



Staff Presentation: Developments in Natural Gas Index Liquidity and Transparency

Division of Energy Market Oversight
Office of Enforcement
Docket No. AD17-12
June 29, 2017

Agenda

- Review of 2016 FERC Form No. 552 submissions
- Natural Gas Index Liquidity Analysis
- Tariff Review Analysis
 - Interstate Natural Gas (NGA) Pipeline Tariffs
 - ISO/RTO Tariffs

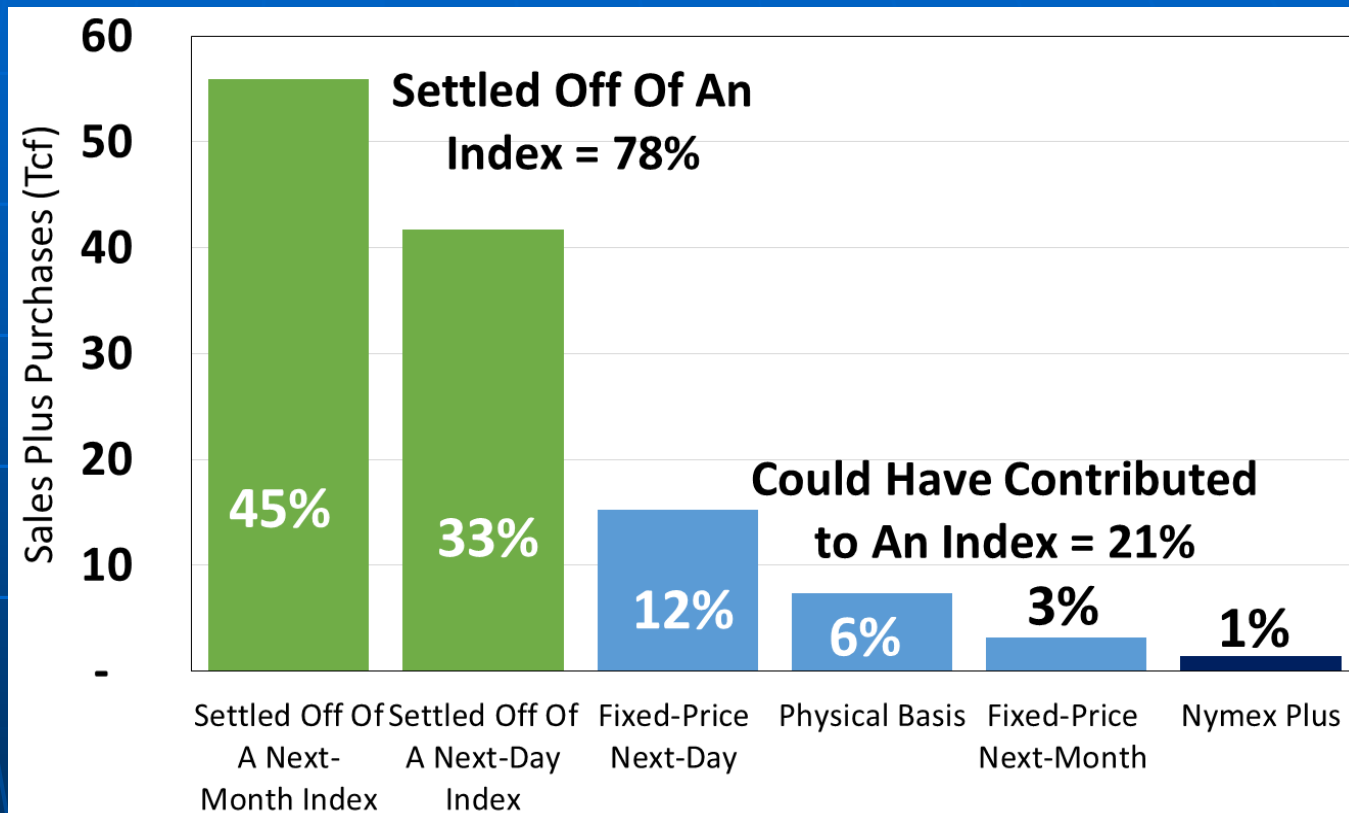
FERC Form No. 552

Overview

- Collects annually aggregated natural gas sales and purchases from market participants that buy or sell more than 2.2 TBtus/year.
- Form No. 552 provides information on:
 - An estimate of the size of the total physical natural gas market, including:
 - volumes of physical natural gas traded that contributed or could have contributed to an index.
 - volumes of physical natural gas traded that settled off of an index.
 - Which market participants report to index developers.

