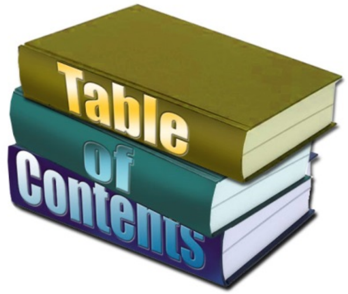
2017-18 Appalachian Pipeline Expansions

And the Effect on Appalachian Basis

David Marks, Dominion Energy, September 2017



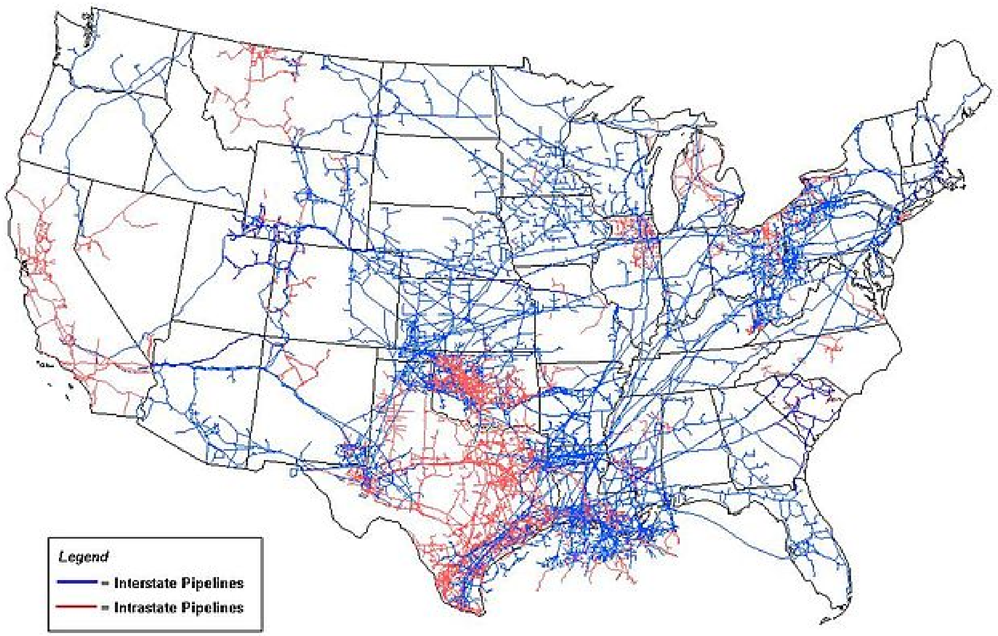
Contents

Fundamentals – the ones that matter today

1. The Oversupplied Market
   Why and for how long?
2. Manufacturing Twists
   Can it come back?
3. Storage is Full
   Plenty of inventory for a normal winter
4. Climate Change
   No, I'm serious…
5. Pipeline Expansions
   Fifteen projects are expected to enter into service by December in the Northeast, adding 3.7 Bcf of new capacity

Selected Pipeline Expansions

- Atlantic Coast
- Atlantic Sunrise
- Nexus
- Mountain Valley
- Leach Express
- Rover



