

The Effects of Winter Storm Uri on Natural Gas Utilities

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The American Gas Association (AGA) represents companies delivering natural gas safely, reliably, and in an environmentally responsible way to help improve the quality of life for their customers every day. AGA's mission is to provide clear value to its membership and serve as the indispensable, leading voice and facilitator on its behalf in promoting the safe, reliable, and efficient delivery of natural gas to homes and businesses across the nation.

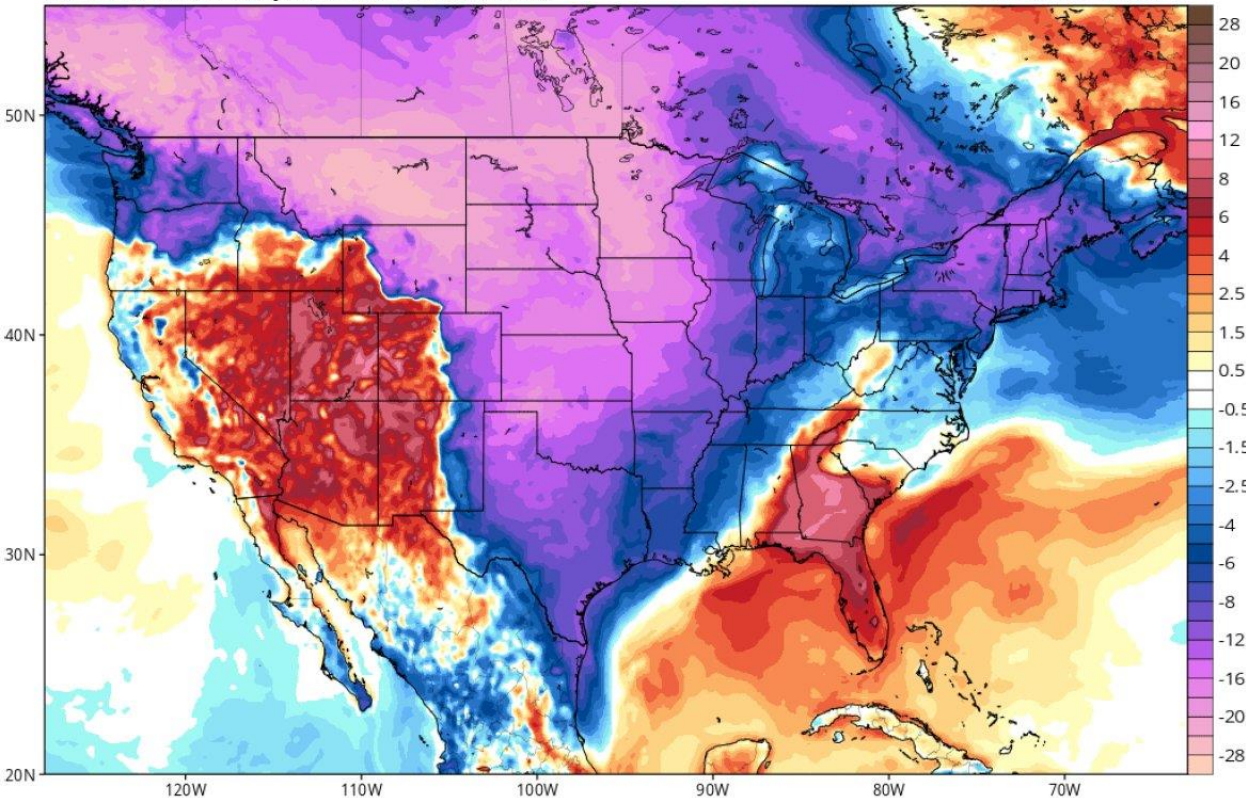
Committed to utilizing America's abundant, domestic, affordable and clean natural gas to help meet the nation's energy and environmental needs.

An arctic air mass led to colder-than-normal conditions in all but six states.

