Tyson Slocum Presentation To PJM's Electric Gas Coordination Senior Task Force

Consumers Should Not Be Responsible For Assuming Financial Risks Of The Natural Gas Industry

November 30, 2021

About Public Citizen, Inc.

Founded in 1971 by Ralph Nader, we are one of America's largest consumer advocacy organizations. We are extremely active at FERC, where the Federal Power Act grants us sweeping rights and privileges to participate in proceedings. In contrast, because we are not a government agency consumer advocate, PJM does not allow us meaningful participation rights in the stakeholder process, including denying us an ability to cast votes.

Problem Statement's Problems

The Problem Statement claims that as renewable energy generation capacity increases in PJM, there will be an increased need to rely on gas; alleges that gas generators have a variety of challenges to obtain needed pipeline capacity; and that these fuel procurement disputes are not adequately recognized by PJM's market design—resulting in a misalignment of electric power and gas markets.

So Dominion proposes changes to PJM's tariff that would compel consumers to pay for rate "adders" or "make-whole payments" as part of a new "fuel security program" in PJM's tariff.

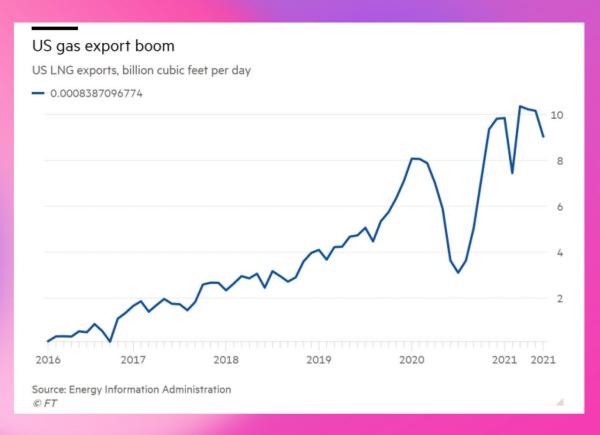
Forcing PJM's ratepayers to subsidize natural gas generators is not just and reasonable.

Five Flawed Assumptions of the Task Force

- Any assessment of pipeline constraints must include the role LNG exports have played in radically impacting gas markets.
- Financial speculators occupy significant pipeline capacity.
- Spot natural gas prices are structurally non-competitive and the voluntary nature of reporting trades renders them susceptible to market manipulation.
- Increased renewable deployment does not necessarily necessitate increased gas generation.
- There are limited lessons for PJM to learn from ERCOT's failure.

1: Exploding LNG Exports
Have Radically Transformed
Domestic Natural Gas Markets,
Forcing Utilities & Generators
To Compete For Pipeline
Capacity. The U.S. is currently
the 3rd biggest natural gas
exporter & will be the world's
largest by 2025.

www.iea.org/data-and-statistics/charts/lng-exports-for-selected-countries-2015-2025



Gas Exports Now 3rd Largest Source of Demand Behind Electric Power & Industrial

 LNG and pipeline exports to Canada + Mexico = 563,133 million cubic feet in August 2021 - that's 26% of total gas delivered to U.S. customers in August '21 (2,167,974 million cubic feet). More gas is exported than is consumed domestically for the residential, commercial and vehicle fuel sectors COMBINED.

There are six LNG export terminals, including Dominion's Cove Point facility in PJM.

Gas exports have directly caused higher domestic prices for consumers.

9:57 AM Mon Nov 29



MARKETS





Natural-Gas Exports Lift Prices for U.S. **Utilities Ahead of Winter**

The supply squeeze, one of the first ever since the U.S. began sending large volumes of gas abroad, means hefty heating bills for consumers

By Collin Eaton [+Follow] and Katherine Blunt + Follow November 07, 2021 05:30 a.m. EST

American utilities are facing the highest natural-gas prices in years as they build stockpiles for winter. The reason: Exporters are sending more gas than ever to countries starved for the fuel.

Pipelines to Mexico and Canada and tankers traveling to Europe and Asia have moved record amounts of U.S. gas out of the country this year as parts of the world fall short of supplies.

American frackers, meanwhile, are holding the line on new drilling as investors pressure them to maintain capital discipline and return money to shareholders.

The result is that natural-gas exports are pushing domestic prices higher-only the second time prices. this has happened since companies began shipping shale gas from the Gulf Coast to other countries in 2016, other than a brief period during the February freeze in Texas, analysts say.

U.S. Henry Hub gas prices closed Friday at \$5.516 per million British thermal units. That is up from just over \$3 per million British thermal units a year ago.

Shale company EQT's fracking site in Mannington, W.Va.

The pinch shows a growing tension between exporters and buyers who have enjoyed cheap gas for more than a decade. Some manufacturing and chemical companies have built entire businesses around low U.S. gas

Utilities from the Pacific Northwest to New England have filed regulatory requests to raise rates for natural gas this winter, citing a supply squeeze as a result of higher global demand. The **Energy Information Administration** has forecast that the average U.S. household that relies on natural gas for heating will pay 30% more for the fuel this year.