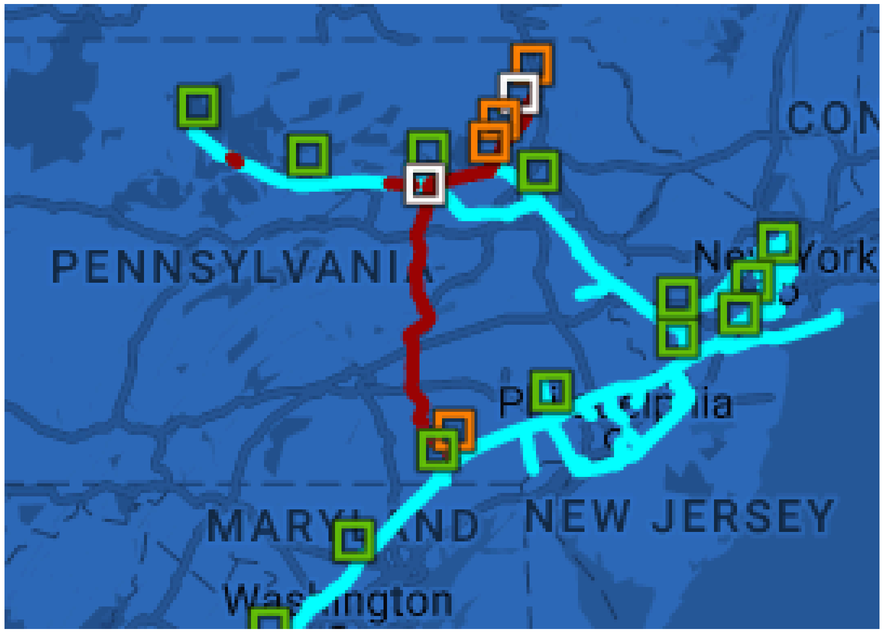
Source: Energy Information Administration, Office of Oil & Gas, Natural Gas Division, Gas Transportation Information System

Dominion's Atlantic Coast Pipeline

- 600 miles - Harrison Cty, WV to Robeson Cty, NC
- Capacity is 1.5 million dts
- Will directly affect pricing net-back to DOMSP
- Supply to the Carolinas
- In-service 4Q2018

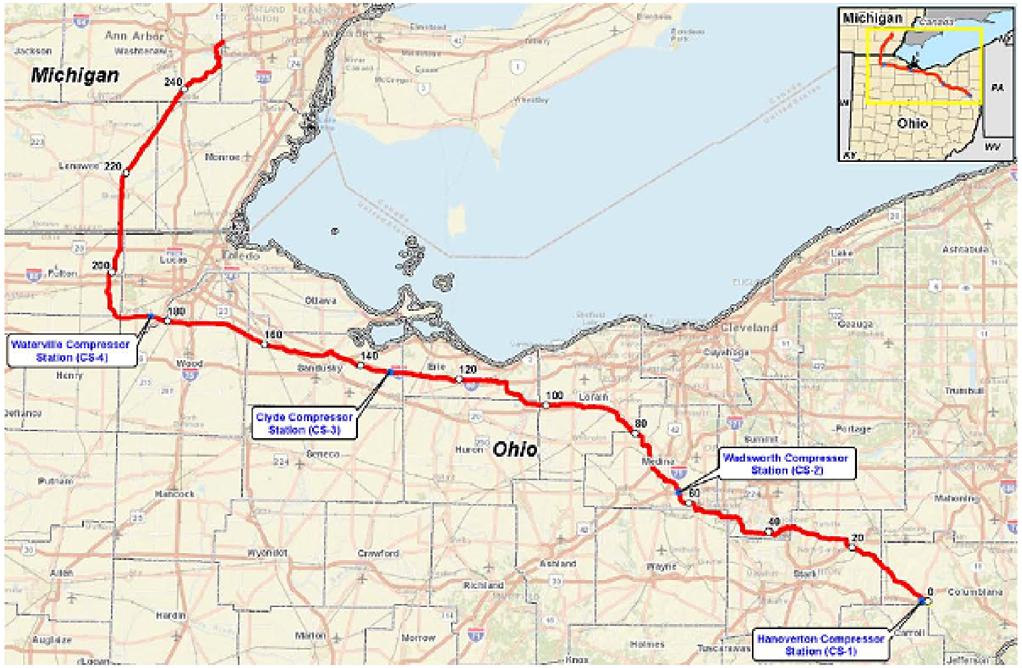
Williams' Atlantic Sunrise Expansion

- 186 miles - Sullivan Cty, PA to Lancaster Cty, PA
- Capacity is 1.7 million dts
- Can affect net-back pricing to DOMNP
- Will compete with TCO producers to supply Cove Point
- In-service Nov17 (partial), full service mid-2018



