







1

### Understanding the Symbols

---


	Upward market pressure
	Flat market pressure
	Downward market pressure

---

 2019-2020 WINTER OUTLOOK | 2

2

## Last Year's Projection: How Did We Score?

Predicted Pressure on Prices	Actual Pressure on Prices	Score
—	—	

### Correctly predicted:

We correctly projected record-breaking demand and supply, but both supply and demand growth exceeded even our projections, due to cold winter and new pipeline capacity. Result: Neutral pressure on prices

- Last winter 2018-2019 average Henry Hub price = \$3.33 MMBtu
- Previous winter 2017-2018 average Henry Hub price = \$2.99 MMBtu



2019-2020 WINTER OUTLOOK | 3

Data Source: Gas Daily

3

## 2019-2020 Winter Outlook: Outline

### ■ Looking ahead to Winter 2019-2020

- Market pressure points:
  - Weather
  - Economy
  - Demand
  - Storage
  - Production
- Wild card factors
- Winter expectations

### ■ Summary



2019-2020 WINTER OUTLOOK | 4

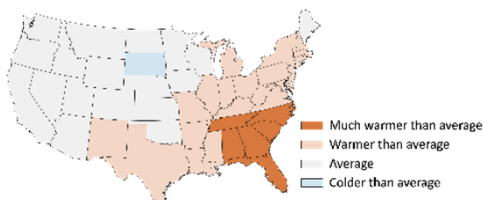
4

## Demand: Winter Weather

**Last Winter (Nov. – March)**  
2018-2019 ACTUAL

**Actual winter heating season:**

4% *colder* than previous winter  
2% *colder* than 30-year average

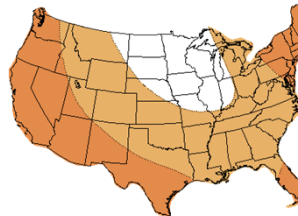


3,620 Heating degree days (NOAA)

**This Winter**  
2019-2020 FORECAST

**Forecast:**

4% *warmer* than last year  
2% warmer than 30-year average



3,469 Heating degree days

**Winter-to-winter pressure  
on natural gas prices**



2019-2020 WINTER OUTLOOK | 5

Maps: National Oceanic and Atmospheric Administration; Data: Energy Ventures Analysis

5

## Demand: Economy

**Winter Season**  
Period-to-period change

**Last Winter**  
2018-2019  
ACTUAL

**This Winter**  
2019-2020  
FORECAST

Economy	Expanding	Modest growth
GDP growth	2.6%	2.1%
Unemployment rate	3.8%	3.6%
Manufacturing	1.8%	-1.5%
CPI	1.9%	2.3%
World GDP Growth	2.8%	2.5%
Consumer Sentiment Index	96.3	95.9

**Winter-to-winter pressure  
on natural gas prices**



2019-2020 WINTER OUTLOOK | 6

Data Source: IHS Markit

6

## Demand: Customer Demand

Winter Season Period-to-period change	Last Winter 2018-2019 ACTUAL	This Winter 2019-2020 FORECAST
<b>Domestic Demand</b>		
▪ Residential/Commercial	39.6 Bcf/d	36.1 Bcf/d
▪ Electric	25.7 Bcf/d	27.0 Bcf/d
▪ Industrial	24.7 Bcf/d	24.8 Bcf/d
<i>Subtotal</i>	<i>90.0 Bcf/d</i>	<i>87.9 Bcf/d</i>
<b>Exports</b>		
▪ Pipeline exports - Mexico	4.8 Bcf/d	5.8 Bcf/d
▪ LNG exports (net)	4.5 Bcf/d	8.3 Bcf/d
<i>Subtotal</i>	<i>9.3 Bcf/d</i>	<i>14.1 Bcf/d</i>
<b>Total Natural Gas Demand*</b>	<b>106.2 Bcf/d</b>	<b>109.3 Bcf/d</b>
<b>Growth sector</b>	LNG Exports +50% Electric +5%	LNG Exports +84%

### Winter-to-winter pressure on natural gas prices



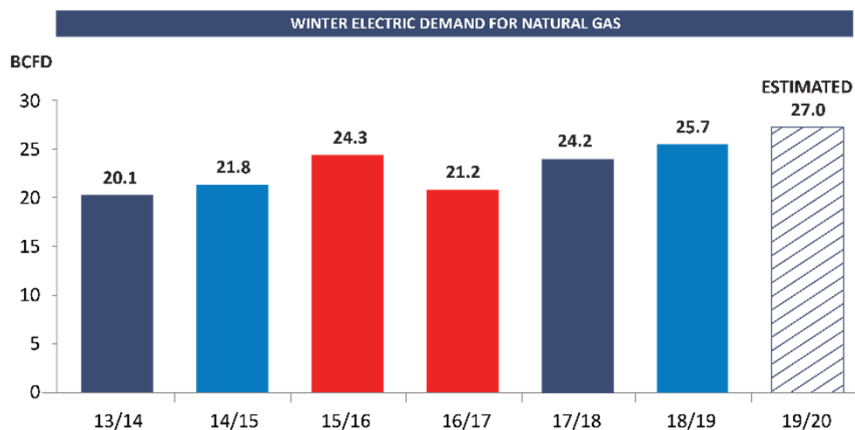
\*Includes "Lease, Plant and Pipeline Fuel"