Eversource Energy, a utility that serves 3.6 million electric and natural-gas customers in Connecticut, Massachusetts and New Hampshire, warned this month that average natural-gas customers in Connecticut can expect to see their bills increase by about 14% this month. In Massachusetts, customers may see bills increase by as much as 21%.

James Daly, Eversource's vice president of energy supply, said the company typically stores enough gas to meet about a third of its winter needs and relies on the market for the remainder. He said the cost of natural gas has increased by about 20% compared

2. FERC Allows Financial Traders & Large Marketers To Control Pipeline Capacity

Top 32 Physical Gas Traders Control 52% of Volume – Many of Which Are Financial Speculators

FERC Form 552 - Annual Report of Physical Natural Gas Transactions (TBtu)	
BP Energy	6756
Shell Energy	5496
Tenaska Marketing	5432
Macquarie Energy	5167
Southern Company Gas	4187
ConocoPhillips	3670
Twin Eagle	3501
DTE Energy Trading	3173
Mercuria Energy	2985
Koch Energy Services	2981
NextEra/FPL	2859
EDF Trading	2505
Morgan Stanley	2495
EQT Energy	2366
Chevron	2325
ICE NGX Canada Inc.	2299
Citadel Energy Marketing	2006
CIMA Energy (Mitsubishi Corp)	1822
Spotlight Energy, LLC	1821
Castleton Commodities	1777
J. Aron (Goldman Sachs)	1761
Energy Transfer	1734
Direct Energy	1713
MIECO LLC (Marubeni)	1604
CFE International	1596
Southwest Energy	1595
Spire	1588
Eco-Energy Natural Gas	1505
Trafigura	1467
Enterprise Products Partners	1455
Vitol	1439
Total, All Transactions	155528

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Texas Blackout Boosts Australian Bank by Up to \$215 Million

Macquarie earned a windfall when the deep freeze in Texas sent energy markets into a tailspin

Bloomberg

Markets

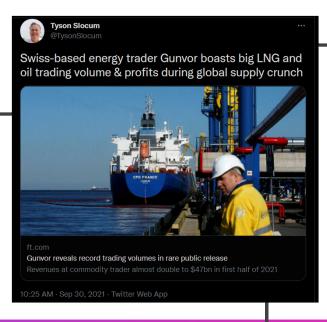
Energy Transfer Made \$2.4 Billion From Texas Winter Storm

By Gerson Freitas Jr +Get Alerts May 6, 2021, 4:24 PM EDT Updated on May 6, 2021, 7:53 PM EDT

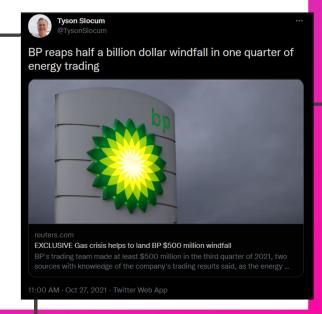
- ► Pipeline giant posted record profit on skyrocketing gas prices
- ► Company was able to supply natural gas as other sources failed

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TYSON SLOCUM • ENERGY PROGRAM DIRECTOR, PUBLIC CITIZEN • TWITTER @TYSONSLOCUM • TSLOCUM@CITIZEN.ORG • NOVEMBER 30, 2021

Williams' Transco

Received permission from FERC to provide capacity to a natural gas speculator Six One Commodities, an affiliate of Pinnacle Asset Management (Docket No. RP21-1033), as well as the Wall Street bank Morgan Stanley (RP19-1180).

Enjoyed operating net income of over \$1 billion in 2020 (FERC Form 2).



Enbridge's Texas Eastern

 Reported operating net income of \$632 million in 2020 (FERC Form 2)

 Provided 31,000 Dth/d capacity to Wall Street trader Morgan Stanley



SNL FERC Gas Report Copyright © 2021 SNL Financial

November 17, 2021

Texas Eastern seeks FERC authorization for project to supply Plaquemines LNG

Corey Paul

Texas Eastern Transmission LP asked the Federal Energy Regulatory Commission for approval of an expansion project that would feed Venture Global LNG's proposed Plaquemines LNG export terminal in Louisiana with up to about 1.26 million Dth/d of natural gas.

The Venice Extension project would reverse the flow of natural gas on a portion of the developer's Line 40 to provide firm gas transportation service to an interconnection with a pipeline lateral that would be constructed and operated by a Venture Global subsidiary and supply gas to the LNG export terminal south of New Orleans.

Enbridge Inc.'s Texas Eastern asked FERC to authorize the project by the end of February 2023 in order to place the project into service as early as March 1, 2024.

Enbridge's Algonquin Gas

Reserves firm capacity for hedge fund Citadel (RP21-989), Castleton Commodities (RP20-885) and Macquarie (RP20-688). It posted \$235 million in operating net income for 2020 (FERC Form 2).



