalachian production has seen the greatest decline over the same period, from 233 million short tons in 2008 to 66 million short tons in 2016. While EIA estimates for 2017 show the overall downward trend in coal production continuing, the year marked a positive shift for central Appalachia, with an increase in production. This note looks at whether the uptick in central Appalachian production in 2017 was a one-off event or signaled a more significant recovery.

Central Appalachian Production

Central Appalachian production has so far been the foremost victim of the nation's shift from coal to natural gas power generation, with coal retirements and new natural gas builds driving the trend. Between 2008 and 2018, total installed coal capacity in the United States declined by 18% from 301 gigawatts to 247 GW. Over the same period, installed natural gas capacity increased 12% from 458 GW to 514 GW. This structural shift was even more pronounced within the PJM footprint, which overlaps with central Appalachia coal and Marcellus natural gas production areas. Installed coal capacity in PJM fell by 29% from 80 GW to 56 GW, and natural gas capacity grew 35% from 69 GW to 94 GW between 2008 and 2018.

This trend drove central Appalachian coal production down from 233 million short tons to 66 million between 2008 and 2016, a 12% annual average decline (Exhibit 1). Then, surprisingly, central Appalachian coal production grew in 2017 by 18% to 78 million short tons and based off the first two quarters available for 2018, production is expected to end the year at around 81 million short tons.

Exhibit 1 Central Appalachian Coal Production (short tons)



Source: EIA, Morningstar

Decreasing Domestic Coal Burn

One reason for the apparent coal production recovery could be that the limited central Appalachian power plants still in operation after years of retirements are burning more coal. However, total coal deliveries to plants in the eastern United States actually fell by 17 million short tons from 334 million short tons in 2016 to 317 million short tons in 2017 (Exhibit 2). The same story plays out when looking at central Appalachian specific coal deliveries, which went from 26 million short tons to a little over 20 million short tons from 2016 to 2017. Data available for 2018 (January-June) show a similar story, with volumes likely to fall below 2017 levels. As a result, the driver for additional coal production likely rests in the export market.

Exhibit 2 Coal Deliveries by Month (thousands short ton)



Source: S&P Market Intelligence

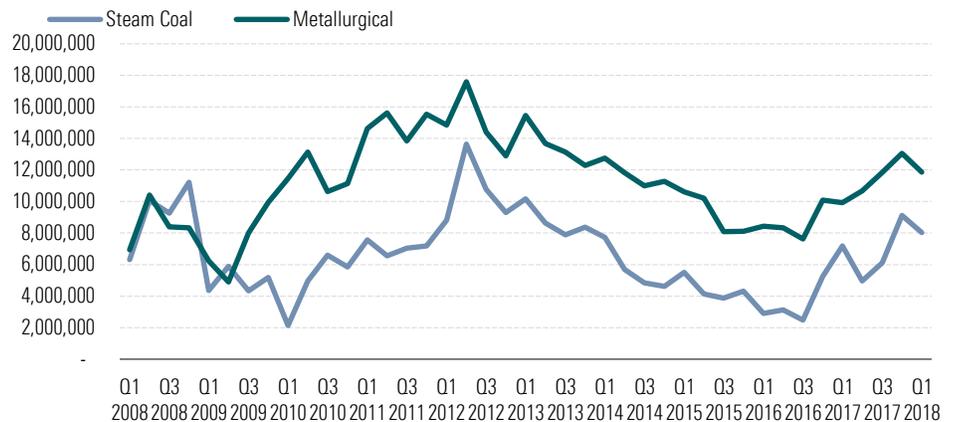
Return of Coal Exports

2017 was a spectacular year for U.S. coal exports, with shipments growing 61% over 2016 levels. Increased demand in Asia and Europe, coupled with supply disruptions in Indonesia and Australia drove buyers to the United States. Although both steam and metallurgical coal exports to Europe and Asia were higher in 2017 compared with 2016, steam coal exports to Asia saw the highest growth.

India, South Korea, and Japan were the three largest takers of U.S. steam coal, and changes in each country's domestic generation fleet increased their appetite for coal. In India, although sufficient domestic production exists, many of the newer generators require a higher-quality coal, forcing greater reliance on imports. In South Korea and Japan, the driver for coal imports stems for each country's nuclear fleet. South Korea's shift away from nuclear, and delays in restarting nuclear generators in Japan have provided additional demand for coal imports.