**US temperature anomaly map
Friday, Feb. 12**

GFS 2-meter Temperature Anomaly (°C) (based on CFSR 1981-2010 Climatology)
Init: 12z Feb 12 2021 [Analysis] valid at 12z Fri, Feb 12 2021

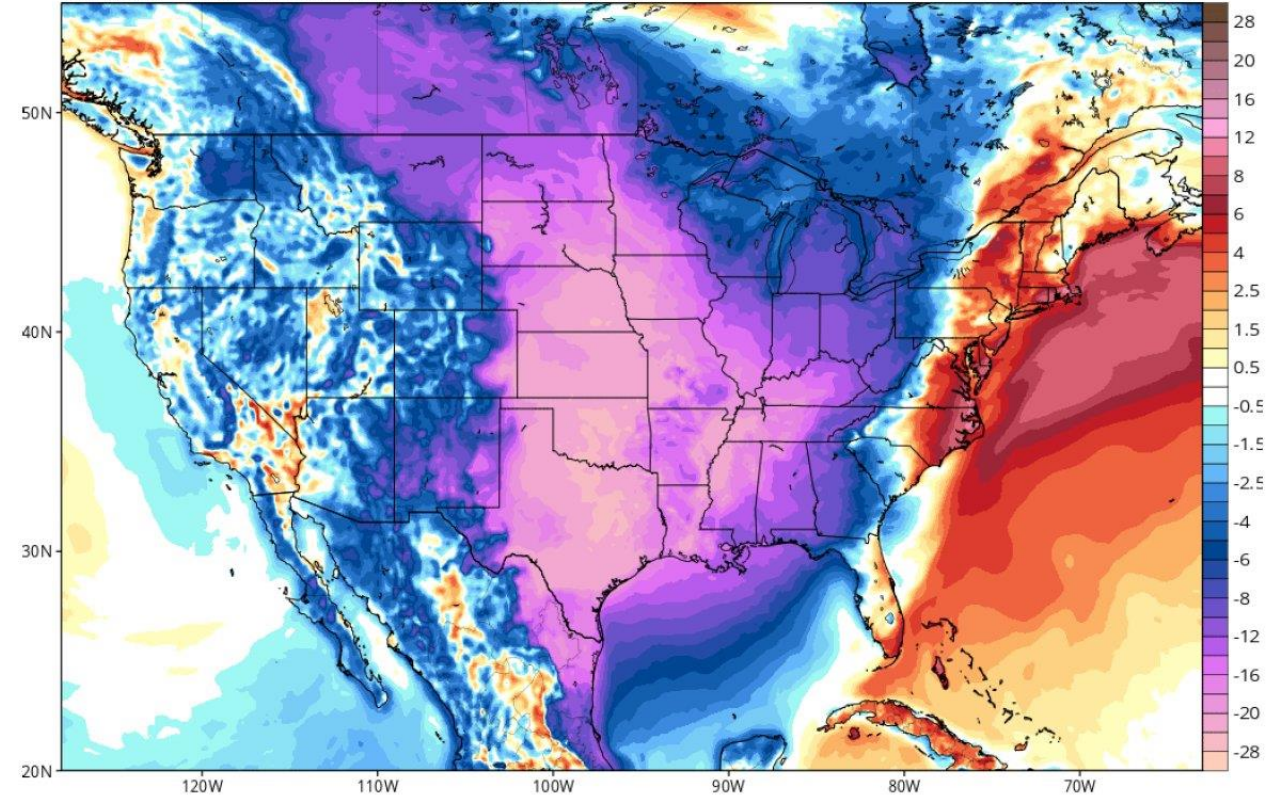
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**US temperature anomaly map
Tuesday, Feb. 16**

GFS 2-meter Temperature Anomaly (°C) (based on CFSR 1981-2010 Climatology)
Init: 12z Feb 16 2021 Forecast Hour: [6] valid at 18z Tue, Feb 16 2021

