



SUMMER 2019



Natural Gas  
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## NGSA: 2019 Summer Outlook for Natural Gas Markets Matter

The Natural Gas Supply Association's (NGSA) 2019 Summer Outlook for Natural Gas summarizes the association's view of this summer's natural gas market conditions and fundamentals. The analysis covers the key points that can affect supply and demand dynamics, which ultimately impact all consumers of natural gas.

NGSA forecasts whether wholesale natural gas prices will be subject to **upward, downward or neutral ("flat") pressure** for the upcoming summer compared to the summer of 2018, but the association does not forecast actual prices.

### Executive Summary

**Based on an analysis of the weather, economy, consumer demand, production and storage, NGSA expects neutral price pressure on the natural gas market in summer 2019 compared to the summer of 2018's average natural gas price of \$2.92 per million Btu (MMBtu).**

Our expectation for flat price pressure is based on a forecast for impressive growth in exported liquefied natural gas (LNG) and very large weekly storage injections, which will place upward pressure on natural gas wholesale prices - but are counterbalanced by cooler summer weather and very high production placing downward pressure on price.

**A glance at the natural gas market's major pressure points for summer 2019 reveals:**

**WEATHER:** The National Oceanic and Atmospheric Administration (NOAA) predicts that the continental United States will on average experience a summer that will be 14 percent cooler than last summer, but 3 percent warmer than the 30-year average. Compared summer-over-summer, the total number of cooling degree days (CDDs) is significantly less than summer 2018, leading to a projection that weather will place **downward pressure** on demand and prices.

**ECONOMY:** Public data anticipates the economy will show continued steady growth in GDP, although at a slightly lower rate of growth than

summer 2018. The GDP and economic numbers are so similar that they translate to **neutral pressure** on natural gas prices compared to last summer.

**DEMAND:** NGSA expects record demand in summer 2019, led by a near-doubling of net U.S. exports of LNG from 3.3 Bcf/day last summer to an expected 6 Bcf/day in summer 2019. Increased exports to Mexico by pipeline and some growth in the industrial market also contribute to the expectation for overall record summer demand of 82.1 Bcf/day. While exports and the industrial sector heat up, power sector demand and demand from the residential/commercial sector are forecasted to decrease slightly because of NOAA's prediction for a cooler, wetter summer than summer 2018. When all sectors are combined, overall demand is projected to be 2.5 Bcf/day (3.1 percent) greater than 2018's record summer demand, thus placing neutral pressure on natural gas prices compared to last summer.

**STORAGE:** The natural gas industry entered the summer cooling season with storage inventories that were below the five-year average and below last summer. Filling storage to adequate levels will require average weekly injections of 85 Bcf - more than 40 percent larger than last summer's average weekly injections. Storage is forecasted to place additional **upward pressure** on prices.

**PRODUCTION:** Production is projected to smash through previous robust levels, due to increased production of both dry gas and "wet" gas often associated with oil and valuable natural gas liquids (NGLs) production. The increased production also reflects continued advances in drilling efficiency, a number of wells coming online and production from eight deepwater projects. Dramatic increases in summer-over-summer levels of production are likely to result in **downward pressure** on natural gas prices.

All of these projected pressure points are interrelated and a deviation in one affects the other assumptions in this equation. Increased demand for exports and pressure to re-build storage

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## Negotiating Away from Rate Regulation

By Jeff Janicke

Since the Federal Energy Regulatory Commission (FERC) mandated open access service more than 25 years ago, interstate natural gas pipelines have moved incrementally to where most of their capacity now appears to be sold at discounted or negotiated rates. FERC-regulated recourse rates are therefore becoming less and less important, which means that customers that are captive to a single pipeline will have to work harder to ensure that recourse rates are set at reasonable levels.

In response to the recent reduction in the federal corporate income tax rate, FERC mandated that pipelines file one-time reports on the impact of the tax cut on their earnings. Along with filing the report, each pipeline also had the option to file for a rate adjustment to reflect its reduced tax cost, to file a general rate case or to explain why no adjustment was needed. It wasn't surprising that most pipelines chose the third option. What was somewhat surprising was that several pipelines pointed to their high percentage of discounted and negotiated rate contracts as a reason for not reducing their rates.

