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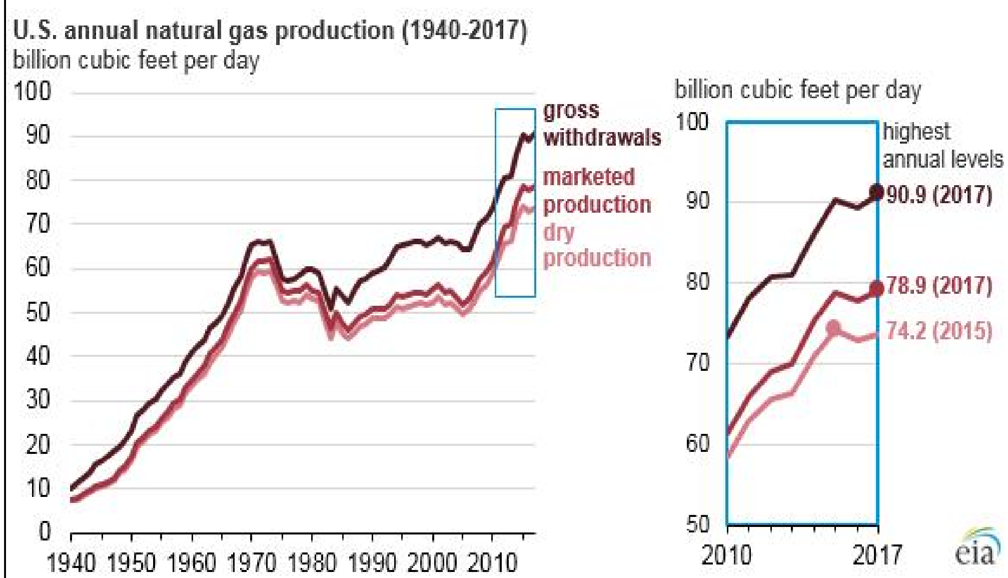
By some measure, U.S. natural gas production set a record in 2017



Source: U.S. Energy Information Administration, Monthly Crude Oil, Lease Condensate, and Natural Gas Production Report

Two out of three of EIA's measures of natural gas production in the United States set records in 2017. U.S. natural gas production measured as gross withdrawals reached 90.9 billion cubic feet per day (Bcf/d) in 2017, the highest volume on record according to EIA's Monthly Crude Oil, Lease Condensate, and Natural Gas Production Report. U.S. natural gas production measured as marketed natural gas production also reached a new high, but dry natural gas production did not exceed 2015 levels.

EIA's Monthly Crude Oil, Lease Condensate, and Natural Gas Production Report collects monthly oil and natural gas production data from a sample of operators of oil and natural gas wells in 15 states, the Federal Offshore Gulf of Mexico, and collectively from the remaining states and the Federal Offshore Pacific.

Starting in July 2017, U.S. natural gas gross withdrawals increased for five straight months, ultimately reaching a record monthly high of 96.7 Bcf/d in December 2017. Marketed natural gas production also reached an annual record high of 78.9 Bcf/d in 2017 and monthly record high of almost 84.0 Bcf/d in December 2017. Marketed production reflects gross withdrawals minus natural gas used for repressuring reservoirs, quantities vented or flared, and nonhydrocarbon gases removed in treating or processing operations.

Dry natural gas production in 2017 remained lower than previous highs set in 2015 on an annual level at 73.6 Bcf/d. Dry natural gas is consumer-grade natural gas, or marketed production minus extraction losses.

As natural gas production increased, the volume of natural gas exports - both through pipelines and as liquefied natural gas (LNG) - also increased. Total natural gas exports grew 36% in 2017, with LNG exports nearly quadrupling. The United States became a net natural gas exporter in 2017 for the first time in nearly 60 years.