Majority of Physical NG Transactions Settled off of Indices

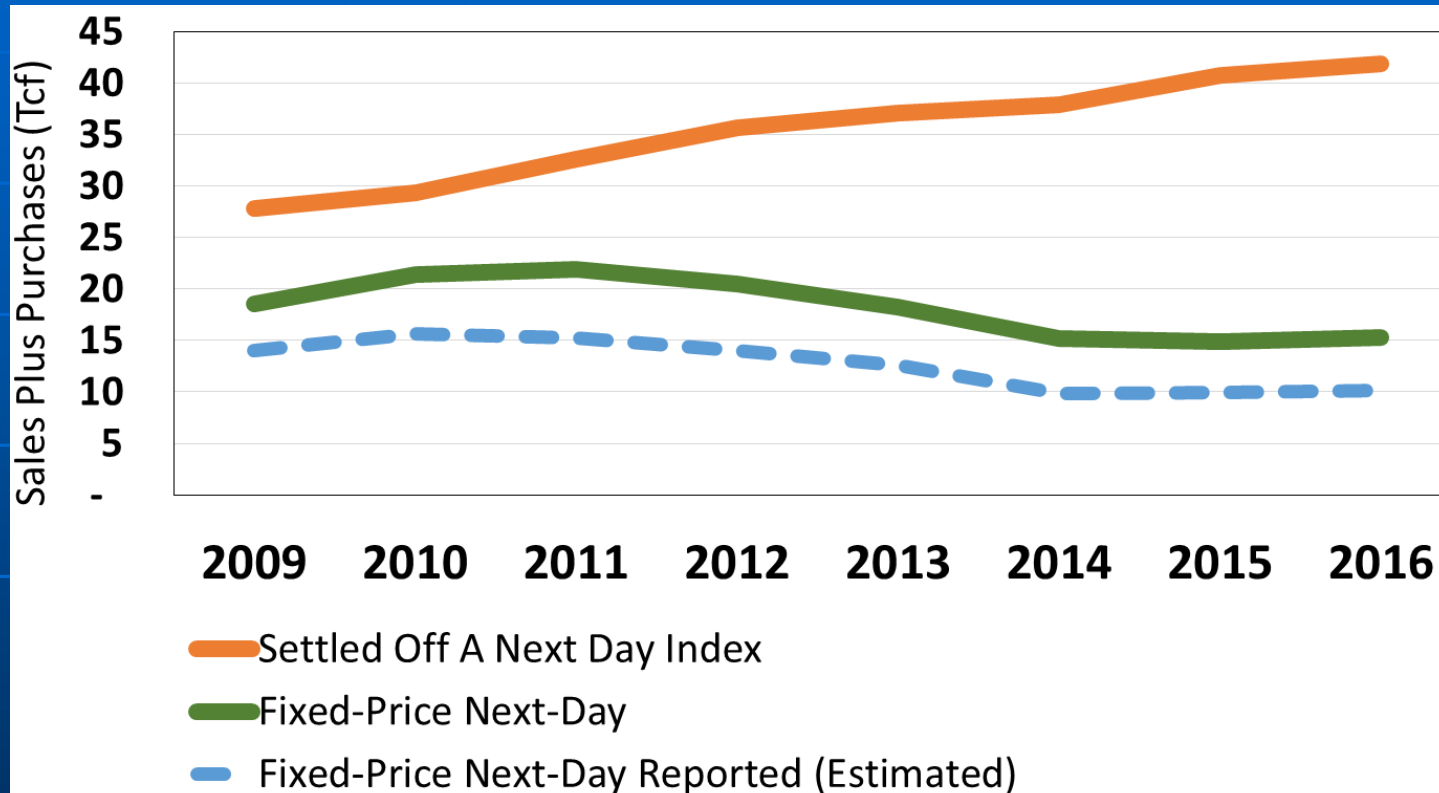
Volumes That Settled Off Of Indices Equaled 78% Of The Total Physical Natural Gas Market in 2016



Source: FERC Form No. 552
 Note: Staff is using Tcf as an approximation of 1,000 TBtus

Form No. 552 Analysis: Next-Day Transactions

Fixed-Price
Next-Day
Volumes Fall
as Indices That
Settled Off
Of Those
Transactions
Rise