### Negotiated Rates, Discount Rates and Discount Adjustments

Interstate gas pipelines must file with FERC minimum and maximum rates for each of their services. The maximum rate - also known as the "recourse" rate - is set based on the cost of providing service plus a reasonable return. A discount rate is less than the maximum rate but not less than the minimum, while a negotiated rate falls outside the parameters of the minimum and maximum rates. For example, a negotiated rate may be a formula tied to the cost of gas in a particular place.

When a pipeline includes a "discount adjustment" in the calculation of its tariff rates, it increases its recourse rates to recoup lost revenue from discounting. The general theory supporting the allowance of discount adjustments is that discounting increases throughput by attracting customers that have other options, which, in turn, benefits captive customers by reducing maximum rates. By 2012, FERC had established a firm policy allowing pipelines with the requisite

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## 2019 Summer Outlook for Natural Gas

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inventories together place upward pressure on prices that is counterbalanced by tremendous growth in production - ultimately resulting in a forecast for neutral pressure on prices compared to the summer of 2018.

### Weather/Demand

Based on NOAA's current projections for April - October 2019 temperatures, Energy Ventures Analysis, Inc. (EVA) forecasts that the summer months will be 14 percent cooler than the very hot summer of 2018, yet still 3 percent warmer than the 30-year average.

On a regional basis, for the months of June through August, NOAA forecast shows a summer of contrasts, projecting hotter-than-normal summer weather for Pacific Coast states and the coastal Northeast, and cooler-than-normal weather in the Plains states. NOAA also projects a very wet summer in most of the United States.

Based on NOAA's forecast for the full seven-month summer cooling season (April 2019 - October 2019), EVA is forecasting 1,272 cooling degree days (CDDs) this summer, compared to 1,477 CDDs last summer. The number of cooling degree days is defined as the difference between 65 degrees Fahrenheit and the average outside temperature for that day.

Based on the summer-over-summer cooling degree days, the forecast is for **weather to put downward pressure** on natural gas prices.

### Economy/Demand

This summer, public forecasts anticipate an economy that will grow at a

rate that will be similar to last summer's solid growth. A key component of economic health is the Gross Domestic Product (GDP). According to IHS Economics, a nationally recognized economic forecasting firm, the GDP is expected to increase by a steady 2.5 percent compared to the summer of 2018, when GDP expanded by 2.9 percent.

IHS also predicts that manufacturing, an important influence on the GDP, will show less growth than last summer, projecting growth of just over 1 percent this summer compared to the summer of 2018's growth of 2.5 percent, perhaps as a result of uncertainty around tariffs. Because energy is becoming a global commodity, NGS also included the figures for World GDP in this forecast, with World GDP expected to show a very slight decrease in growth from 3 percent last summer to 2.8 percent in the summer of 2019. Finally, the latest Consumer Sentiment Index (CSI) shows that consumers have strong positive feelings about the economy, with the CSI tracking at a robust 98 percent, indicating general consumer optimism, a reflection of the prosperous economy and job growth. The Consumer Sentiment Index is a gauge of consumer confidence in the economy conducted for more than 40 years by the University of Michigan.

These economic indicators all reflect good news for consumers, but are similar enough to last summer's economic figures that NGS anticipates the economy will place **neutral summer-over-summer pressure** on natural gas prices.

### Overall Natural Gas Demand

An independent demand analysis performed by EVA notes that summer-to-summer natural gas demand will reach an all-time summer record this

## Demand: Customer Demand

SUMMER SEASON Period-to-period Change	LAST SUMMER 2018 Actual	THIS SUMMER 2019 Forecast
<b>Customer Gas Demand</b>	<b>79.6 Bcf/d</b>	<b>82.1 Bcf/d</b>
■ Electric	32.1 Bcf/d	31.3 Bcf/d
■ Industrial	21.5 Bcf/d	22.1 Bcf/d
■ Residential/Commercial	11.9 Bcf/d	11.0 Bcf/d
■ Pipeline exports - Mexico	4.7 Bcf/d	5.5 Bcf/d
■ LNG exports (net)	3.3 Bcf/d	6.0 Bcf/d
<b>Change from previous year</b>	<b>+13.4 %</b>	<b>+ 3.1 %</b>
<b>Growth sector</b>	<b>Electric + 16.3%</b>	<b>Exports + 44%</b>

Summer-to-summer pressure on natural gas prices



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Data Source: Energy Ventures Analysis, Inc.

year. EVA forecasts overall summer 2019 demand for natural gas at 82.1 billion cubic feet per day (Bcf/d) compared to 79.6 Bcf/d last summer - about a 3 percent increase. A sector-by-sector breakdown of customer demand follows.