Enbridge and DTE - Nexus Pipeline

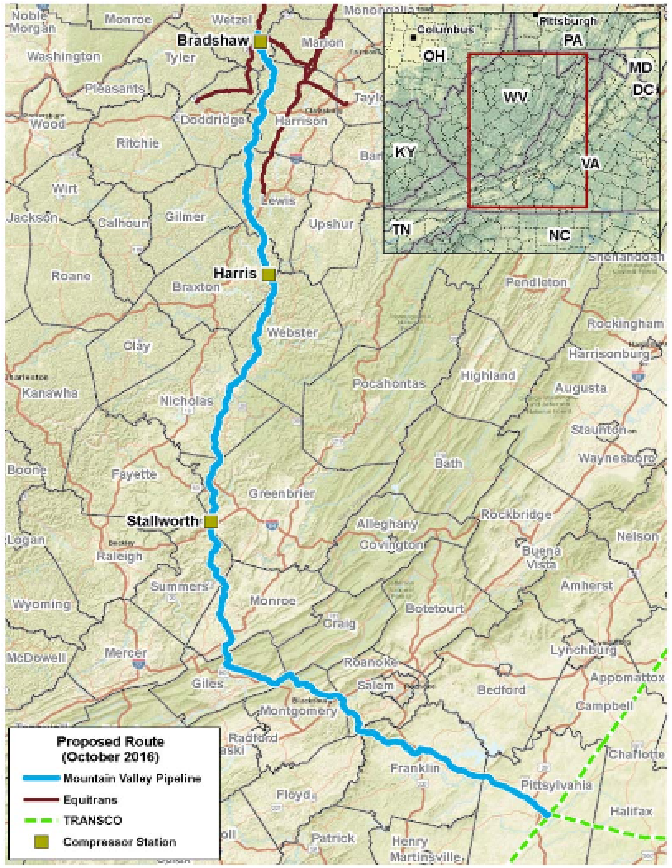
- 255 miles - Columbiana Cty, OH to Washtenaw Cty, MI
- Capacity is 1.5 bcf
- Can affect net-back pricing to TCO Pool and DOMSP
- Certificate of public necessity and convenience issued by FERC in August



- Landowners suing FERC and Enbridge
- In-service date moved from Nov17 to mid-2018