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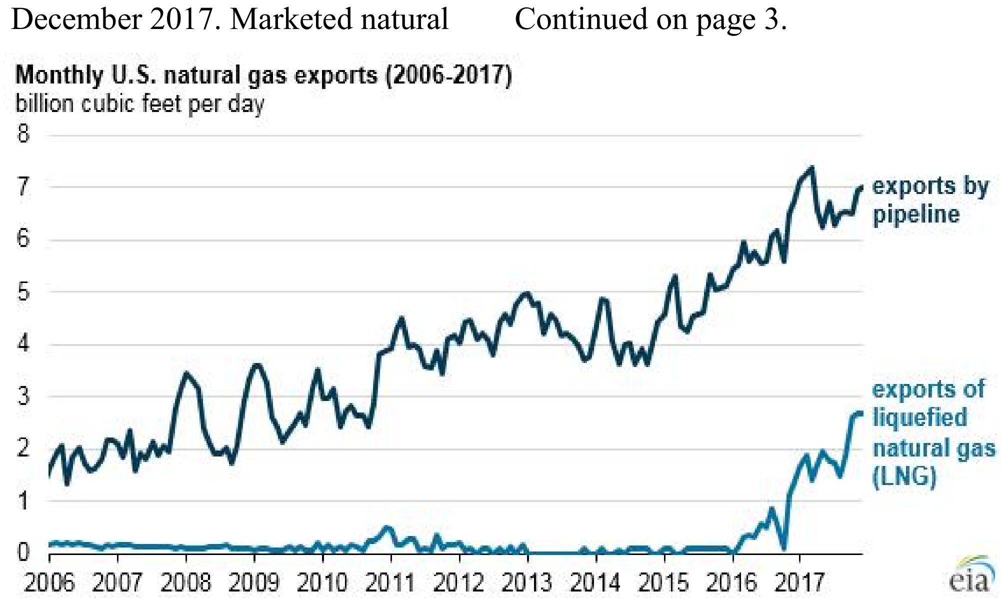

Source: U.S. Energy Information Administration, Natural Gas Monthly

Supreme Court to Decide Billion Dollar Sales Tax Case

By Lisa Soronen, Executive Director, State and Local Legal Center, Washington, D.C.

In November 2017, a Government Accountability Office report estimated that states and local governments could "gain from about $8 billion to about $13 billion in 2017 if states were given authority to require sales tax collection from all remote sellers."

In January 2018, the Supreme Court agreed to decide South Dakota v. Wayfair. In this case, South Dakota is asking the Supreme Court to rule that states and local governments may require retailers with no in-state physical presence to collect sales tax.

This case is huge news for states and local governments. This article describes how we got there and why it is likely South Dakota will win.

In 1967 in National Bellas Hess v. Department of Revenue of Illinois, the Supreme Court held that per its Commerce Clause jurisprudence, state and local governments cannot require businesses to collect sales tax unless the business has a physical presence in the state.

Twenty-five years later in Quill v. North Dakota (1992), the Supreme Court reaffirmed the physical presence requirement but admitted that "contemporary Commerce Clause jurisprudence might not dictate the same result" as the Court had reached in Bellas Hess.

Customers buying from remote sellers still owe sales tax, but they rarely pay it when the remote seller does not collect it. Congress has the authority to overrule Bellas Hess and Quill but has thus far not done so.

To improve sales tax collection, in 2010 Colorado began requiring remote sellers to inform Colorado purchasers annually of their purchases and send the same information to the Colorado Department of Revenue. The Direct Marketing Association sued Colorado in federal court claiming that the notice and reporting requirements were unconstitutional under Quill. The issue the Supreme

Continued on page 4.

Whistling In The Dark:
Shortcomings of Natural Gas Indices Persist

By John P. Gregg

Kudos to the Federal Energy Regulatory Commission (FERC) for holding a conference on natural gas price indices last summer (Docket AD17-12.). This shed light on how most of the natural gas purchased for residential consumers in the U.S. is priced on a flawed basis. APGA member Donnie Sharp from Huntsville Utilities told the FERC staff that many price index locations are no longer reliable and fewer and fewer trades are observable. FERC data revealed that 78 percent of the total physical gas market in 2016 settled off next day or month indices. Yet the number of transactions on which indices are based is absurdly low. In short, wholesale gas transactions have never been so reliant on index pricing at the same time that there has never been fewer quantities that go into creating a price index.

The reaction of many is to throw up their hands hopelessly. APGA, though, told FERC that it must address this market dissonance; that is somewhat like whistling in the dark: we courageously accept indices even though we are quite fearful that they are wrong. APGA therefore does not agree with those who choose to believe that widespread dependence on indices equates with complete confidence in the price-setting system. The industry must do better for its consumers, and FERC should lead the way.