- ◆ **Exports** - The largest expected increase in demand is projected to come from exports of liquefied natural gas (LNG) this summer, which EVA forecasts to **almost double from 3.3 Bcf/d in summer 2018 to 6.0 Bcf/d in summer 2019**, with multiple projects expected to become fully operational in 2019. In addition to the increase in LNG exports, **U.S. pipeline exports to Mexico are expected to increase by just under 1 Bcf/d to reach 5.5 Bcf/d in the summer of 2019**. The construction of new pipeline capacity on both sides of the border, particularly the Mexican side, is easing gas's path from the U.S. to Mexico.

- ◆ **Industrial Sector** - EVA attrib-

utes growth in industrial demand to new projects coming online this year to boost demand, such as fertilizer, methanol, ethylene, propylene and polyethylene facilities. An extended forward view of industrial demand shows 40 major new or expanded natural gas-intensive industrial projects on the 2019-2023 horizon, with total added demand of 2 Bcf/day. This growth is in addition to 40 previously-completed major gas intensive projects over 2015 - 2018, which already have added approximately 1.7 Bcf/day.

- ◆ **Electric Sector** - EVA projects stagnant growth in gas demand from the electric sector this summer, with the forecast for cooler, damper summer weather masking the underlying structural growth in demand for natural gas due to new natural gas-fired power generation added to the fleet since last summer. EVA projects a 2 percent decrease in natural gas power burn in summer 2018 compared to last summer.

The phenomenon of short-term coal-to-gas switching, also known as fuel switching, occurs when electric utilities choose to run natural gas-fired power plants rather than coal plants to generate electricity. Switching is a short-term decision that is purely an economic choice based on the current price of the competing fuels.

EVA expects some coal-to-gas switching in the power sector that is driven by price sensitivity. The amount of temporary price-driven switching to natural gas is expected to be less than the summer of 2018, which EVA attributes partially to (1) changes in the coal industry, as many coal-fired plants still operating are more efficient and economical than those that have already retired; and (2) the growth of renewable generation, particularly wind energy.

- ◆ **Residential/Commercial Sector** - The residential/commercial sec-

Continued on page 3.



**PANHANDLE EASTERN PIPE LINE**  
An ENERGY TRANSFER Company



**TRUNKLINE GAS**  
An ENERGY TRANSFER Company

**2019 Summer Outlook**

Continued from page 2.

tor is expected to experience a small decrease in demand for natural gas for the April-October summer ‘cooling’ season, due to the forecast for a cooler summer than summer 2018.

**Storage/Demand**

Underground natural gas storage enables companies to purchase and physically stockpile natural gas supplies in the spring and summer for use during the winter when demand for natural gas space heating is at its peak.

Going into the winter heating season, EVA projects that 3,745 Bcf of natural gas will be in storage by the end of the 2019 injection season, which would require an average weekly injection of 85 Bcf. This level of injection is robust and significantly larger than last summer’s average weekly injections of 60 Bcf, but slightly less than the summer of 2014’s average weekly injections of 89 Bcf. **The difference in the size of the weekly injections between the summers of 2018 and 2019** is expected to place **upward pressure** on natural gas prices this summer.

**Production/Supply**

Turning to natural gas production, EIA expects summer domestic production to exceed last summer’s record-breaking production figures. Domestic natural gas production this summer is forecasted to be a remarkable 89.4 Bcf/day, a sizeable increase over last summer’s 82.6 Bcf/day.

Among the reasons that summer production is expected to increase so dramatically are: strong production from the Marcellus and Permian basins and associated gas plays; strong production from shale gas plays as previously drilled but uncompleted (DUC) wells come online; increased efficiencies in natural gas extraction techniques; and improved takeaway capacity in the form of pipelines and processing plants in areas such as the Marcellus. New deepwater projects in the Gulf of Mexico also make an important contribution.

The forecast anticipates long-awaited relief in the Permian where new pipeline takeaway capacity is scheduled to come online in late summer. Other new takeaway capacity is expected to come online throughout 2019 and through late 2020, easing the existing infrastructure constraints.