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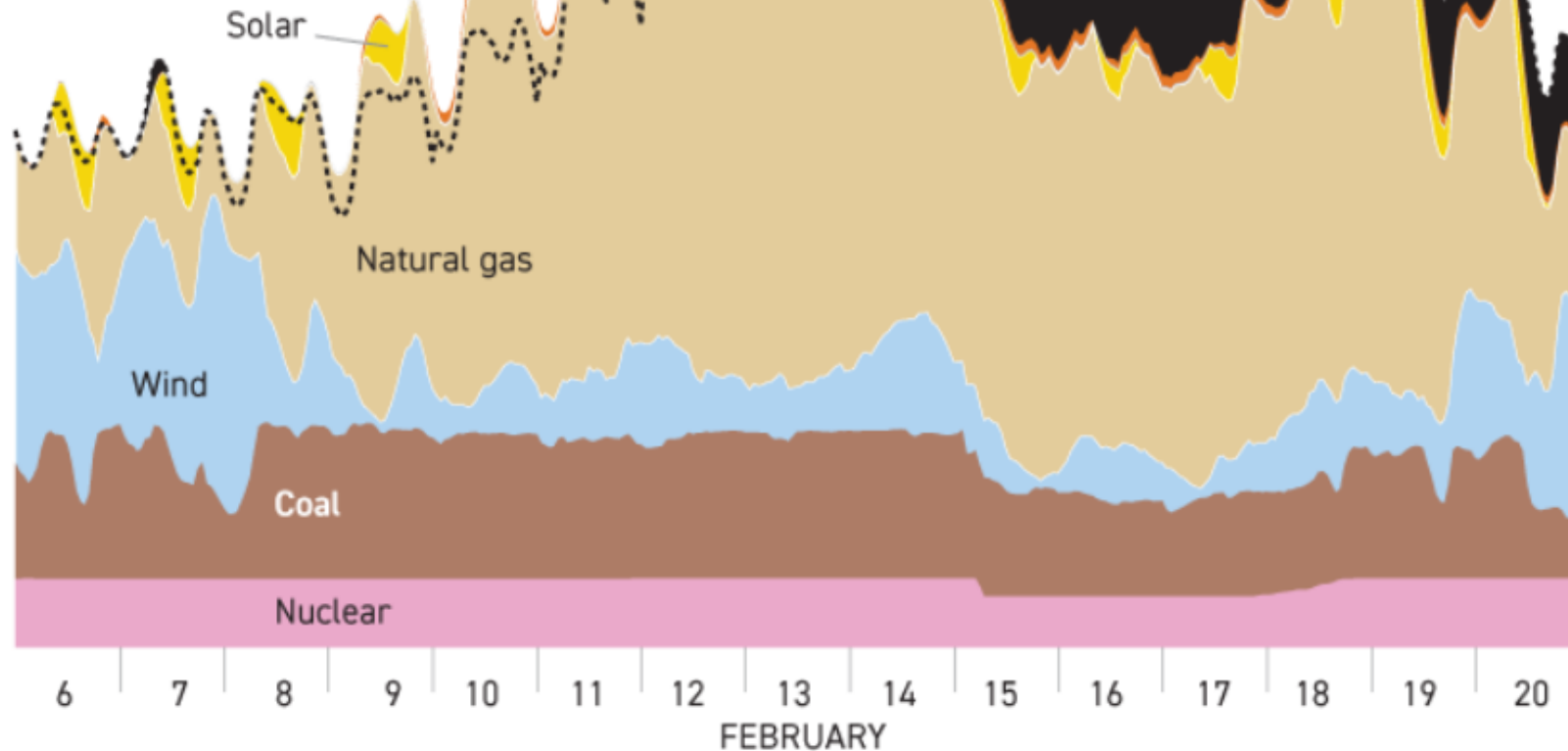
NET GENERATION AND FORECAST DEMAND, IN MEGAWATT-HOURS

In November, ERCOT's worst-case scenario for extreme winter weather: **67,208 MWh.**

