

# Pipeline Project Development Update: Advances and Challenges

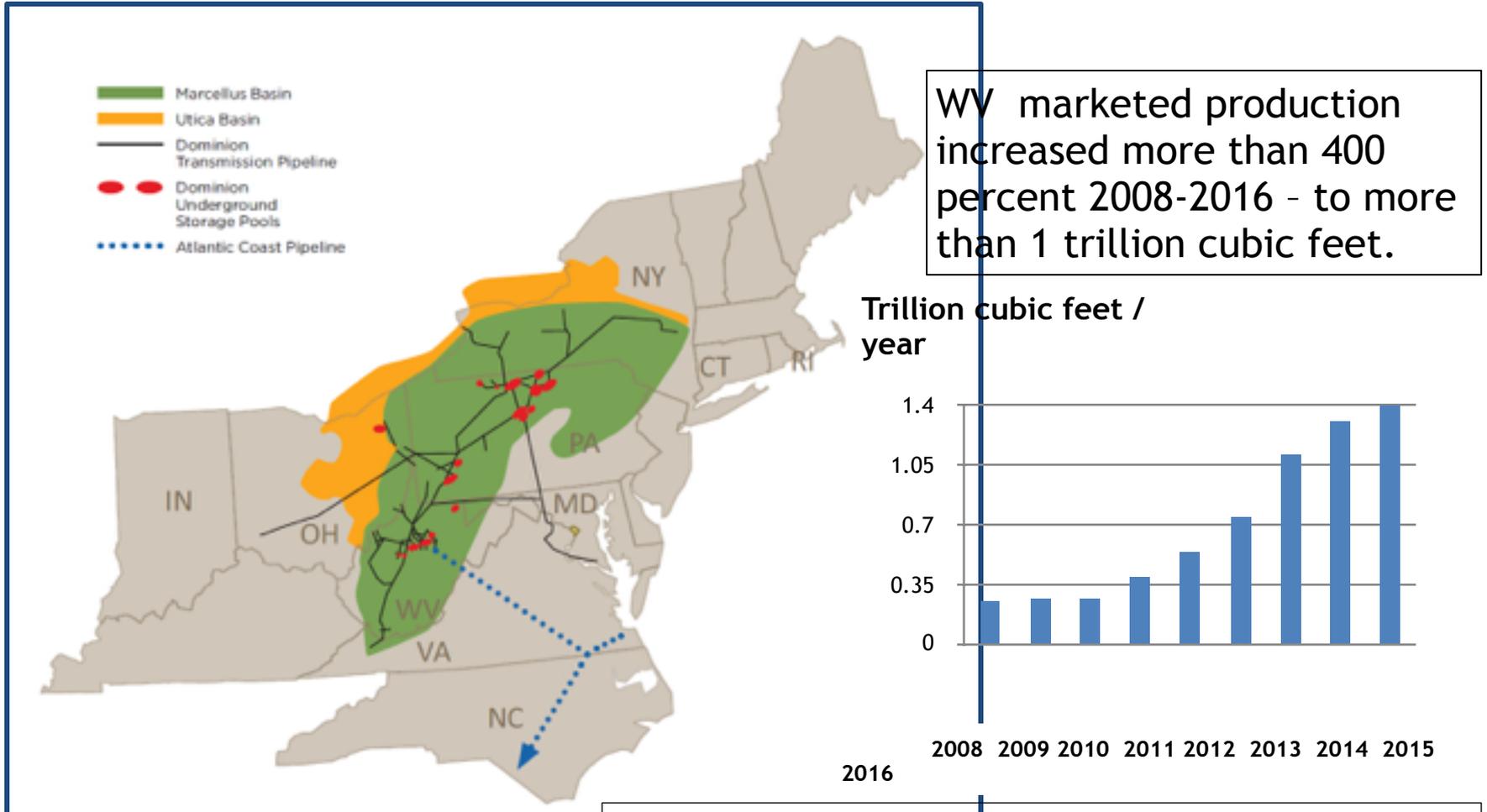


**Marcellus & Manufacturing  
Development Conference  
May 3, 2017**

**Robert Orndorff, Dominion Resources Services  
Maribeth Anderson, Southwest Energy  
Anne Blankenship, WVONGA**



# Marcellus Production: A Major Factor in the “Gas Revolution” Reshaping American Energy



Source: U.S. Energy Information Administration, March 31, 2017

**A major center of Appalachian Basin shale production expansion**

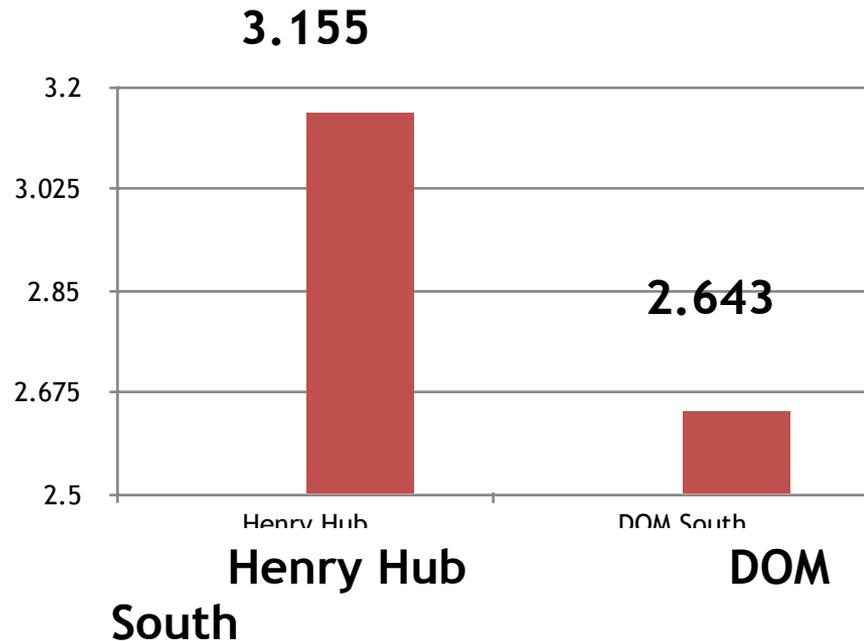
# But: Production, Prices Held Down by Inadequate Takeaway Capacity

- Existing network does not provide needed access to growing markets.
- Examples: No significant access to Marcellus/Utica gas in NC; inadequate access in VA.
- Poor access results in depressed prices, production disincentives.

*“We’ve had a glut of natural gas in this part of the country because we just didn’t have the infrastructure to get the gas where it needs to be. We can enhance the infrastructure, which takes a long time, but as we do, the gas will enter into new markets and that will overall help drive up the demand.”*