In summary, natural gas production will increase to an all-time record, placing **downward pressure** on natural gas prices compared to the summer of 2018.

The 2019 Summer Outlook also predicts a moderately-sized, but impor-

tant, contribution to supply from low-cost Canadian imports.

**Wild Card” Market Factors**

There are always a few “wild card” factors that can influence the market, in addition to the fundamentals addressed in this Outlook. This summer’s wild card:

- ◆ Should an unpredicted and lively hurricane/storm season materialize, it would mainly affect demand and not production, since most onshore producing gas fields are not vulnerable to hurricanes.

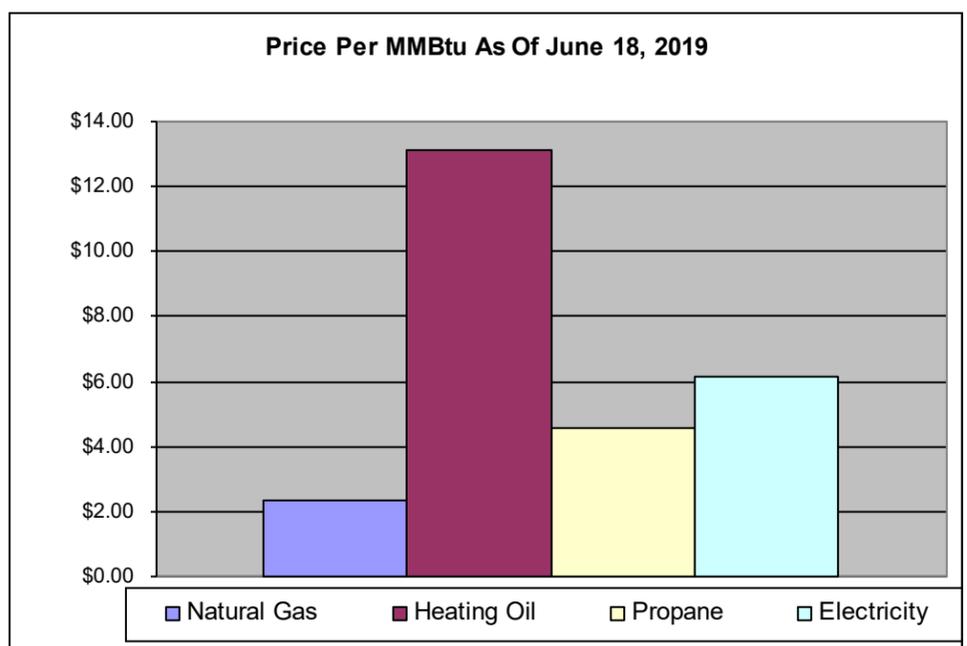
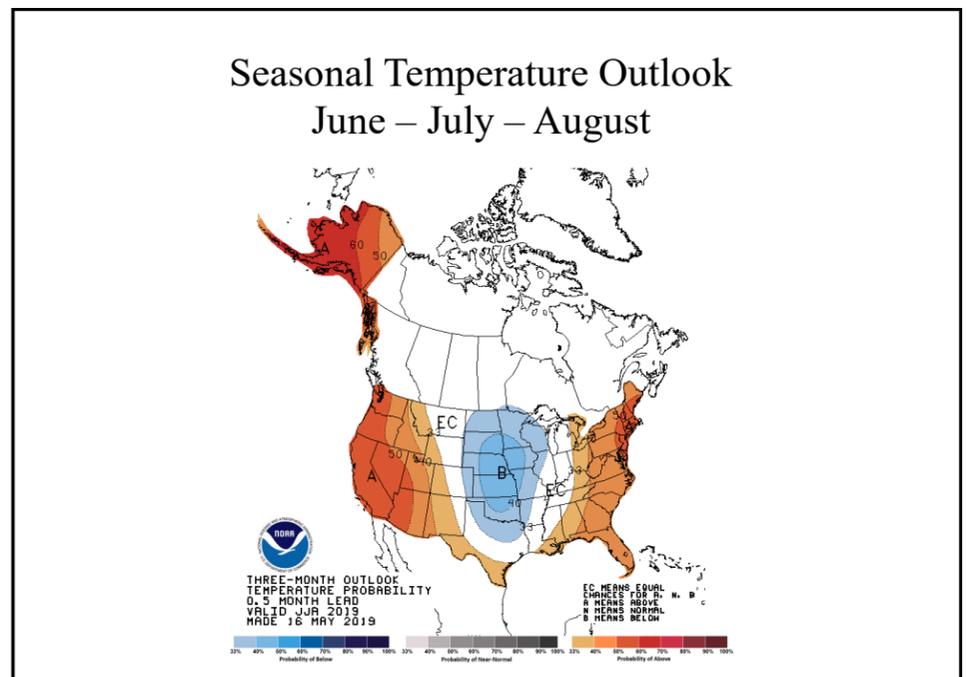
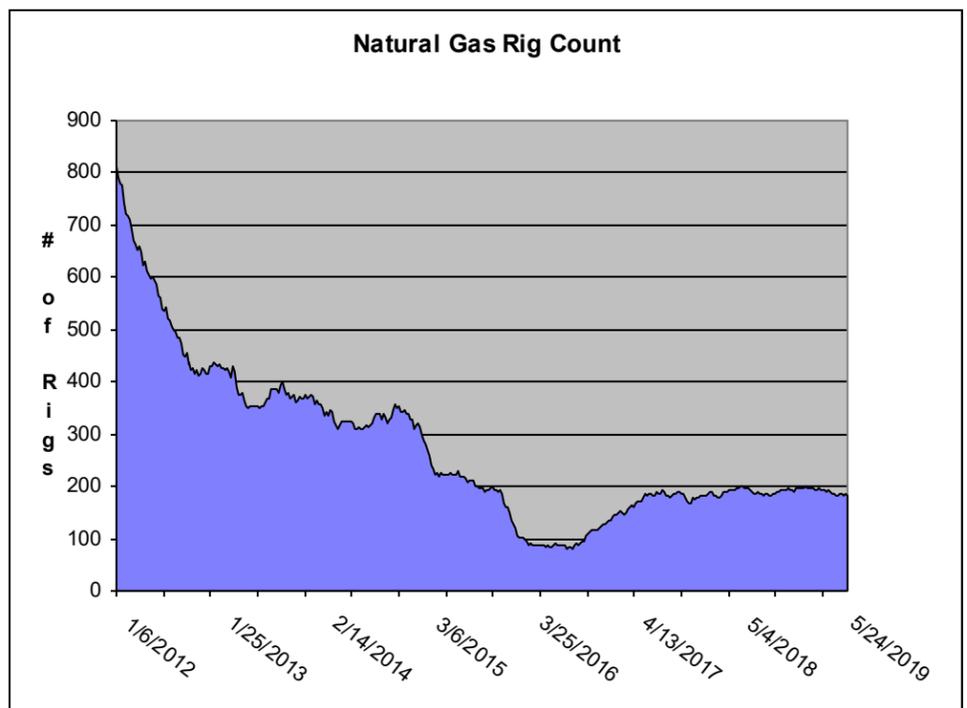
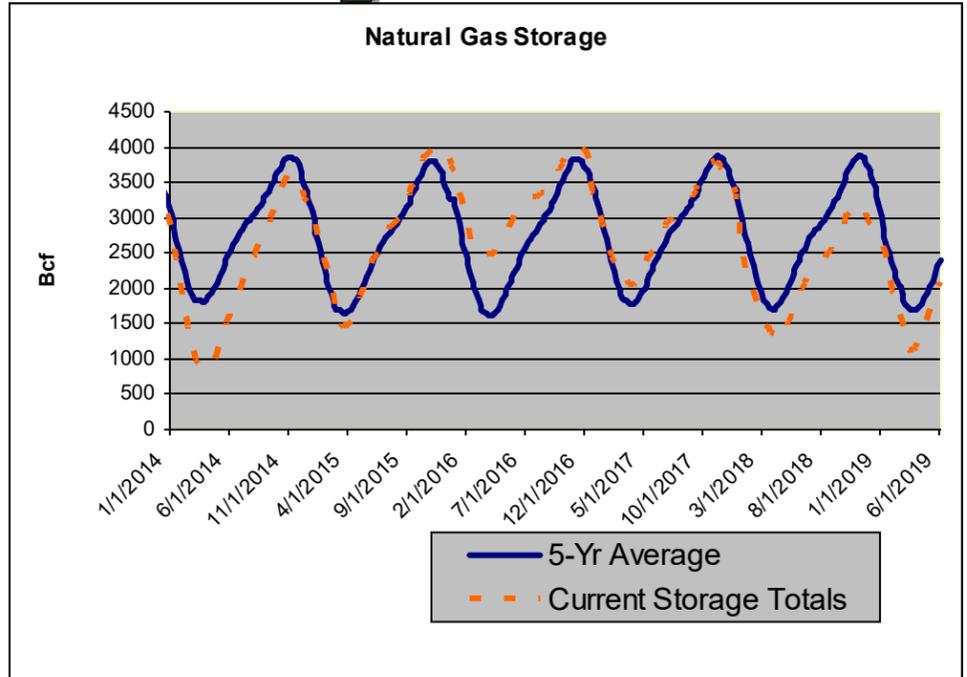
**In conclusion, NGSA’s analysis of various data indicated overall neutral (flat) pressure on natural gas prices this summer compared with last summer, primarily due to upward pressure from exports and the need to rebuild storage, mitigated by dramatic downward pressure from booming production. A recap of the five major pressure points reveals:**