Peak net generation, Feb 14: **68,834 MWh**

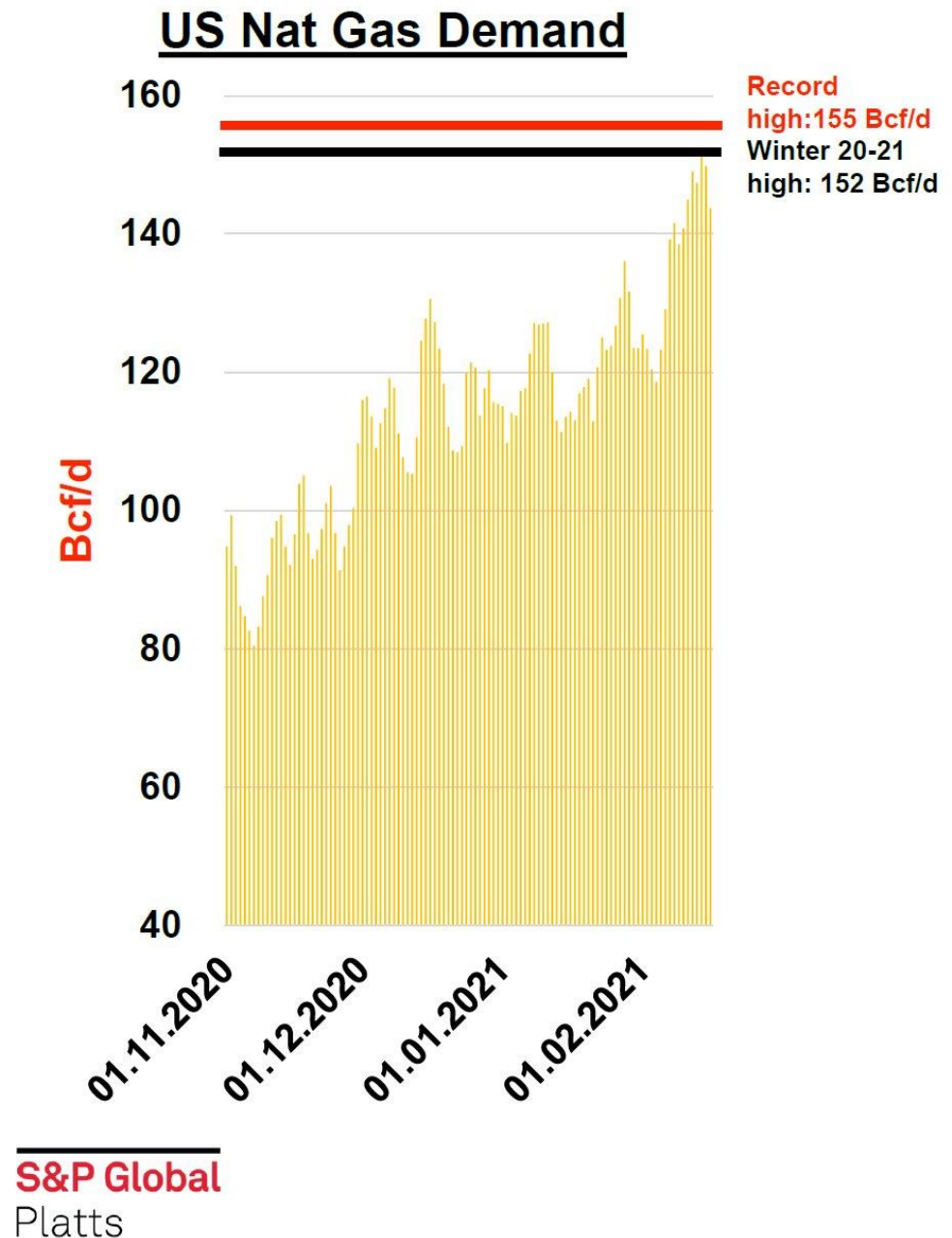
Peak forecast demand: **76,783 MWh**

---- Power demand forecast
— Inputs from SPP and CEN (Mexico)



Graphic: Politico

US natural
gas demand
set a two-day
record on
February 14
and 15.



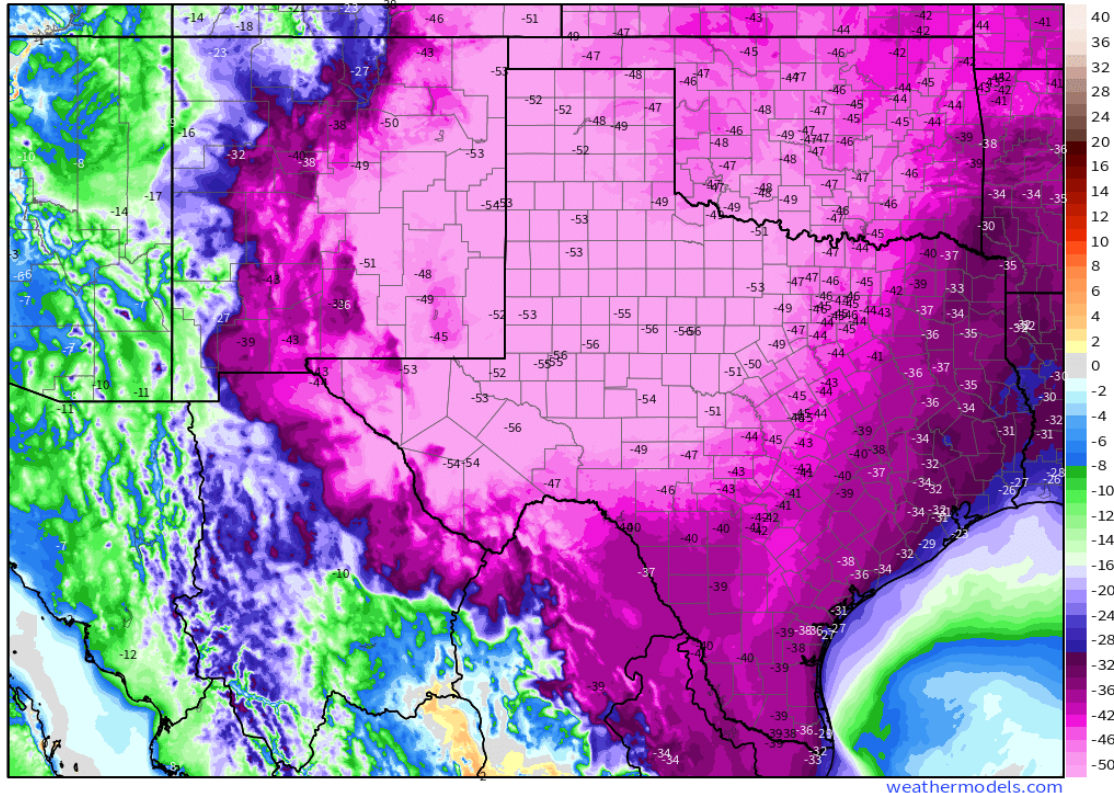
Texas set a new demand record for natural gas consumption during the cold event.