Tying the export boom to the growth in central Appalachia requires looking at exports from select ports in the eastern United States. Total coal exports out of eastern U.S. ports, which is where central Appalachian coal is likely to exit the country, grew significantly between 2016 and 2017 (Exhibit 3). Between these two years, the nation's combined steam and metallurgical coal exports from selected ports grew from 48 million short tons to around 73 million short tons. First-quarter 2018 export numbers also show the trend continuing, with close to 20 million tons combined, exceeding total first-quarter exports going back to 2014.

Exhibit 3 Quarterly Coal Exports From Select East Coast Ports (short tons)



Source: EIA

For coal producers, the key question is whether export demand will continue. Our view is that the growth in 2017 exports is likely a short-term aberration, and not a longer-term growth trend. Although some of the conditions that drove more U.S. exports to Asia are structural, the United States remains a swing supplier in the seaborne market. The roughly 40-day trip from the U.S. East Coast to high-demand markets in Asia means spreads between Asia and the U.S. must cover the additional transportation costs. As supply concerns in Indonesia and Australia dissipate, the demand for U.S. supply will fall in tow as access and the cost to procure from geographically closer locations improve. Although 2017 saw

huge volumes going to Asia, Europe remains the more consistent destination market for U.S. exports, making the CSX 1% and API2 spread the barometer of the strength behind U.S. exports.

The U.S./Europe Arb

Central Appalachia spot month prices have had a remarkable run, where the CSX 1% settled above \$70/short ton, continuing a bullish trend that started in April 2018 (Exhibit 4). The last time central Appalachian coal prices hit \$70/short ton was in December 2011. However, CSX 1% prices for next year are still hovering in the mid \$60s, which may mean the market interprets the additional export demand to be a short-term event. Coal prices delivered into Europe contributed to the move up in CSX 1%, with the spot arb going from \$15/short ton in April to peaking at almost \$30/short ton in mid-July, incentivizing U.S. producers to export. The spot arb is currently sitting around \$20/short ton. Looking at coal prices for 2019, the API2 has moved up more aggressively than its counterpart in central Appalachia, which depending on European demand, could signal some more upward movement in central Appalachian prices next year.

Exhibit 4 Spot Month CSX 1% and API2 Price (\$/short tons)