2019-2020 WINTER OUTLOOK | 7

Data Source: Energy Ventures Analysis

7

## Electric Demand for Natural Gas Likely to Set Record This Winter



Note: light blue=cold winter, red=warm winter, dark blue=normal winter.

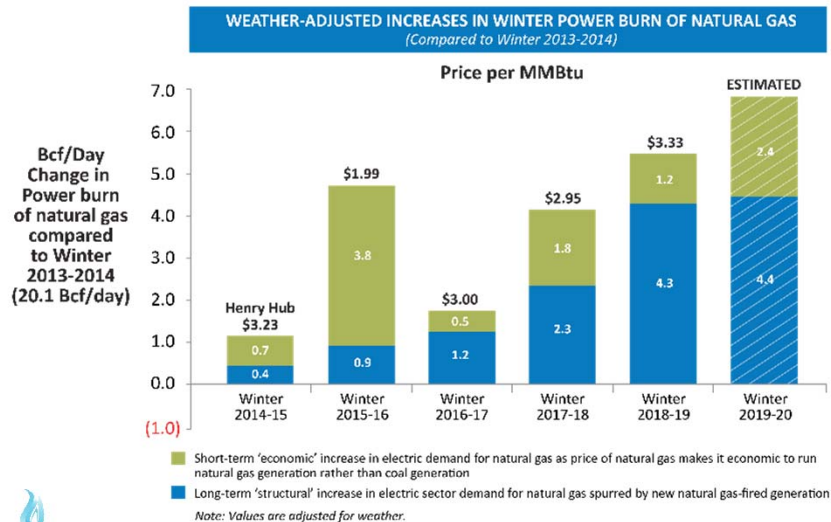


2019-2020 WINTER OUTLOOK | 8

Data Source: Energy Ventures Analysis

8

## Increase in Electric Demand for Natural Gas Driven by New Gas-fired Generation and Temporary Switching



2019-2020 WINTER OUTLOOK | 9

Data Source: Energy Ventures Analysis

9

## Focus: Industrial Demand Peak Growth Phase

### Natural Gas Spurring 47 Major Industrial Projects 2018–2023

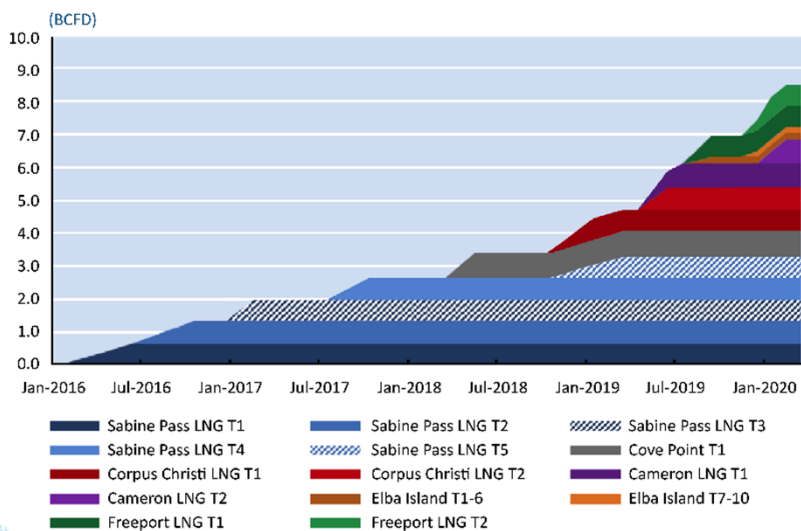


Photo courtesy: Chevron U.S.A. Inc., 2017 (Pascagoula)

Data Source: Energy Ventures Analysis, Sept. 2019

10

## U.S. LNG Exports: First Wave Materializes



2019-2020 WINTER OUTLOOK | 11

Data Source: Energy Ventures Analysis

11

## Supply: Winter Storage

Winter Season Period-to-period change	Last Winter 2018-2019 ACTUAL	This Winter 2019-2020 FORECAST
Start-of-winter inventory	3,237 Bcf	3,712 Bcf
Compared to 5-year average (Percent of total storage inventory)	12% lower	2% higher
Average daily withdrawal from storage	12.9 Bcf	12.3 Bcf
New storage capacity	3 Bcf	0 Bcf