Dr. John Deskins, WVU Bureau of

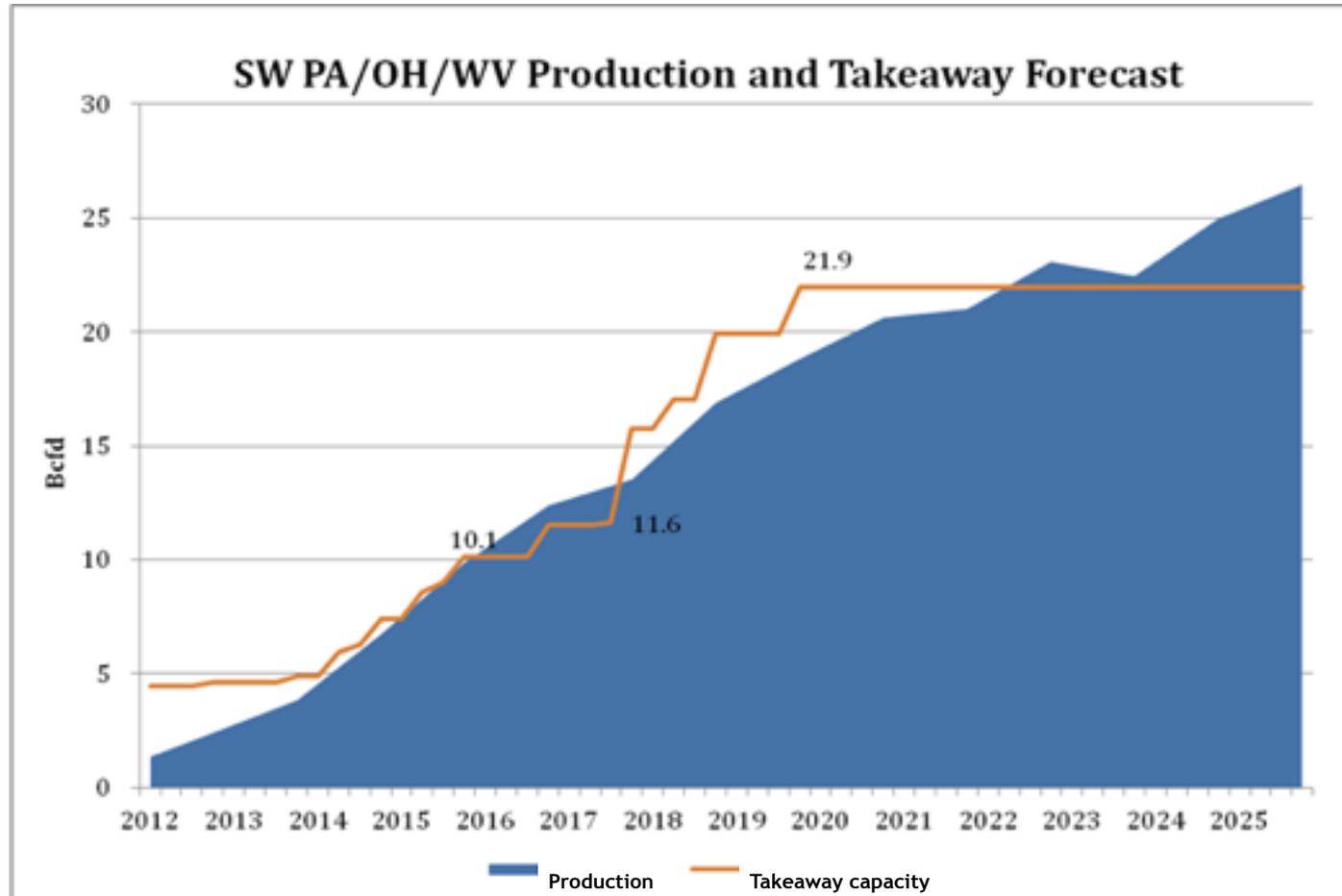
Dollars/million BTUs



Current Marcellus/Utica prices well below Henry Hub prices