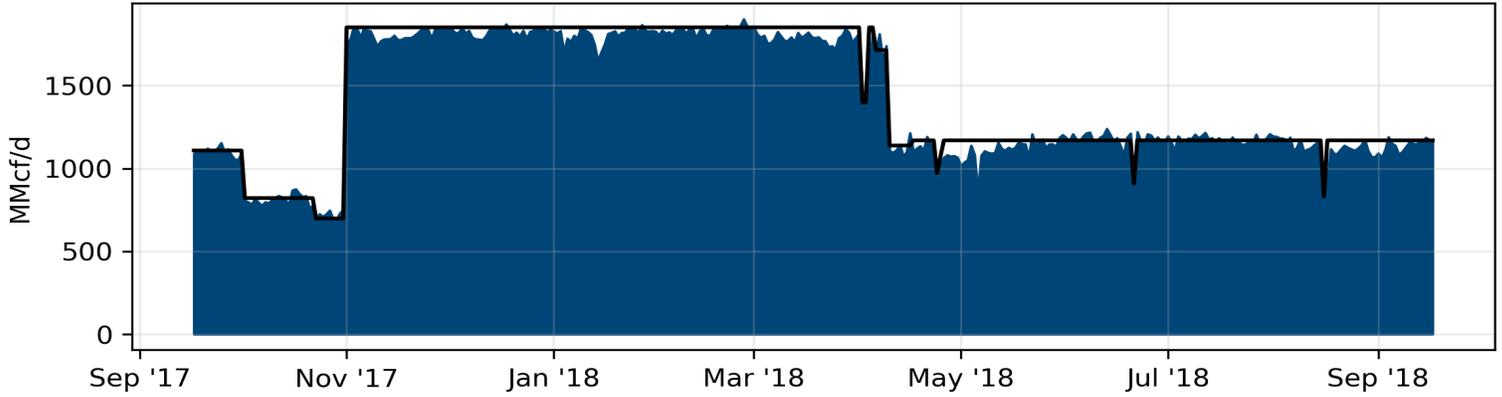
Source: ICE

Conclusion

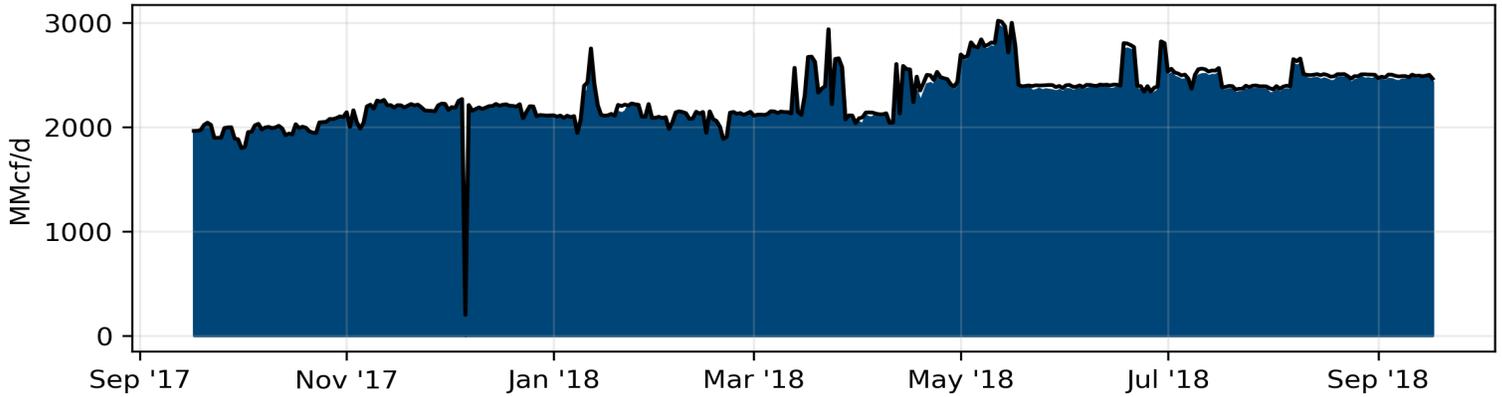
Central Appalachian coal prices have seen a recovery in 2018 that producers have spent the better part of the last decade waiting for. However, the recovery is driven more by exports than any substantial change in the domestic market. Recent decisions around trade made by the administration may actually have the opposite effect, making U.S. production less competitive than other regions. Deliveries to domestic coal plants continue to fall, and although the rate of coal power plant retirements is slowing, the culling continues. The U.S. share of the global seaborne market is tightly related to supply disruptions elsewhere, making any bet on a sustained export rally highly dependent on conditions in Australia and Indonesia. However, if CSX 1% prices move up sympathetically with Europe, there may be a little more bullishness left for central Appalachia in 2019. In the meantime, this year's robust pricing is a welcome change for market participants. ■■■