Evidence for Alarm: APGA is Concerned about Index Illiquidity

Nearly all APGA members purchase most or all of their natural gas for resale at a price based on a price index. An index is published by a vendor that surveys fixed-price purchases and sales at a particular location - a price reporting agency (PRA). The average at such valid points is published as an index price, stated on a daily or monthly basis, which is used in most wholesale natural gas contracts. Interstate natural gas pipelines also use indices as proxies for the market when penalizing shippers under their tariff.

Participation in price reporting means liquidity. By any measure, liquidity is lower than it should be for consumers to have confidence in the index prices that they pay. Staff reported at the conference that of the 1,234 entities that have ever submitted a Form 552, only 134 have indicated that they report to PRAs. Of the 711 Form 552 respondents this past year, only 15 percent reported transaction information to the PRAs. Natural Gas Intelligence concluded that 12 of the top 20 companies ranked for total volumes of natural gas sold and purchased do not report to PRAs. Similarly, Platts North America, S&P Global, reported that of the 10 traders experiencing the largest volume increase from 2015-2016, only one was a price reporter.

At FERC's conference, BP Energy bluntly provided a startling example for bidweek December 2016 and January 2017. The TETCO M3 monthly index was settled on an average gas volume of 53,500 MMBtu/d - the equivalent amount of gas required to run a small gas-fired power plant. But Northeast gas demand averages between 10-12 Bcf/d, and Northeast production stands at over 23 Bcf/d today. This TETCO M3 market is most of the region's demand (about 5-6 Bcf/d), yet a paltry 53 Mcf/d of volumes were reported into the index to set price on that huge amount of consumption. Thus a single price reporter almost certainly is a very high percentage of reported trades in this huge market - a recipe for price manipulation.

In fact, concentration among the price reporters overall has increased. Among the top 20 market participants (by volume), 10 are price reporters. Those 10 price reporters' daily fixed price volumes represented 74 percent of total daily reported volumes in 2016, up from 69 percent the previous year. The same 10 market participants made up 72 percent of monthly reported volumes, up from 68 percent the previous year.

APGA's members are far flung and use a large number of index locations. Platt's Inside FERC last winter was 24 percent illiquid, i.e., 20 of 85 monthly indices did not meet FERC's standard for liquidity. Staff further found that of all 125 indices used in pipeline tariffs, 13 were illiquid during the past year by the PRAs' standards. Thus, many APGA members rely on flawed indices.

Platts' "Assessment" When There Is No Data

Platts for years has regularly made a "price assessment" at an illiquid point where it manufactures a price based on other data. In other words, in the absence of concrete data - reported fixed-price trades of gas - the PRAs make their best guess. Platt's Inside FERC Gas Market Report for January 2017 listed seven locations "assessed by Platts and deviated from the standard volume weighted average methodology in" ways described in the publication, including using "historical bidweek price differentials."

Why Don't They Report?

While there is no question that PRAs are dealing with paltry data, it is less clear whether this is a result of lazy price reporters or a dearth of fixed price transactions on which to report. Argus Media claims that for the past three years, fixed price trades have been stable at around 15 percent of all volumes submitted on Form 552, but that is historically low. Staff reported that there has been an 18 percent decline in fixed price quantities since 2009 and acknowledged this is a concern. In 2016, monthly fixed price trading decreased 4.87 percent. The ratio of index-priced gas to fixed-priced gas has increased dramatically since 2009 from about 4 to 1 to 7.7 to 1. If that is what the market is doing voluntarily, then there is little for FERC to do. On the other hand, if price reporters are just being diffident, there is a role for FERC to play.

Fourteen summers ago, FERC heard that an obstacle to increased voluntary reporting is the concern that companies making a mistake when reporting price data to PRAs could be subject to FERC enforcement - in light of Congress' new $1 million a day penalty authority. Despite the safe harbor then created by a new Policy Statement, that sentiment remains today: why bother to report prices if there is a risk and a potential cost of being audited or examined by the government?

Private v. Public Solution

The prospect of lessening competition in this marketplace of price indices could lead to a government solution. The industry has always relied on a private competition model for price indices. A price reporter can report to at least seven entities but Platts dominates the marketplace. Some have suggested that another model be employed where prices are reported to a single portal that can be accessed by all vendors. Others have called for a non-profit to handle the data as do swap data repositories under Dodd-Frank. Alternatively the Energy Information Administration (EIA) could collect all data.