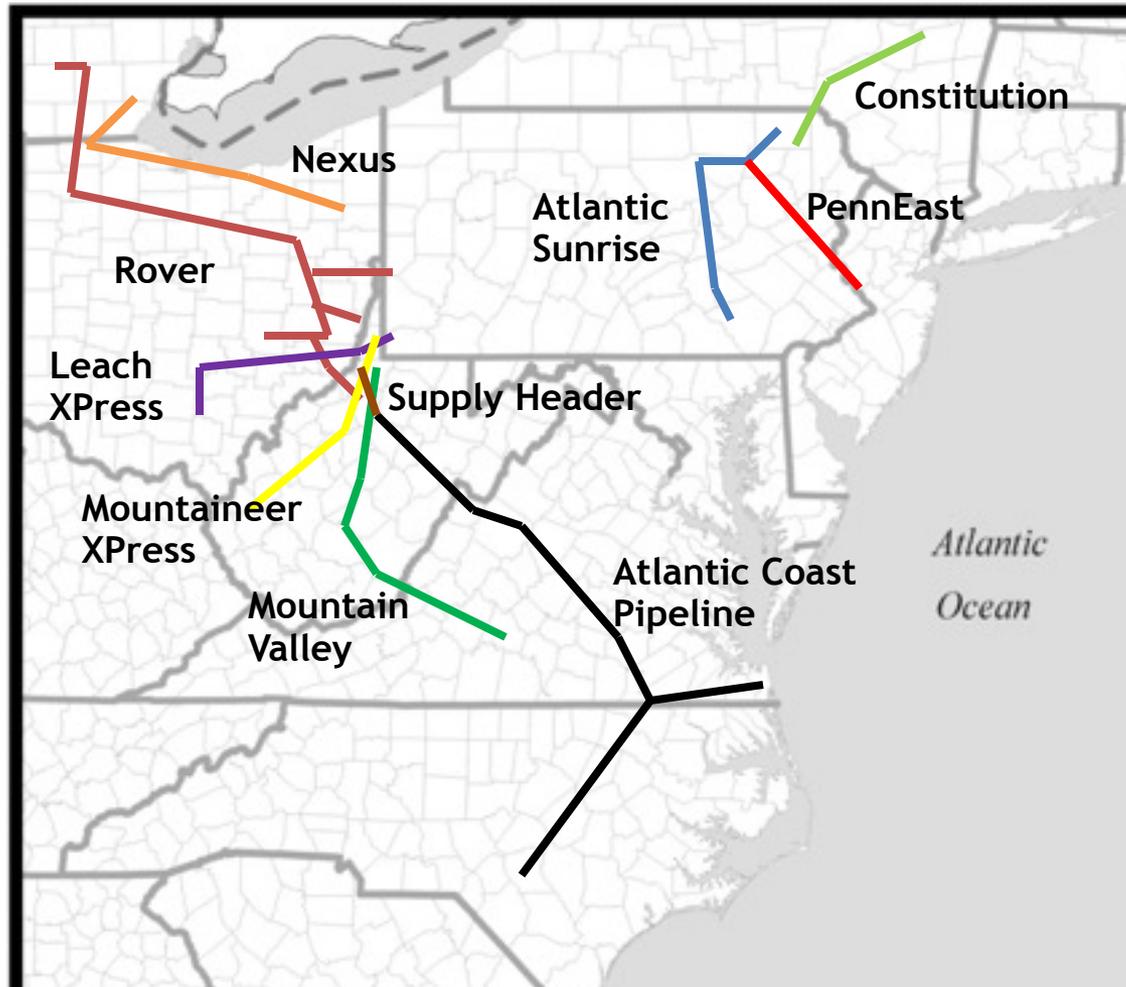
Sources: INO.com, CME Group.  
Data for April 20-21, 2017 for May 2017 contracts