Winter-to-winter pressure  
on natural gas prices




2019-2020 WINTER OUTLOOK | 12

Data Sources: Energy Information Administration and Energy Ventures Analysis

12

## Supply: Winter Production and Imports

Winter Season Period-to-period change	Last Winter 2018-2019 ACTUAL	This Winter 2019-2020 FORECAST
Winter average production (Lower 48)	88.2 Bcf/d	92.0 Bcf/d
Canadian imports (net)	4.7 Bcf/d	4.7 Bcf/d
<b>Winter-to-Winter pressure on natural gas prices</b> 		



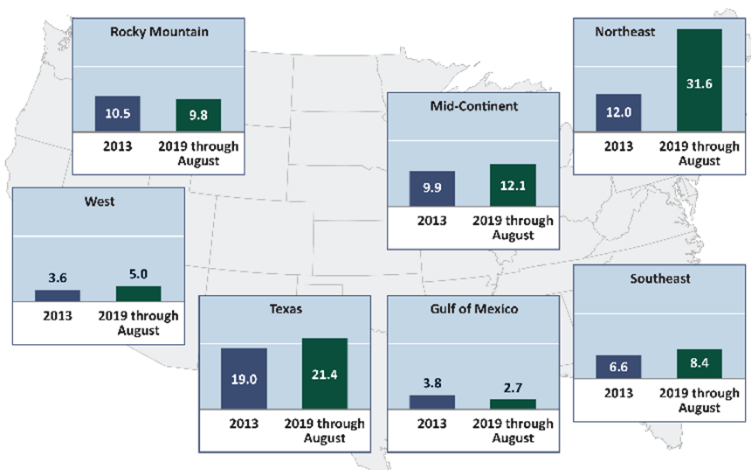
2019-2020 WINTER OUTLOOK | 13

Data Source: Energy Ventures Analysis

13

## Supply: Record Growth in Production Continues

26 BCFD GROWTH IN U.S. GAS PRODUCTION FROM 2013 TO 2019 YTD, OR ~40%



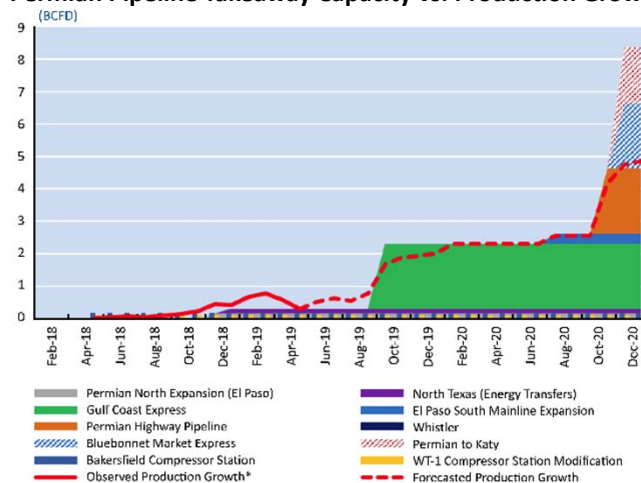
2019-2020 WINTER OUTLOOK | 14

Data Source: OPIS PointLogic, Energy Ventures Analysis

14

## New Pipeline Capacity Bringing Long-Awaited Relief to Permian

Permian Pipeline Takeaway Capacity vs. Production Growth



2019-2020 WINTER OUTLOOK | 15

Data Source: OPIS PointLogic, Energy Ventures Analysis

15

## Winter Outlook: Wild Cards

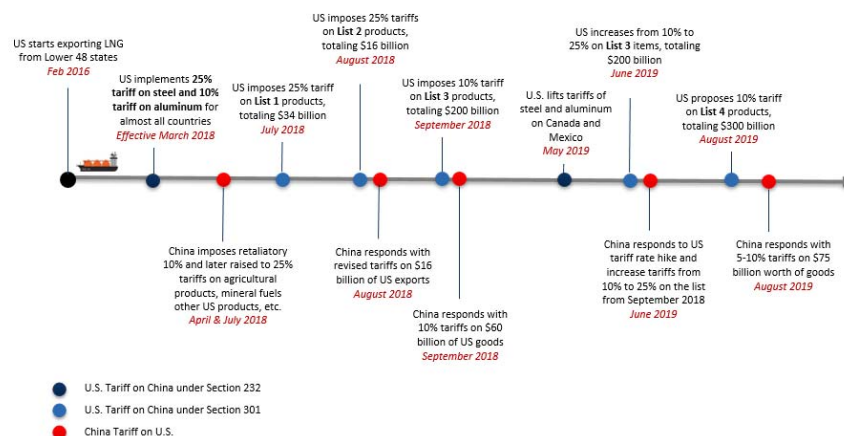


2019-2020 WINTER OUTLOOK | 16

16



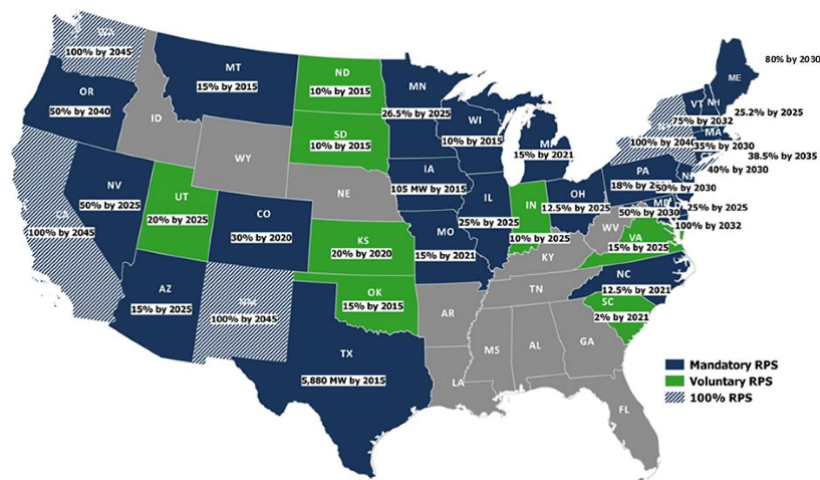
## Escalating U.S. China Tariff Showdown: Effect on Industrial Sector and Exports?



2019-2020 WINTER OUTLOOK | 17

17

## Natural Gas-Renewables Partnership: Path to Clean Energy Future



2019-2020 WINTER OUTLOOK | 18

18

## This Season's Winter Outlook

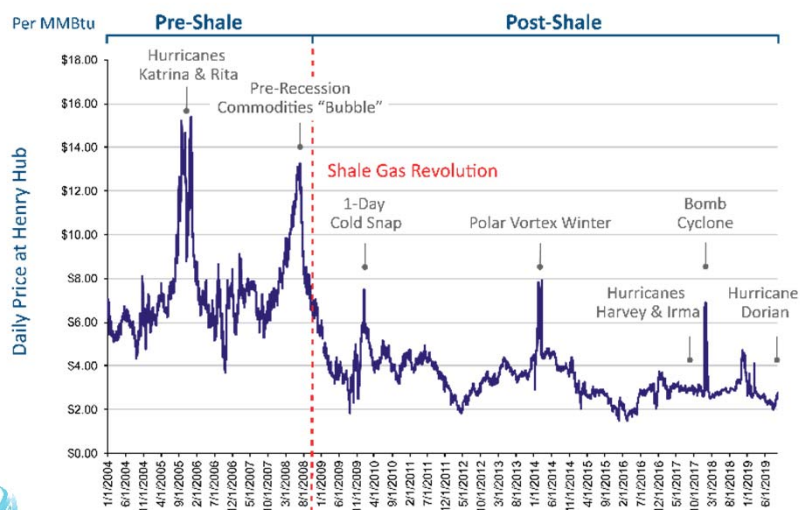
Winter Season Period-to-period change	This Winter 2019-2020 FORECAST
Weather	✓