Platts' solution was a 2016 collaboration and agreement with the Intercontinental Exchange or ICE so that Platts could include some transactions traded on ICE in its price indices. This should help add liquidity to the market. Yet it increases the market power of the dominant PRA. End users complained to FERC that their subscription prices have increased since.

Steps FERC Should Take

Section 316 of the Energy Policy Act of 2005 directs FERC to "facilitate price transparency in markets for the sales or transportation of physical natural gas in interstate commerce, having due regard for the public interest, the integrity of those markets,

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By some measure,

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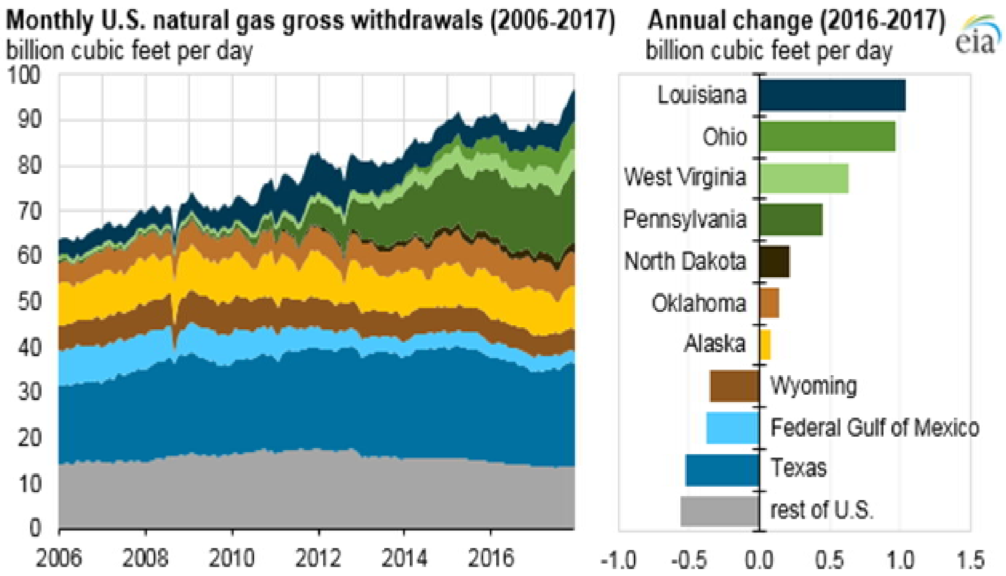


Source: U.S. Energy Information Administration, Monthly Crude Oil, Lease Condensate, and Natural Gas Production Report.

Louisiana saw the largest total volumetric gain in gross withdrawals in 2017, increasing to 5.8 Bcf/d, up from the state's 2016 production of 4.8 Bcf/d. Economic and technological advancements and increased drilling have resulted in growth in natural gas production from Louisiana's Haynesville play.

As in 2016, the Appalachian region remained the largest natural gas-producing region. Appalachian natural gas from the Marcellus and Utica/ Point Pleasant plays of Ohio, West Virginia, and Pennsylvania continued to grow, with gross withdrawals increasing from 22.2 Bcf/d in 2016 to 24.3 Bcf/d in 2017. Ohio had the largest percentage increase in gross withdrawals of natural gas - up 24% in 2017 to 4.9 Bcf/d.

Gross withdrawals of natural gas in Texas declined from 22.2 Bcf/d in 2016 to 21.7 Bcf/d in 2017, which was the largest volumetric decline of any state. However, Texas remained the largest natural gas-producing state with gross withdrawals of nearly 7 Bcf/d more than the next highest state, Pennsylvania.

Whistling in the dark

Continued from page 2.

fair competition, and the protection of consumers." Clearly there are too many free riders in the price reporting market. What can be done?

First, if FERC dangles the potential of a government solution to price reporting the industry will sit up and take notice as that approach generally is disfavored, as is mandatory reporting. FERC should also express interest in whether the index market is competitive or whether one PTA has too much market power. Exploring the idea a of a single price reporting portal would tee that up.