Natural Gas Important Points

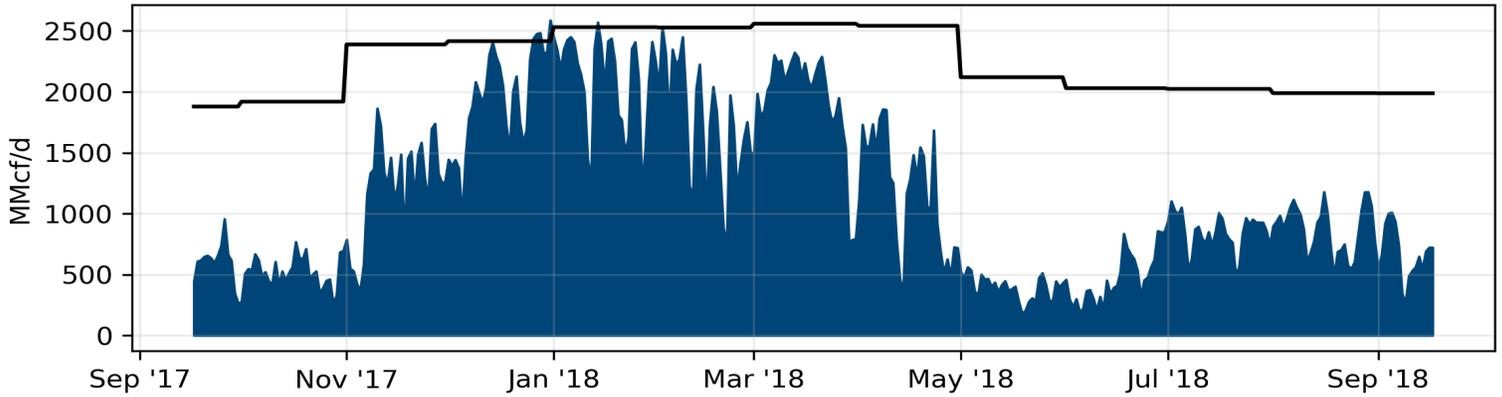
Algonquin: Stony point Compressor



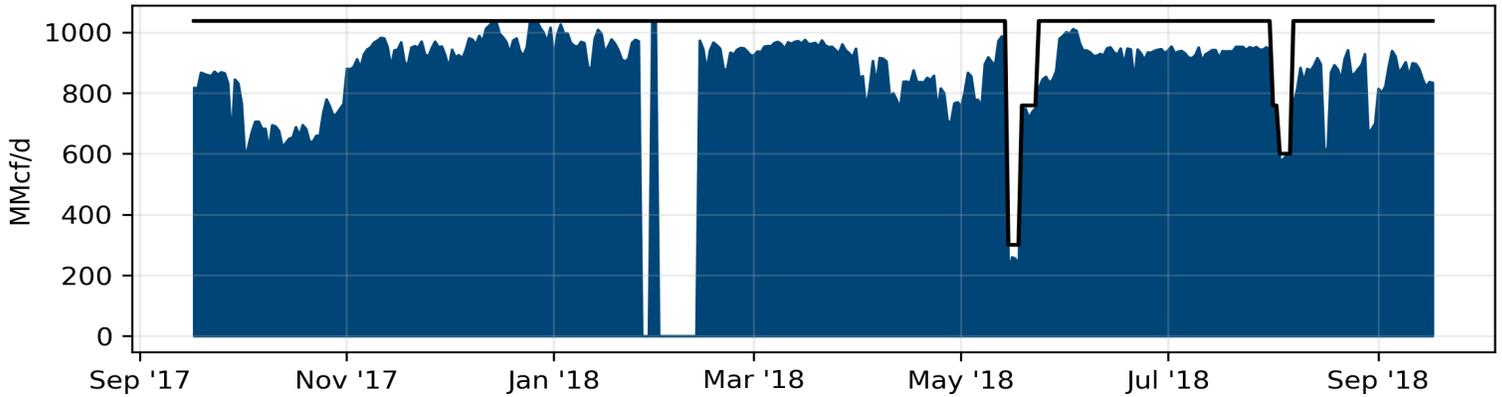
Transcontinental: Leidy Line Station 505