# Proposed Projects Would Improve Takeaway Capacity for WV, OH, PA



Source: Dominion estimates , 2016

# Interstate Pipeline Projects Promise Better Access to Marcellus and Utica Regions - But Are Having Varying Success



Major proposed pipeline projects serving Marcellus, Utica Regions, in WV, OH, PA

# Current Status: Major Projects

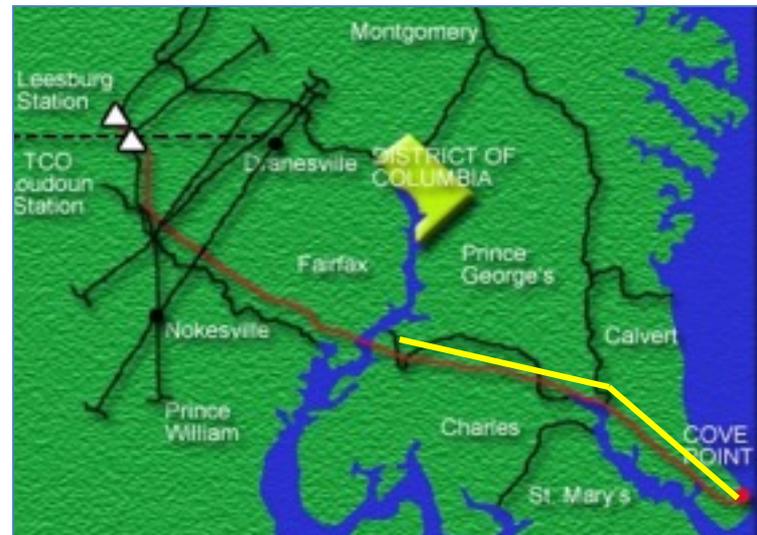
| Project                 | Developers  | Capacity  | Regulatory Status   |
|-------------------------|---|-----------|---|
| Penn East               | NJR Pipeline, PSEG, SJI Midstream, Spectra, Southern Gas Co., UGI | 1Bcf/d    | Final EIS issued by FERC April 7, 2017; 401-404 water quality permits now pending before NJ DEP                         |
| Constitution            | Williams, Cabot, Piedmont, WGL Holdings                           | .65Bcf/d  | NY State refusal to issue water quality permits now being appealed in federal court; FERC issued CPCN December 2014     |
| Atlantic Sunrise        | Williams  | 1.7 Bcf/d | FERC issued CPCN February 2017, permitted limited construction; projects still needs permits from USACOE and PADEP      |
| Atlantic Coast Pipeline | Dominion, Duke, Piedmont, Southern Gas Co.                        | 1.5 Bcf/d | FERC issued DEIS December 2016; final EIS expected June 2017; VA DEQ has initiated 401 water quality permitting process |
| Supply Header Project   | Dominion Transmission, Inc.                                       | 1.5 Bcf/d | FERC issued DEIS December 2016; final EIS expected June 2017  |