Second, a proposed rulemaking proceeding in which FERC's policy is elevated to a set of regulations would be an excellent forum to further vet this problem. FERC could encourage price reporting by promulgating a

Clear regulation that price reporters have a rebuttable presumption of good faith that requires FERC to make a high showing of malevolent intent or probable cause (scienter) for any enforcement action to be brought against a price reporter. This effort could codify a code of conduct for price reporters so that they could be certain that they were in compliance. If price reporters follow their processes in good faith adhering to a code of conduct, they should not be held accountable for simple errors that may occur.

Relatedly, FERC could fiddle with audit rules to indicate that audits would not be penal for price reporters. One large marketer had just that experience in 2015, yet a perception of entanglement persists.

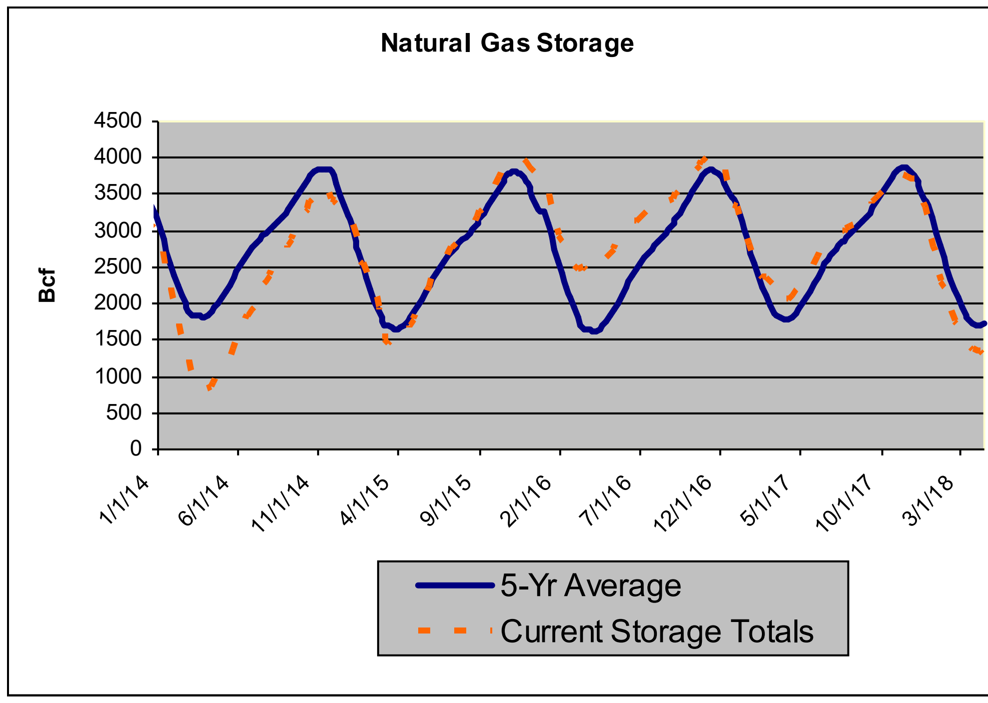
Last, FERC should focus on the ailing monthly index market so important to APGA members. FERC's current Policy Statement states that companies which report fixed price deals to PRAs, must submit all their reportable deals. FERC should modify this policy to encourage the current standard but also allow a reporting entity to elect to report just its monthly transactions and not be bound to submit daily transactions as well. This could boost the liquidity of monthly indices upon which APGA members heavily rely.