Texas Natural Gas Demand (Bcf)

Temperature Deviation from Normal, Feb 14, 2021

RTMA Temperature Anomaly [°F] Sun 21:00Z14FEB2021

MIN|MAX ANOMALY -63.4° | 8.3°F



25

20

15

10

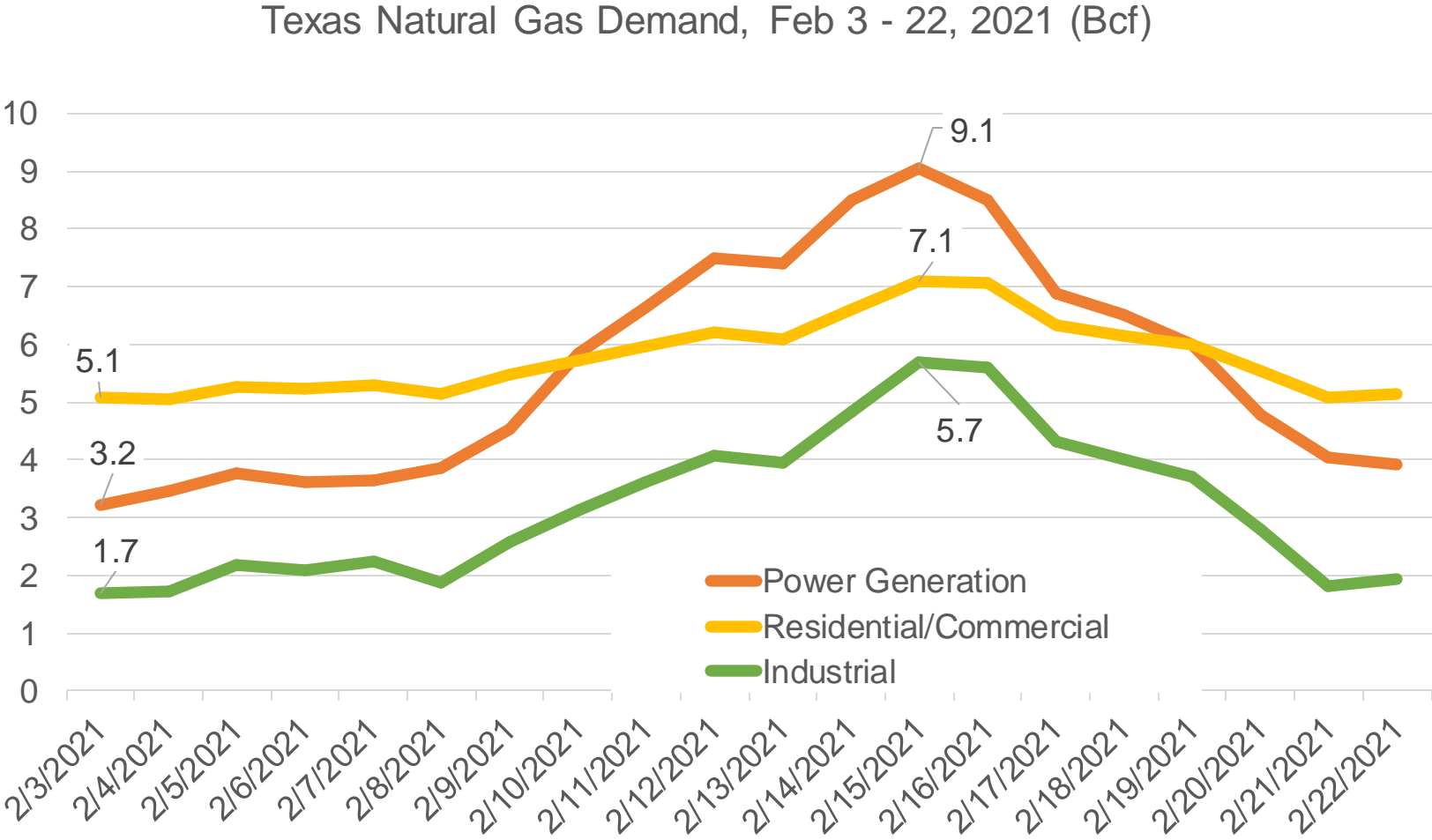
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0