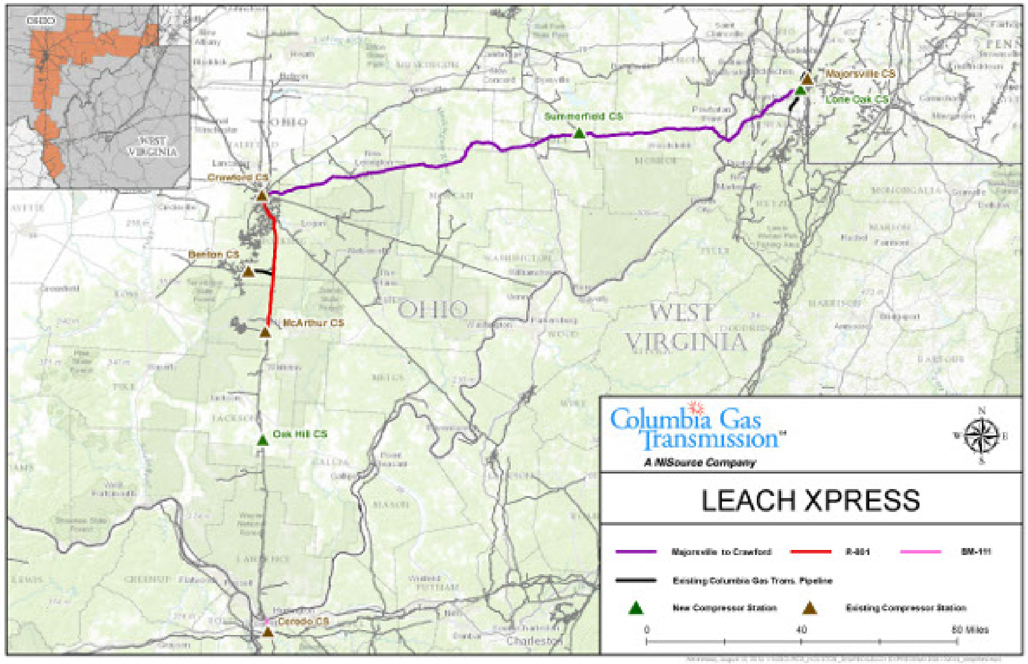
EQT’s Mountain Valley Pipeline

- 301-miles from Mobley WV to Transco Z5 in VA
- Capacity is 2 Bcf
- Will affect net-back pricing to DOMSP, M-2 and REX
- Will compete to supply South Atlantic
- In-service 4Q18



Columbia's Leach Express

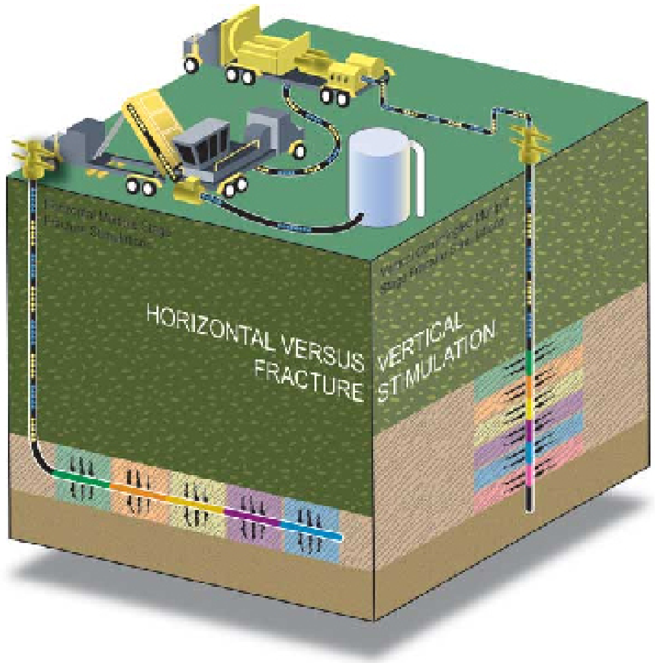
- 160 miles - Greene Cty, PA to Vinton Cty, OH
- Capacity 1.5 MM dts
- Will affect net-back pricing at TCO Pool
- Can affect Agg Pool pricing to CPA and COH
- In-service Nov17



Energy Transfer’s Rover Pipeline

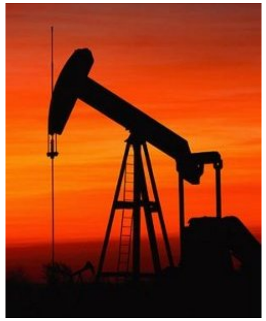
- 500 miles from PA & WV to St. Clair County, MI
- Capacity is huge - 3.25 MM dts
- Has been and will continue to affect net-back pricing at DOMSP and M-2
- In-service moving 700 MMcf/d west this month on 1st 200 miles
- Up to 300 MMcf/d is new production
- Basis improves with each positive blurb toward completion
- Expected fully in-service Nov17

Production Expectations



- Production from shale soars even as prices remain soft
- Northeast production averages 24.6 bcf/d, up 1.5 bcf/d, or 7% from a year ago
- US natural gas rig count is up 123% from a year ago
- Pipeline expansions are being filled from new drilling as well as from the DUC inventory

