

© Copyright 2018 RBN Energy

Dog Days Are Over? – Appalachia’s Changing Role as U.S. Natural Gas Supplier



- Appalachian natural gas basis differentials have strengthened to the highest levels since 2013, even as Northeast gas production sits at record highs.
- Major capacity additions in recent months, including ETP’s Rover, Enbridge/DTE’s NEXUS, and Williams/Transco’s Atlantic Sunrise have eased gas takeaway constraints from the Marcellus/Utica shale region – at least for now.
- At the same time, Midwest gas prices are under pressure as more Northeast gas supply pushes west via Rover and NEXUS and competes with Canadian and U.S. Midcontinent gas supplies.
- Northeast gas production is expected to grow by at least another 8 Bcf/d by 2023, and total U.S. gas production will grow by more than 20 Bcf/d in that time.
- The bulk of that incremental Appalachian gas will bear down on the Gulf Coast markets, with potential downside risk for Henry Hub prices, particularly if demand does not materialize as expected.

1. Introduction

The U.S. Northeast natural gas market is at a major transition point. For years, the region has been defined by rapid production growth, perpetual transportation constraints, distressed supply prices and stranded producers. These market conditions have had a domino effect on the broader U.S. gas market — turning a traditionally demand-driven market into a net gas supplier for the U.S., flipping interregional price relationships on their heads and prompting massive midstream investment to reverse gas pipelines so they flow out of the burgeoning Marcellus/Utica shale.

Now, the Northeast’s role in the gas market is again on the cusp of a profound shift. While Marcellus/Utica production is continuing to drive domestic production growth, pipeline flows and spot prices are signaling a sea change that will make the few years look much different than the past half-decade for the Northeast as well as its downstream markets.

For one, after years of playing catch-up, Northeast takeaway capacity is finally starting to outpace production growth for the first time in years. With the addition of new large-diameter, long-haul

natural gas pipelines like Energy Transfer Partners’ (ETP) Rover Pipeline and Enbridge/DTE Energy’s NEXUS Gas Transmission — as well as Williams/Transco’s Atlantic Sunrise expansion capacity — in recent months, gas flows have been shifting from existing pipelines to the new capacity, leaving small pockets of takeaway capacity open on those legacy routes. In other words, for the first time, Appalachian producers have takeaway options, albeit limited ones. The result has been a seismic shift in Appalachian prices relative to the national benchmark Henry Hub, i.e. basis, as illustrated in Figure 1 below.

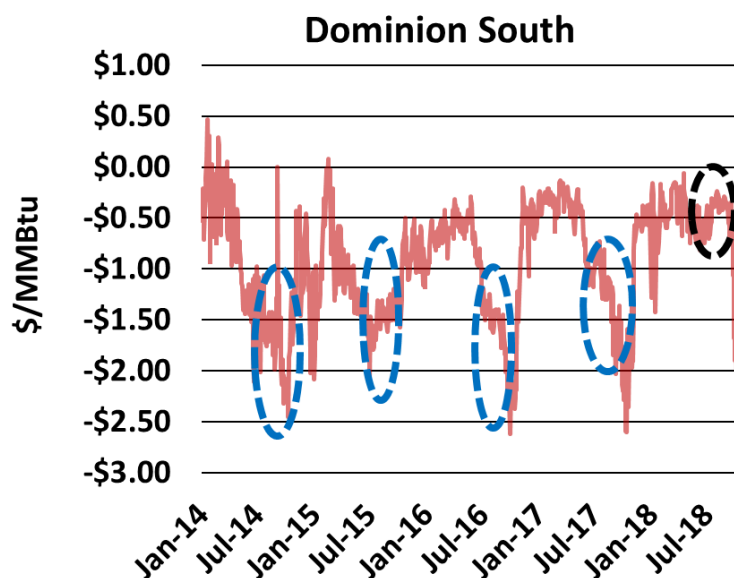


Figure 1 - Dominion South Basis; Sources: RBN, NGI

Prices at Appalachia’s Dominion South trading hub — which is indicative of overall Marcellus/Utica supply — averaged just \$0.47/MMBtu below Henry during the third quarter of 2018 (black-dashed oval), compared with a discount of nearly \$1.30/MMBtu versus Henry in the same period last year and \$1.50-\$1.60/MMBtu discounts in the three years prior to that (blue-dashed oval). In late-September/early-October (2018), basis briefly tanked again to more than \$2.00/MMBtu below Henry, as producers prematurely cranked up production ahead of the Atlantic Sunrise in-service date just as weather-related demand hit its seasonal slump and maintenance events curtailed takeaway capacity. But soon after Atlantic Sunrise began flowing on October 6 (2018), basis rebounded to less than a \$0.50 discount, and as of last week, posted as high as minus-\$0.12/MMBtu (on October 24), the strongest basis seen since 2013, for this time of year.