Economy	—
Overall demand	—
Storage	✓
Winter supply	—
Winter-to-winter pressure on natural gas prices	✓



2019-2020 WINTER OUTLOOK | 19

19

## Comparison of Impact of Severe Weather on Daily Prices What a Difference a Decade Makes



2019-2020 WINTER OUTLOOK | 20

Data Source: Gas Daily

20

## Natural Gas Outlook: **Flexible, Reliable Natural Gas Market**

- Record customer demand driven by domestic and export growth
  - Exports – LNG and pipeline – increase and provide stability in ebbs and flows of market
  - New gas-fired generation could push electric demand to new winter record despite expectation for milder winter
  - Minimal growth in industrial demand due to trade uncertainty and slowing global growth
- Record strong reliable production continues
  - Efficiencies in drilling and production continue to make wells productive at lower cost
  - Associated gas a significant share of production
  - Diverse supply sources contribute to greater flexibility and resilience evidenced by limited supply impact of deep freeze, hurricanes



2019-2020 WINTER OUTLOOK | 21

21

## About NGSA

- Represents major producers and suppliers of domestic natural gas
  - Integrated and independent companies: 14 members
  - Founded in 1965
- Only national natural gas association representing producers and suppliers with a dedicated focus on downstream issues
- Promotes benefits of competitive natural gas markets, resulting in reliable and efficient transportation and delivery, increased supply and demand
- Combined with the Center for LNG



2019-2020 WINTER OUTLOOK | 22

22