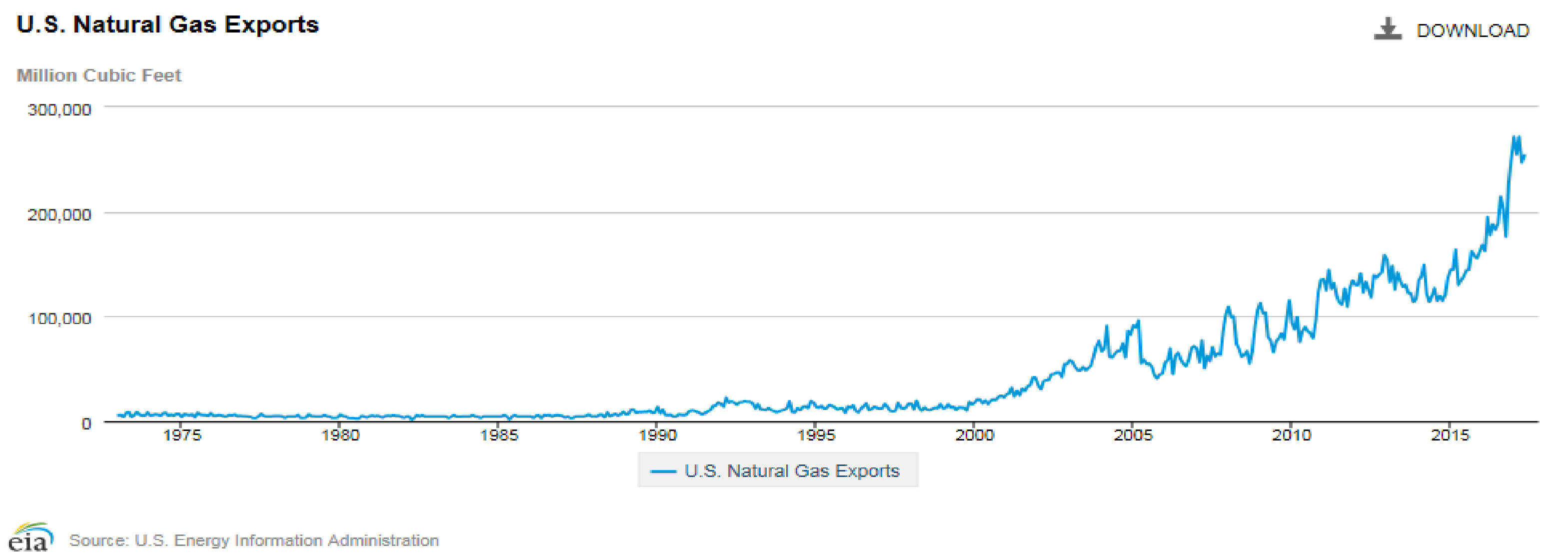
Production Infrastructure



- Gathering systems are aging
- New systems to accommodate high-pressure shale development can bypass conventional systems
- Conventional producers are seriously impacted by rate increases to maintain old systems
- Shale producers are making it on volume while conventional producers are facing shut ins
- Horizontal laterals are testing out to 3.6 miles, creating new shale wells with IP rates of > 50k dt/d

Exports Support National Prices

- U.S. exports of natural gas are expected to increase
- Cove Point will be able to export 750,000 dt/d this winter
- Exports include pipeline deliveries to Canada and Mexico, and LNG cargoes to a growing list of countries



Exports: Pipeline vs LNG

PIPELINES:

- Canada via pipeline – 80mm to 100mm per month
- Mexico via pipeline – 110mm to 130mm per month

TOTAL PIPELINE SENDOUT – 7.5 million dts per day

LNG:

- Cheniere – 40mm to 52mm dt per month
- Add Cove Point's send out of 23mm dt per month this winter

TOTAL POTENTIAL LNG SENDOUT – 2.4 million dts per day

We Only Generated More Questions

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