So, the dog days of severely depressed gas prices in the Northeast clearly are diminishing and producers are looking at the most positive basis scenario they have seen in years. At the same time, there are more expansion projects on the way that — if they all are built — would serve to alleviate constraints further and allow production to continue growing. These include another 4.5 Bcf/d to the Southeast/Gulf Coast — about 1 Bcf/d of that from Ohio to the Gulf Coast and another 3.5 Bcf/d via the Atlantic Coast corridor — as well as another 2 Bcf/d or so to the U.S. East Coast and Eastern Canada. However, some of these projects, including the proposed Constitution, Atlantic Coast, Mountain Valley, and PennEast pipelines, have faced regulatory delays and other setbacks that raise questions about when — or even if — they will ultimately begin service.

Given stronger prices, RBN’s production economics model suggests that Marcellus/Utica gas market is poised for another five years of impressive growth, with the potential to unleash at least

another 8 Bcf/d into the market by 2023. But that production growth depends on whether or not all the expected projects are built and takeaway capacity keeps up. This next phase of supply growth from the Northeast has far-reaching implications for the broader U.S. gas market, especially given that nearly all of the incremental Appalachian gas supply from here on out will target destinations outside the region, primarily the Midwest and Gulf Coast. In the Midwest, where demand is expected to remain relatively stagnant, the influx of Northeast gas supply will run head-on into competing supply from the Midcontinent and Canada. Even with Rover and NEXUS at only partial capacity, the battle for market share of Midwest demand already has set the stage for oversupply conditions, disrupted existing gas flow patterns and shaved prices at the region's key trading hubs — Chicago, Michigan Consolidated (MichCon) and Dawn (in Ontario).

Thus far, the Gulf Coast region has been relatively insulated from the price weakness, given that the surge of demand in the region from LNG exports, pipeline exports to Mexico and gas-fired power generation are helping to balance supply. Southbound takeaway capacity from the Northeast is also still bottlenecked to some extent. But with more Gulf-bound takeaway capacity on the way, both from the Northeast and the Permian Basin, the price weakness may eventually push its way into Henry Hub, particularly if demand does not keep up.

In this Drill Down Report, we examine recent developments in the Northeast gas market, starting with the latest production trends and an update of takeaway capacity additions. We then look at the impact of recent pipeline expansions on the utilization of existing takeaway routes, and, in turn, basis differentials. We conclude with our outlook for Northeast production growth, including future takeaway projects, and their implications for U.S. gas supply and Henry Hub prices over the next five years.

This RBN Energy Drill-Down Report is available for individual purchase or as part of RBN's Backstage Pass premium content service at rbnenergy.com.

For more information on group subscriptions, send an email to info@rbnenergy.com or call 888-613-8874.

The Table of Contents for “Dog Days Are Over? – Appalachia’s Changing Role as U.S. Natural Gas Supplier” is included on the following page.

Table of Contents

1.	Introduction	- 1 -
2.	Northeast Natural Gas Production Trends	- 5 -
3.	Takeaway Capacity Additions and Utilization	- 7 -
3.1	Recent Takeaway Expansions	- 7 -
3.1.1	<i>Energy Transfer Partners' Rover Pipeline</i>	<i>- 7 -</i>
3.1.2	<i>Williams/Transco Atlantic Sunrise</i>	<i>- 9 -</i>
3.1.3	<i>Enbridge/DTE Energy's NEXUS Gas Transmission</i>	<i>- 12 -</i>
3.2	Utilization on Existing Takeaway Routes	- 15 -
3.2.1	<i>Rockies Express Pipeline (REX)</i>	<i>- 15 -</i>
3.2.2	<i>Columbia Gas Transmission (CGT)</i>	<i>- 15 -</i>
3.2.3	<i>Tennessee Gas Pipeline (TGP)</i>	<i>- 16 -</i>
3.2.4	<i>Dominion Energy Transmission</i>	<i>- 17 -</i>
3.2.5	<i>Texas Eastern Transmission (TETCO)</i>	<i>- 17 -</i>
4.	Northeast Gas Prices	- 18 -
5.	Downstream Market Impacts	- 19 -
6.	Northeast Gas Supply Outlook	- 22 -
7.	Implications for U.S. Gas Production and Henry Hub	- 25 -
8.	Conclusion	- 26 -