# Current Status: Major Projects

| Project                        | Developers   | Capacity          | Regulatory Status   |
|--------------------------------|--|-------------------|---|
| Mountaineer Xpress             | Columbia Pipeline Group (TransCanada)                | 2.7 Bcf/d         | FERC issued DEIS February 2017; comments due April 24, 2017   |
| Mountain Valley                | EQT Midstream; NextEra; WGL Midstream; RGC Midstream | 2.0 Bcf/d         | EIS schedule delayed by FERC; final EIS now due by June 23, 2017; 90-day federal action window would end Sept. 21, 2017 |
| Leach Xpress                   | Columbia Pipeline Group (TransCanada)                | 1.5 Bcf/d         | FERC approved limited construction February 2017; FERC issued CPCN January 2017   |
| Rover                          | Energy Transfer                                      | 3.25 Bcf/d        | FERC approved construction March 2017; route clearance now underway. FERC issued CPCN February 2, 2017.                 |
| Nexus                          | DTE, Spectra   | 1.5 Bcf/d         | Final EIS issued by FERC November 2016; still awaiting FERC approval of CPCN  |
| <b>Total Capacity of Major</b> |  | <b>17.3 BCf/d</b> |   |

# Cove Point LNG: International Outlet for Marcellus, Utica Production

- Export project at Dominion-owned facility now 84 percent complete.
- More than 3,200 workers now on site
- In-service late 2017.
- Capable of processing up to 750 million cubic feet per day of inlet feed gas
- Interconnects with Transco, Columbia
- “A premier facility in terms of direct access to the Utica and Marcellus shale plays.”



# Challenge: FERC Vacancies

• Interstate projects must obtain Certificates of Public Convenience and Necessity (CPCNs) from five-member Federal Energy

## Regulatory Commission.

- FERC must have a quorum of three commissioners to approve CPCNs.
- FERC currently has three vacancies, lacks a quorum.
- In absence of quorum, FERC's decision-making powers severely restricted.
- President Trump has yet to select nominees to fill vacancies.
- Confirmation could be lengthy, complicated process.



Cheryl A.  
LaFleur  
Acting Chair



Colette D.  
Honorable



**Three  
vacancies**

# Federal and State Regulatory Requirements: Necessary, but Complex, Time-Consuming

- Thorough, extensive federal, state and local permitting requirements for environmental protection, historic site preservation



US Army Corps of Engineers

- Federal agency involvement includes:

- Bureau of Land Management - rights-of-way grants
- U.S. Forest Service - special use permits, concurrence in rights-of-way grants
- U.S. Army Corps of Engineers - stream crossings
- U.S. EPA, Fish and Wildlife Service oversight



- State agency involvement generally includes:

- Departments of Environmental Protection/Environmental Quality, including Air, Water and Waste Management Division
- Natural Resources, Cultural and Historical Preservation Agency



# Permitting Landscape: Increasingly Contentious, Often Politicized

- Historically non-political process increasingly contentious and politicized.
- “Keep it in the ground” movement views natural gas as worse than coal.
- National environmental groups, local activists, landowners combine to become potent force.
- Events staged for media consumption - often aimed at fostering outrage, de-legitimizing process.
- Situation has worsened since 2016 election.
- Social media a game changer: cheap, fast, no independent validation.
- Opponents apply pressure where most effective:  
elected officials



# Permitting Landscape: Lessons Learned

- “Below the radar” is no longer an option.
- Must create and maintain a political environment that allows permitting agencies to do their work.
- Developers must provide better “whys” to public:
  - define message early or it will be defined by others.
- Economic benefits, jobs, new tax revenue to support vital services such as education, schools, transportation.
- Environmental benefits (i.e., better air quality), energy reliability.
- Paid media vital - fair coverage is not guaranteed.



# What Can West Virginia Do?

- Local support
  - We need the support of state and local agencies involved in the FERC permitting process
- Legislative leaders support
  - We need the support of state legislators and their outreach to federal permitting agencies, including FERC, and federal legislators.
- State legislation
  - Survey access bill
    - Provide access to property to obtain information needed for permitting process
  - Co-tenancy bill
    - Maximize development of oil and gas in the state