1/1/2021 1/6/2021 1/11/2021 1/16/2021 1/21/2021 1/26/2021 1/31/2021 2/5/2021 2/10/2021 2/15/2021 2/20/2021 2/25/2021

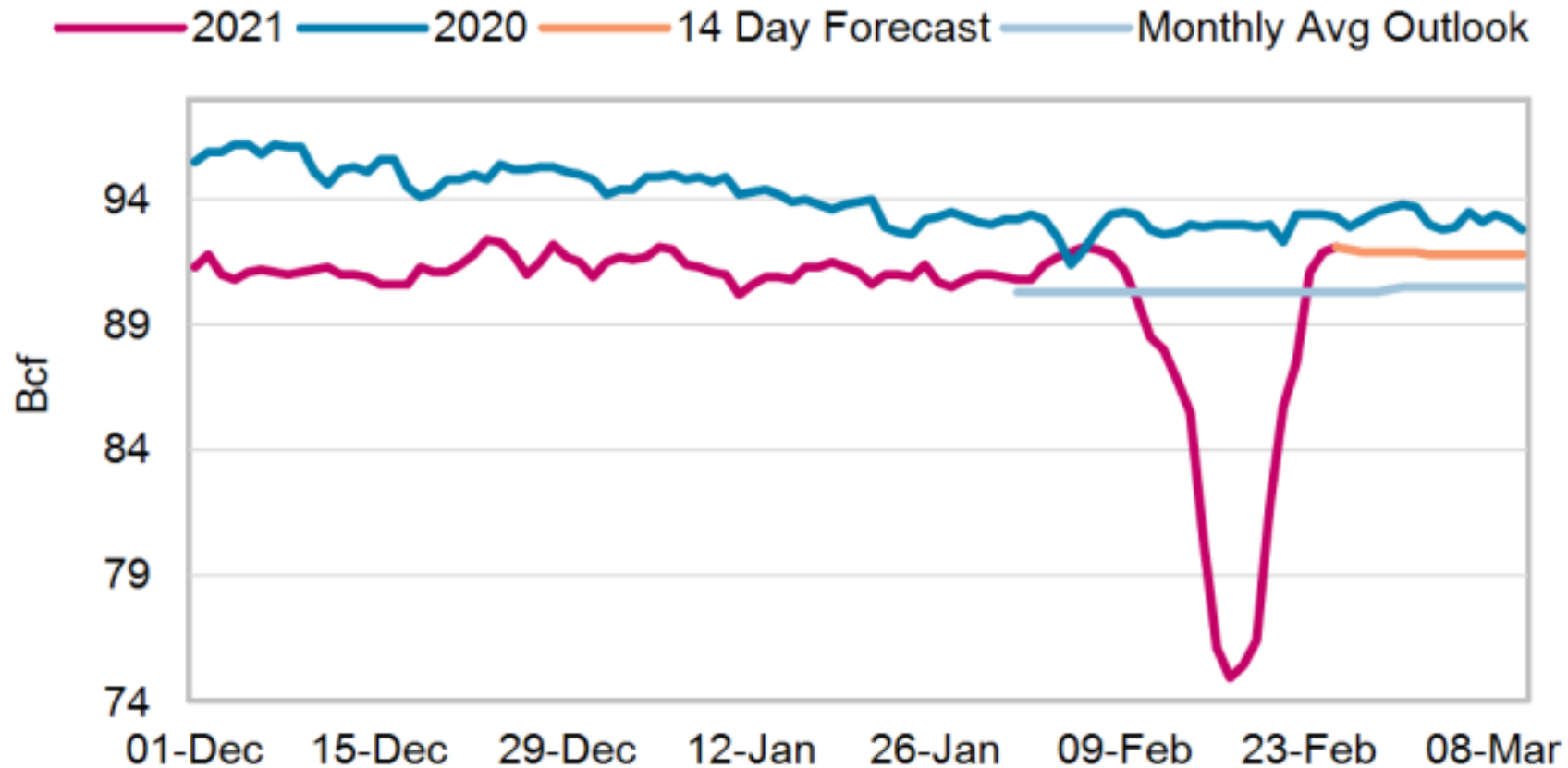
All-time demand record 23.7 Bcf/d
with Mexico exports 27.7 Bcf/d