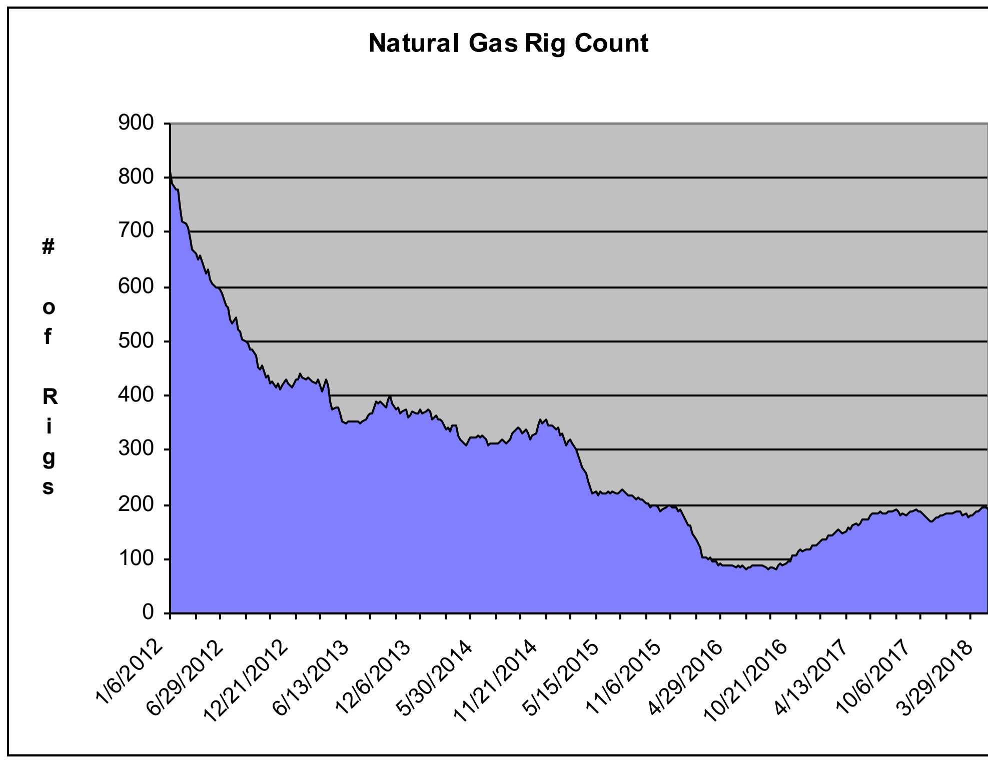
Conclusion

State regulators were mysteriously absent from the FERC conference. They should take an interest in whether their ratepayers are paying accurate prices.

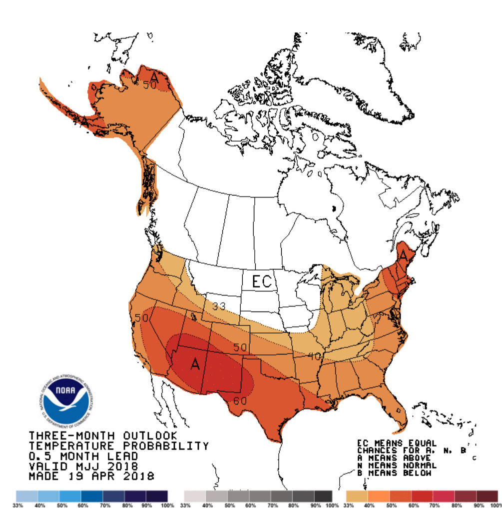
Gas retailers must be vigilant. They should routinely evaluate the accuracy of the index prices that they are paying. This means monitoring the NYMEX price and traded natural gas basis contracts for comparison. The risk of price indices can be reduced by purchasing some gas on a financial basis and fixing prices or hedging. They owe their consumers nothing less.