- ◆ Production exceeding previous summer record levels, aided by new pipeline capacity and fueled by drilling efficiencies, increased production of natural gas found in association with oil and NGLs and newly-completed onshore and offshore wells - **DOWNWARD PRESSURE**
- ◆ Overall record demand - Export sector leads demand growth with net LNG exports expected to increase from 3.3 to 6 Bcf/day and Mexican exports to grow as well. When both are combined, exports account for 11.5 Bcf/day and 14 percent of customer demand this summer. But weather-related decreases in the electric, residential, and commercial sectors will moderate demand.- **FLAT PRESSURE**
- ◆ Cooler summer weather - **DOWNWARD PRESSURE**
- ◆ Similar summer-over-summer economic conditions.- **FLAT PRESSURE**
- ◆ Significantly large weekly injections of 85 Bcf/day required to bring storage to estimated 3,745 Bcf.- **UPWARD PRESSURE.**

**OVERVIEW: Record Production Enables Industry to Easily Match Record Demand**

- ◆ Strong production supporting remarkable growth in U.S. LNG exports and steady growth in industrial markets.
- ◆ Structural, long-term demand growth from power sector temporarily masked by cooler summer, but underlying fundamentals reflects more than 6 GW of new gas-fired generation in operation compared to last summer.
- ◆ Industrial demand spurred mainly by new builds and expansions in petrochemical, fertilizer and steel and new methanol facility.

**Snapshots**



## Negotiating Away from Rate Regulation

Continued from page 1.

tariff language to seek discount adjustments based not only on discounted rates but also negotiated rates. Challenging a discount adjustment has proven to be an uphill battle for customers.

## The Proliferation of Negotiated Rates

In their one-time tax reports, numerous pipelines reported that more than 90 percent of their revenues are generated by negotiated rate contracts or that more than 90 percent of their capacity is held under such contracts. In fact, many small pipelines and storage companies reported that all of their firm contracts are at negotiated rates.

The fact that pipelines are now able to seek a discount adjustment for negotiated rates has undoubtedly played a role in the increase in such rates. In giving pipelines an opportunity to recoup lost revenues from negotiated rates by increasing rates charged to captive customers, FERC opened the floodgates for negotiation on the massive scale we see now.

Negotiated rate shippers are, by definition, willing partners. The shale gas revolution has created the current environment, in which most pipeline capacity is held by gas producers, LNG exporters (or their agents) and electric generation companies. Many of these are large and sophisticated businesses with bargaining power. All of them have an interest in obtaining long-term deals that will not be changed by FERC rate regulation

## Leave Us Alone, Pipelines Say

Several pipelines have taken the position that, because so many of their contracts are at discounted or negotiated rates, no purpose would be served by decreasing their recourse rates to reflect the impact of the tax cut. One, for example, asserts that there would be “no material benefit” to its shippers if it were required to file a rate reduction.

The basic argument these pipelines are making is that, because negotiated rates are binding on customers and

are not affected by changes in tariff rates, any reduction in the recourse rate would be pointless. These pipelines are, in effect, calling for the elimination of cost-based rate regulation.