Texas Eastern: Lambertville Compressor

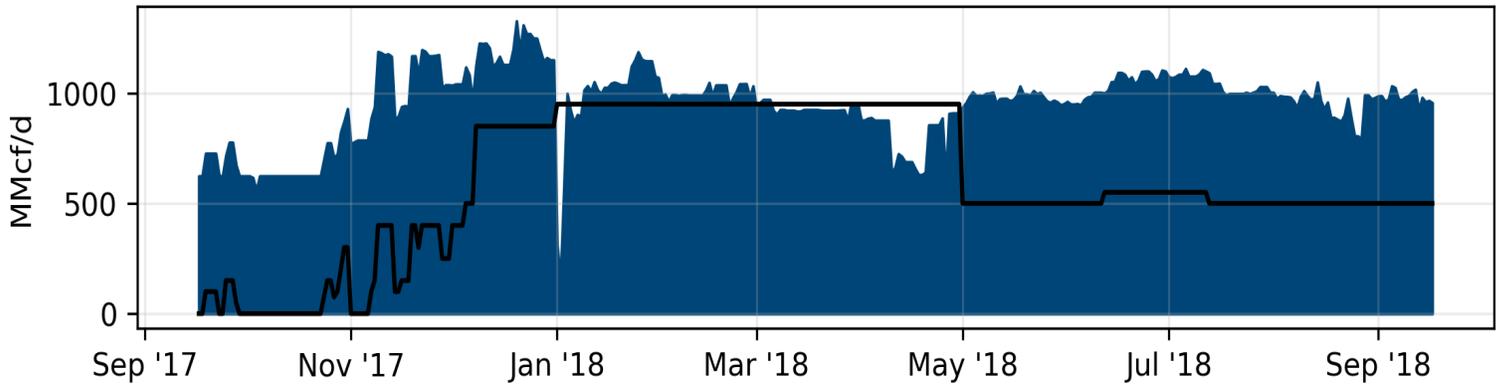


Millennium: Wagner West Compressor



■ Volume — Capacity

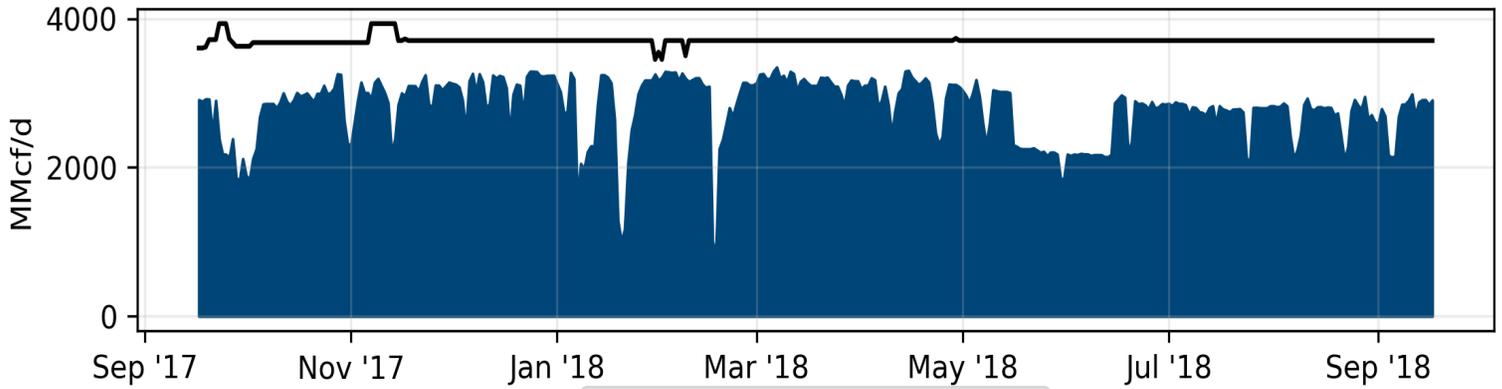
Columbia Gas Trans: Braxton-Stonewall



LNG: Cove Point



LNG: Sabine



■ Volume — Capacity

About Morningstar® Commodities Research™

Morningstar Commodities Research provides independent, fundamental research differentiated by a consistent focus on the competitive dynamics in worldwide commodities markets. This joint effort between Morningstar's Research and Commodities & Energy groups leverages the expertise of Morningstar's 23 energy, utilities, basic materials, and commodities analysts as well as Morningstar's extensive data platform. Morningstar Commodities Research initially will focus on North American power and natural gas markets with plans to expand coverage of other markets worldwide.

Morningstar, Inc. is a leading provider of independent investment research in North America, Europe, Australia, and Asia. The company offers an extensive line of products and services for individuals, financial advisors, and institutions. Morningstar's Commodities & Energy group provides superior quality market data and analytical products for energy data management systems, financial and agricultural data management, historical analysis, trading, risk management, and forecasting.

For More Information

+1 800 546-9646 North America

+44 20 3194 1455 Europe

commoditydata-sales@morningstar.com



22 West Washington Street
Chicago, IL 60602 USA

©2018 Morningstar. All Rights Reserved. Unless otherwise provided in a separate agreement, you may use this report only in the country in which its original distributor is based. The information, data, analyses, and opinions presented herein do not constitute investment advice; are provided solely for informational purposes and therefore are not an offer to buy or sell a security; and are not warranted to be correct, complete, or accurate. The opinions expressed are as of the date written and are subject to change without notice. Except as otherwise required by law, Morningstar shall not be responsible for any trading decisions, damages, or other losses resulting from, or related to, the information, data, analyses, or opinions or their use. References to "Morningstar Credit Ratings" refer to ratings issued by Morningstar Credit Ratings, LLC, a credit rating agency registered with the Securities and Exchange Commission as a nationally recognized statistical rating organization ("NRSRO"). Under its NRSRO registration, Morningstar Credit Ratings issues credit ratings on financial institutions (e.g., banks), corporate issuers, and asset-backed securities. While Morningstar Credit Ratings issues credit ratings on insurance companies, those ratings are not issued under its NRSRO registration. All Morningstar credit ratings and related analysis are solely statements of opinion and not statements of fact or recommendations to purchase, hold, or sell any securities or make any other investment decisions. Morningstar credit ratings and related analysis should not be considered without an understanding and review of our methodologies, disclaimers, disclosures, and other important information found at <https://ratingagency.morningstar.com>. The information contained herein is the proprietary property of Morningstar and may not be reproduced, in whole or in part, or used in any manner, without the prior written consent of Morningstar. To license the research, call +1 312 696-6869.