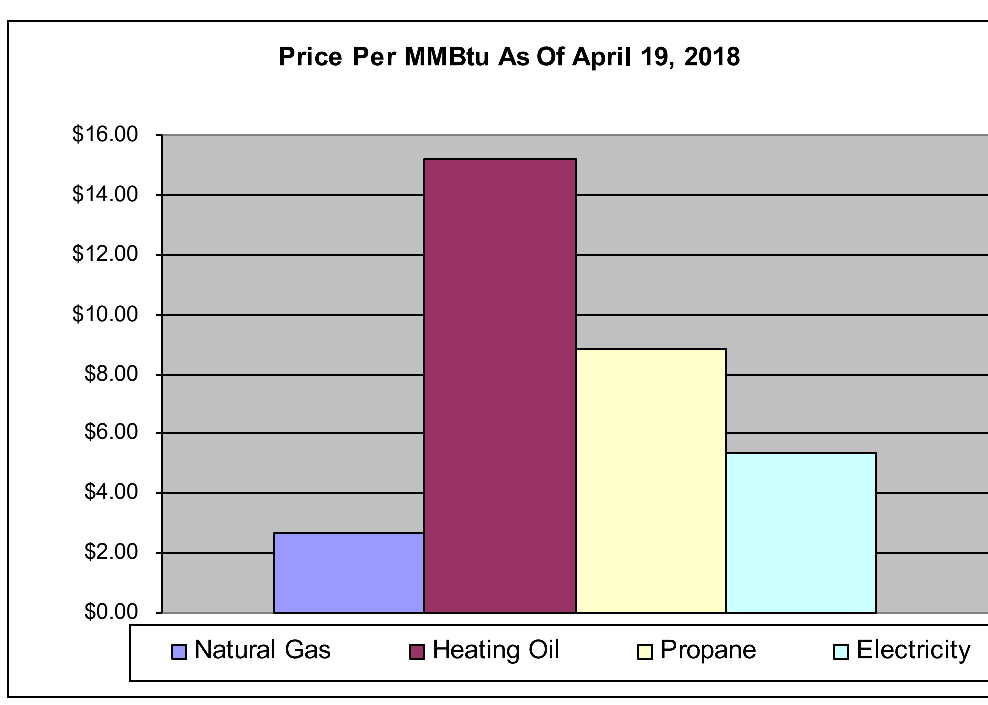
Snapshots





Seasonal Temperature Outlook
May – June – July





Supreme Court to Decide

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Court decided in Direct Marketing Association v. Brohl (2014), was whether the Tax Injunction Act barred a federal court from deciding this case. The Supreme Court held it did not.

The State and Local Legal Center (SLLC) filed an amicus brief in Direct Marketing Association v. Brohl describing the devastating economic impact of Quill on states and local governments. Justice Kennedy wrote a concurring opinion stating that the "legal system should find an appropriate case for this Court to reexamine Quill." Justice Kennedy criticized Quill for many of the same reasons the SLLC stated in its amicus brief. Specifically, internet sales have risen astronomically since 1992, and states and local governments have been unable to collect most taxes due on sales from out-of-state vendors.

Following the Kennedy opinion, a number of state legislatures passed laws requiring remote vendors to collect sales tax in clear violation of Quill. South Dakota's law was the first ready for Supreme court review.

In September 2017, South Dakota's highest state court ruled that the South Dakota law is unconstitutional because it clearly violates Quill, and it is up to the U.S. Supreme court to overrule Quill. In October 2017, South Dakota filed a certiorari petition asking the Supreme Court to hear its case and overrule Quill. The SLLC filed an amicus brief supporting South Dakota's petition. The Supreme Court ultimately agreed to decide the case.

It seems likely the Supreme Court will rule in favor of South Dakota and overturn Quill for a number of reasons. It is unlikely the Supreme Court accepted this case to congratulate the South Dakota Supreme Court on correctly ruling that South Dakota's law is unconstitutional. Said another way, if the Supreme Court wanted to leave the Quill rule in place, it probably would have simply refused to hear South Dakota v. Wayfair.

It is easy to count at least three votes in favor of South Dakota in this case. First, Justice Kennedy of course. Second, Justice Thomas. While he voted against North Dakota in Quill, he has since entirely rejected the concept of the dormant Commerce Clause, on which the Quill decision rests. Third, Justice Gorsuch. The Tenth Circuit ultimately decided Direct Marketing Association v. Brohl ruling that Colorado's notice and reporting law didn't violate Quill. Then-judge Gorsuch wrote a concurring opinion strongly implying that given the opportunity the Supreme Court should overrule Quill.

That said, the Supreme Court, and the Roberts Court in particular, is generally reticent about overturning precedent. The Quill decision illustrates as much. The Supreme court looks at five factors in determining whether to overrule a case. One factor is whether a rule has proven "unworkable" and/or "outdated"…..after being "tested by experience." This factor weighs strongly in favor of overturning Quill. As Justice Kennedy pointed out in Direct Marketing Association v. Brohl: "When the Court decided Quill, mail order sales in the United States totaled $180 billion. But in 1992, the internet was in its infancy. By 2008, e-commerce sales alone totaled $3.16 trillion per year in the United States."

It is possible (though not yet certain) the Court will hear this case this term, meaning it will issue an opinion by the end of June 2018.

NEW API STUDY MILLENNIALS ARE MAJOR PLAYERS IN THE OIL AND NATURAL GAS WORKFORCE

Millennials are seeking work in the natural gas and oil industry at increasing rates and will account for nearly 41 percent of the workforce - a 20 percent increase - by 2025, according to a new IHS Markit study commissioned by the American Petroleum Institute.