## Customers Must Take a Stand

The statistics and arguments set forth in the pipeline tax reports reflect a persistent trend away from traditional rate regulation. While negotiated and discounted rates might work for some market participants, the vast majority of municipal local distribution companies (LDCs) are captive to a single pipeline and therefore rely on the backstop of cost-based maximum rates. Municipals must therefore ensure that this protection remains in place.

In particular, customers should hold pipelines’ feet to the fire on discount adjustments. Make them demonstrate that discounts were, in fact, “required” in order to meet competition. Make them point to the specific competitive alternatives that each customer receiving a discount or negotiated rate has. Importantly, pipelines must also properly account for any revenues generated from negotiated rates that are in excess of maximum rates, which would serve to reduce recourse rates.

Further, any attempt to insulate pipeline rates from scrutiny based on the proliferation of negotiated or discounted rates must be rejected. Recourse rates are essential even if most or all of a pipeline’s existing rates are discounted. As FERC has explained, “the Commission relies on the availability of the recourse rates to prevent pipelines from exercising market power by assuring that the customer can fall back to the just and reasonable tariff rate if the pipeline unilaterally demands excessive prices or withholds service.” Recourse rates serve as a critical check against the leverage pipelines hold over customers.

The U.S. Supreme Court famously stated that the Natural Gas Act was “framed as to afford consumers a complete, permanent and effective bond of protection from excessive rates and charges.” FERC must not allow this permanent bond to be replaced by the expediency of negotiation.

## API’S Sommers Highlights U.S. Economic Leadership in Annual State of American Energy Address

Mike Sommers, API president and CEO, addressed more than 400 government, labor and industry leaders on America’s economic leadership at API’s ninth annual State of American Energy address.

Sommers highlighted record U.S. energy production and U.S. carbon dioxide emissions reductions to their lowest level in a generation while calling on policy makers to enact policies that embrace technological innovation and open markets, implement effective trade policy and expand U.S. energy infrastructure.

“Every generation has its own defining challenges and its own defining accomplishments,” Sommers said. “We call this one ‘America’s Generation Energy’ because of a remarkable dual achievement: meeting record world energy demand while driving record (carbon dioxide) emissions reductions. Thanks to America’s Generation Energy and its cutting-edge innovations, the U.S. energy outlook is stronger than ever.

“Net oil imports this year are set to fall to their lowest levels since 1958,” he added. “On some days, we actually export more oil than some OPEC nations produce. That’s a monumental shift in the global balance of energy power, and it’s paying off in communities across the nation - cutting family budgets and bringing manufacturing jobs back.”

The 2019 State of American Energy report also highlights 13 women and men of the industry whose careers show the span of innovative technologies at work in natural gas and oil today, as well as industry’s commitment to continue lowering emissions, protect the environment and advance safety.

The event featured a panel discussion by industry leaders, including Susan Dio, chairman and president of BP America; Gretchen Watkins, Shell Oil president; Dave Hager, Devon Energy president and CEO; and Karen Weight, Ariel Corp. president and CEO. They discussed a number

from infrastructure needs and increased access to natural gas and oil reserves to the need to overhaul the Renewable Fuel Standard.

“U.S. security, and global stability, are better off with the United States as the world’s energy leader. The United States is not just setting energy production records to meet global demand. We’re doing it while protecting the environment. The United States is the world’s gold standard when it comes to safe, responsible energy development.”

Sommers also released a new energy poll on what Americans think about U.S. natural gas and oil.

## Key poll results:

- ◆ 84 percent support increased development of the country’s energy infrastructure.
- ◆ 83 percent see natural gas and oil as important to the future.
- ◆ 78 percent of voters support increased production of natural gas and oil resources.
- ◆ 77 percent support energy policies that the natural gas and oil industry advocates: a secure supply of abundant, affordable and available energy.
- ◆ 75 percent support the role natural gas is playing in reducing greenhouse gas emissions.
- ◆ 90 percent see personal value in natural gas and oil.

## Pipeline Takeaways

### 2018: A Busy Year for the Federal Energy Regulatory Commission

**48 natural gas pipeline projects approved in 2018**

Combined for.....

**703 miles of pipelines**

Amounting to....

**9,131 million cubic feet per day**

FERC also approved....

**4 natural gas storage projects totaling.....**

**3,600 billion cubic feet of storage**

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The IMGA Evening Report is distributed electronically daily and is

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