Enbridge's East Tennessee Pipeline

Posted operating net income of \$70 million in 2020 (FERC Form 2)

- · Location: Georgia, Tennessee, Virginia & North Carolina
- Length: 1,526 miles
- Capacity: 1.86 billion cubic feet per day (Bcf/d)
- Ownership Interest: 100 percent Enbridge Inc.
- Operator: Enbridge Inc.



Enbridge's Alliance Pipeline

Reserved capacity for PetroChina and released it to the financial trader Macquarie (RP21-1183) and the hedge fund Citadel (RP21-282). Posted operating net income of \$120 million in 2020 (FERC Form 2).



Kinder Morgan's Tennessee Gas Pipeline

Provides firm capacity to financial speculators Castleton & Citadel (RP22-319). Posted operating net income of \$725 million in 2020 (FERC Form 2)



Kinder Morgan's Natural Gas Pipeline Company of America

Provides firm capacity to financial speculators Mercuria (RP20-676), Macquarie (RP22-51) and Morgan Stanley (RP21-608). Posted operating net income of \$278 million in 2020 (FERC Form 2)



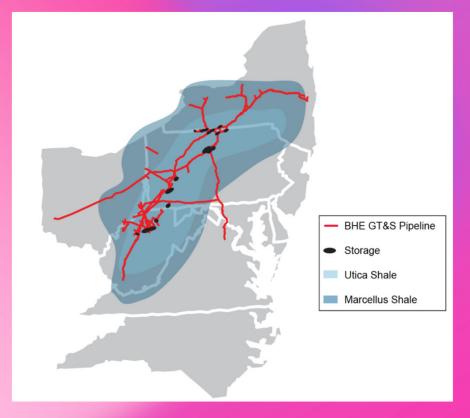
TransCanada's ANR Pipeline

Enjoyed operating net income of \$256 million in 2020 (FERC Form 2)



Dominion's Eastern Gas Transmission

Provides capacity to Six One Commodities, an affiliate of Pinnacle Asset Management (RP21-667). Reported operating net income of \$288 million in 2020 (FERC Form 2).



3. An RTO For Spot Natural Gas Markets?

Spot natural gas price indices are structurally non-competitive and the voluntary nature of reporting trades renders them susceptible to market manipulation. The rest of the world has been replacing voluntary price indices for benchmarks with far larger economic impacts than U.S. natural gas spot prices (Such as with LIBOR). Federal law provides a clear alternative for FERC to pursue, as 15 USC § 717t–2(a)(4) states that "the Commission shall consider the degree of price transparency provided by existing price publishers and providers of trade processing services ...The Commission may establish an electronic information system if it determines that existing price publications are not adequately providing price discovery or market transparency"



Natural Gas Spot Prices In Need of Reform

By Tyson Slocum

A natural gas index price is derived from trades within specific geographical boundaries that market participants voluntarily report to a price index developer. Price index developers are private, for-profit companies that classify most of the voluntarily-reported data as proprietary, that the index developers then commodify and sell only to those that can afford the very expensive subscription fees

These voluntarily-reported transactions determine the price of natural gas for millions of households and businesses across the country, as market participants reference index prices in their physical and financial transactions: natural gas pipelines and Regional Transmission Organizations feature natural gas indices in their FERC-jurisdictional tariffs for various terms and conditions of service; state utility commissions rely on natural gas indices as benchmarks when setting rates; and many natural gas financial derivative contracts used in hedging and

4. The Task Force Should Not Assume That Gas Is Necessary To Balance Significant Renewable Energy Deployment in PJM

The problem statement assumes that PJM will have to increase reliance on gas generation as renewable energy deployments increase, which may be a flawed premise. The variability of renewable resources could be balanced with energy storage, combining different renewable resources and expanding geographic connections through increased transmission, paired with demand-side management and energy efficiency investments, could alleviate the need for gas in the future.

5. There Are Limited Lessons To Be Learned in PJM From ERCOT's Failures

Lessons learned from ERCOT's failure during Winter Storm Uri often omit a primary culprit: ERCOT's flawed market design that incentivized failure. ERCOT relied on a \$9,000/MWh scarcity price that perversely provided financial incentives for generators to intentionally prolong scarcity. As Dr. Carl Pechman and Elliott J.
Nethercutt wrote in March 2021, ERCOT suffered from "1) inherent market design flaws, 2) insufficient regulatory oversight, 3) market manipulation, and 4) the distinction between reliability and resilience in designing and managing the electric market."

Conclusions

- PJM's gas generators are increasingly competing for pipeline capacity with LNG exports. Therefore, an examination of the role gas exports via pipeline and marine-based LNG must be included as part of the Task Force's issue charge.
- The task force should include a detailed analysis of the role financial traders and large non-generator marketers play in occupying pipeline capacity.
- Spot gas markets are structurally non-competitive, and consideration of FERC using its statuary authority to develop alternative pricing markets—including a gas RTO—should be explored.
- 4. The task force cannot assume that increased penetration of renewables in PJM necessitates increased gas generation.
- 5. There are limited lessons for PJM to learn from ERCOT's failure.