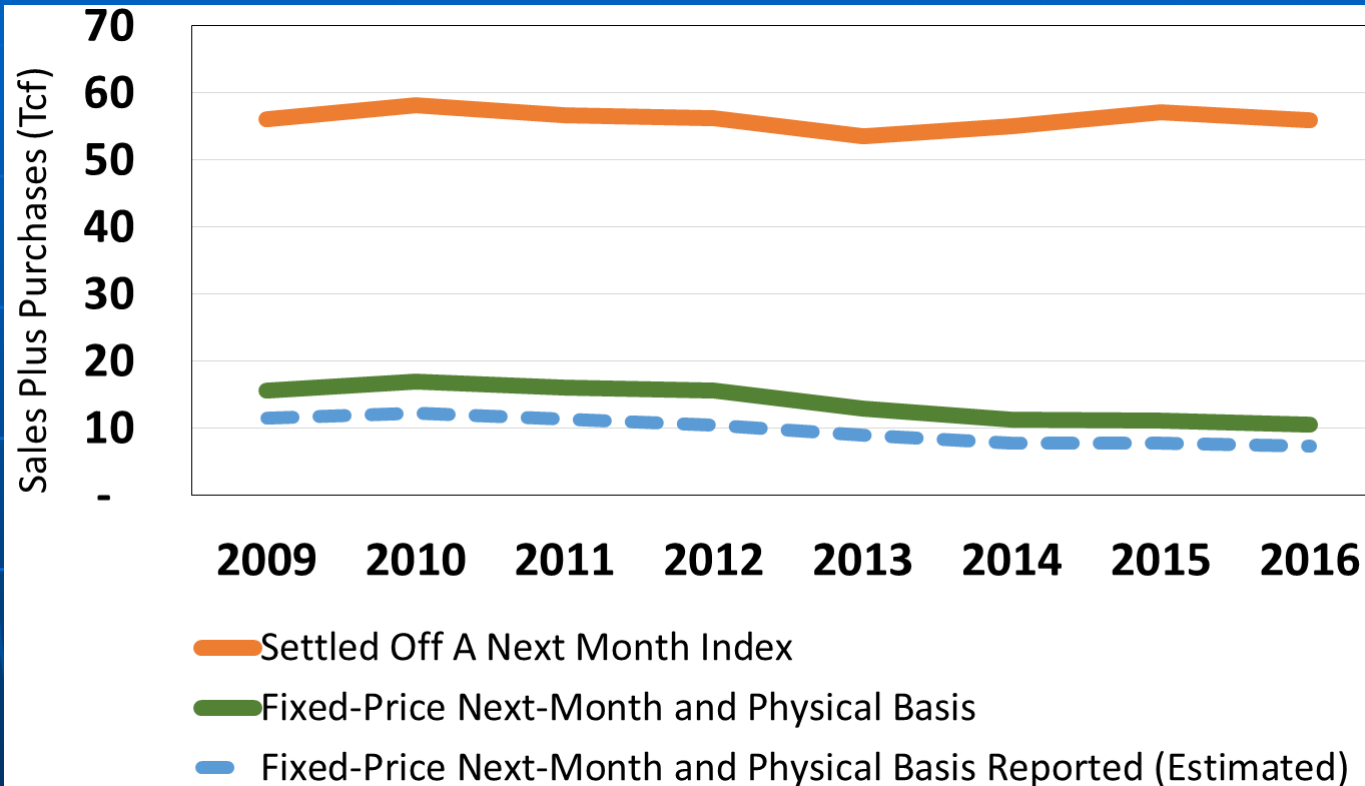


Source: FERC Form No. 552
Note: Staff is using Tcf as an
approximation of 1,000 TBtus

Form No. 552 Analysis: Next-Month Transactions

Volumes That Settled Off Of Next-Month Indices Significantly Outweigh the Volumes That Contribute to Them

Source: FERC Form No. 552
Note: Staff is using Tcf as an approximation of 1,000 TBtus



Natural Gas Index Liquidity Analysis

Publication	Number of Indices which have Traded within Review	Number of Illiquid Hubs	Percent of Hubs that are Illiquid	Review Period	Last Publication used for Analysis
Platts' IFERC	85	20	24%	180 days	5/1/2017
Platts' Gas Daily	105	17	16%	90 days	5/31/2017
NGI Daily Gas Price	143	29	20%	90 days	4/20/2017
NGI Weekly Gas Price	143	24	17%	90 days	4/23/2017

- The table shows the percentage of illiquid hubs, as defined by the Commission's 2004 Price Index Order, published by four major gas index publications.
- FERC Staff found that 13 out of 125 Platts and NGI indices referenced in pipeline tariffs were illiquid during the past year.

Source: Staff Analysis of Platts' and NGI data

Tariff Review Analysis

Publisher	Publication	Number of Pipeline Tariffs that Reference Publication	Number of Unique Indices Referenced
Platts	Gas Daily	84	62
Platts	Inside FERC	18	13
NGI	Daily Gas Price Index	14	24
NGI	Weekly Gas Price Index	22	26
NGI	Bidweek Survey	6	12
Energy Intelligence	Natural Gas Week	20	20
SNL Energy	Btu Weekly	1	1
Bloomberg	Natural Gas Report	1	1

- The table shows the number of pipelines that reference index publications in their tariffs.

- NGA tariffs typically reference indices for monthly imbalance settlements, OFO penalties, park and loan service rates, and curtailment penalties.

Source: Staff Analysis of FERC Jurisdictional Tariffs as of May 2017

Tariff Review Analysis

- RTO/ISO tariffs typically use natural gas indices to calculate fuel costs.
 - Fuel costs in turn are used in startup costs, minimum load costs, cost of new entry, and reference costs.
 - Market participants tend to be able to choose their index, but are subject to review by market monitors.
 - Henry Hub is the most commonly referenced index.
 - PJM assigns fuel pricing points to specific zones.
- RTO/ISO tariffs use various index developers including Platts, Argus, NGI, BTU and ICE.

Conclusion

- Transactions that settle off of indices continue to be the predominant way market participants physically buy and sell natural gas.
- Fixed-price transactions which contribute to index formation continue to fall.
- Declining fixed-price volumes decrease natural gas index liquidity.
- Currently, 5% of NGA tariffs reference illiquid natural gas indices.