"Harnessing the energy, technological prowess and the innovative spirit of the next generation will be critical to achieving progress on societal and environmental goals and delivering energy reliably and affordably for decades to come," said API President and CEO Jack Gerard. "The natural gas and oil industry projects more than 1.9 million new job opportunities by 2035, which provide significant opportunities for the industry to recruit and retain talent in the millennial and rising generation."

In 2015, millennials accounted for more than one third of the natural gas and oil industry workforce, a nearly identical percentage to the overall U.S. economy at 35 percent. The study concluded that millennials are choosing to work for the natural gas and oil industry at increasing rates, on par with other industries. Another factor is that average annual pay of the natural gas and oil industry is nearly $50,000 higher than the 2016 U.S. average according to Bureau of Labor Statistics data and those who are educated in science, technology, engineering and math (STEM) earn the highest salaries.

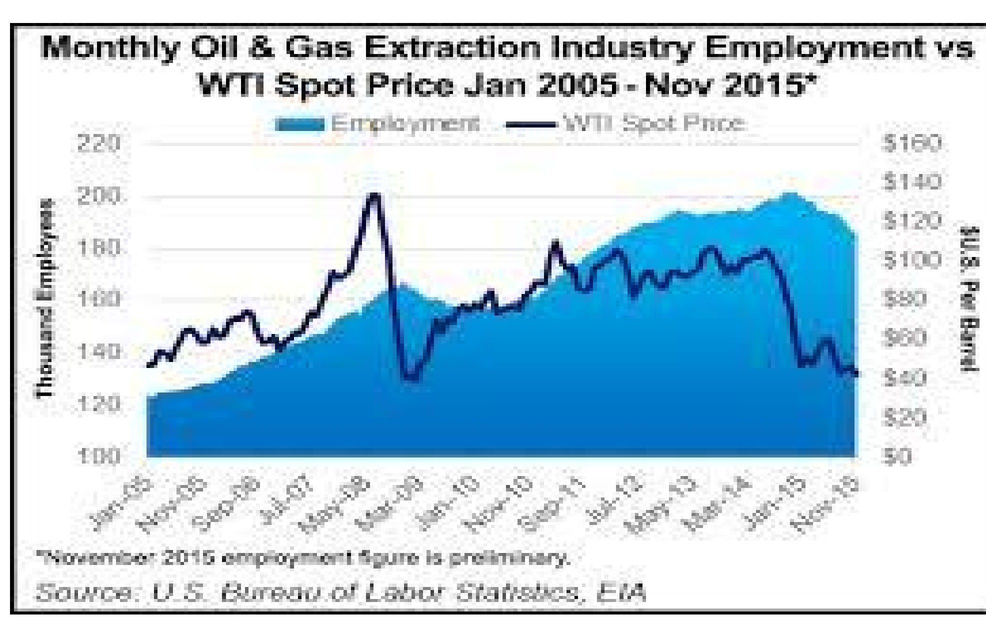
The study also finds that millennials as a group are more diverse and better educated than previous generations, which provides an opportunity for the natural gas and oil industry to tap a broader range of skills, intellect, creativity and perspectives.

Study highlights include:

- 45 percent of Millennials in 2016 were Hispanic, African American or from some other minority group, compared to one-third of Gen-Xers and 22 percent of Baby Boomers at a corresponding age.
- About 66 percent of Millennials age 25-34 in 2016 have had at least some college coursework, compared with 56 percent of Gen-Xers at a corresponding age and 45 percent of Baby Boomers.
- Nearly 50 percent of working Millennials are employed in professional, technical, and service occupations compared to 33 percent of Gen-Xers and 30 percent of Baby Boomers at the same age.

"Millennials today have unique characteristics that will help forge the innovations and breakthroughs in energy only imagined today," added Gerard. "By harnessing this generation's unshakable confidence in a better future and use of technology, the industry is positioned well to address tomorrow's greatest challenges."

API is the only national trade association representing all facets of the oil and natural gas industry, which supports 10.3 million U.S. jobs and nearly 8 percent of the U.S. economy. API's more than 625 members include large integrated companies, as well as exploration and production, refining, marketing, pipeline, and marine businesses, and service and supply firms. They provide most of the nation's energy and are backed by a growing grassroots movement of more than 40 million Americans.



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