Natural gas served to all Texas customers increased dramatically during the coldest days.

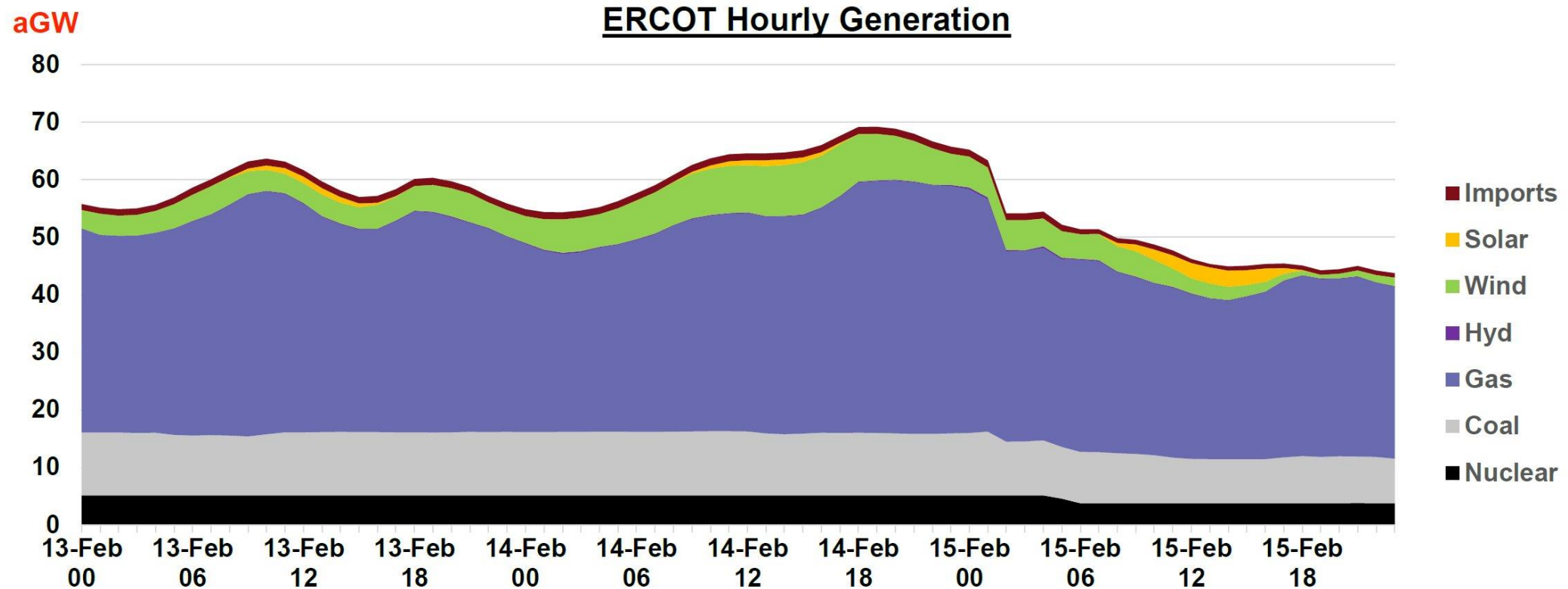


Natural gas production declined sharply as temperatures dropped, and then rebounded quickly.

TOTAL U.S. DRY GAS PRODUCTION



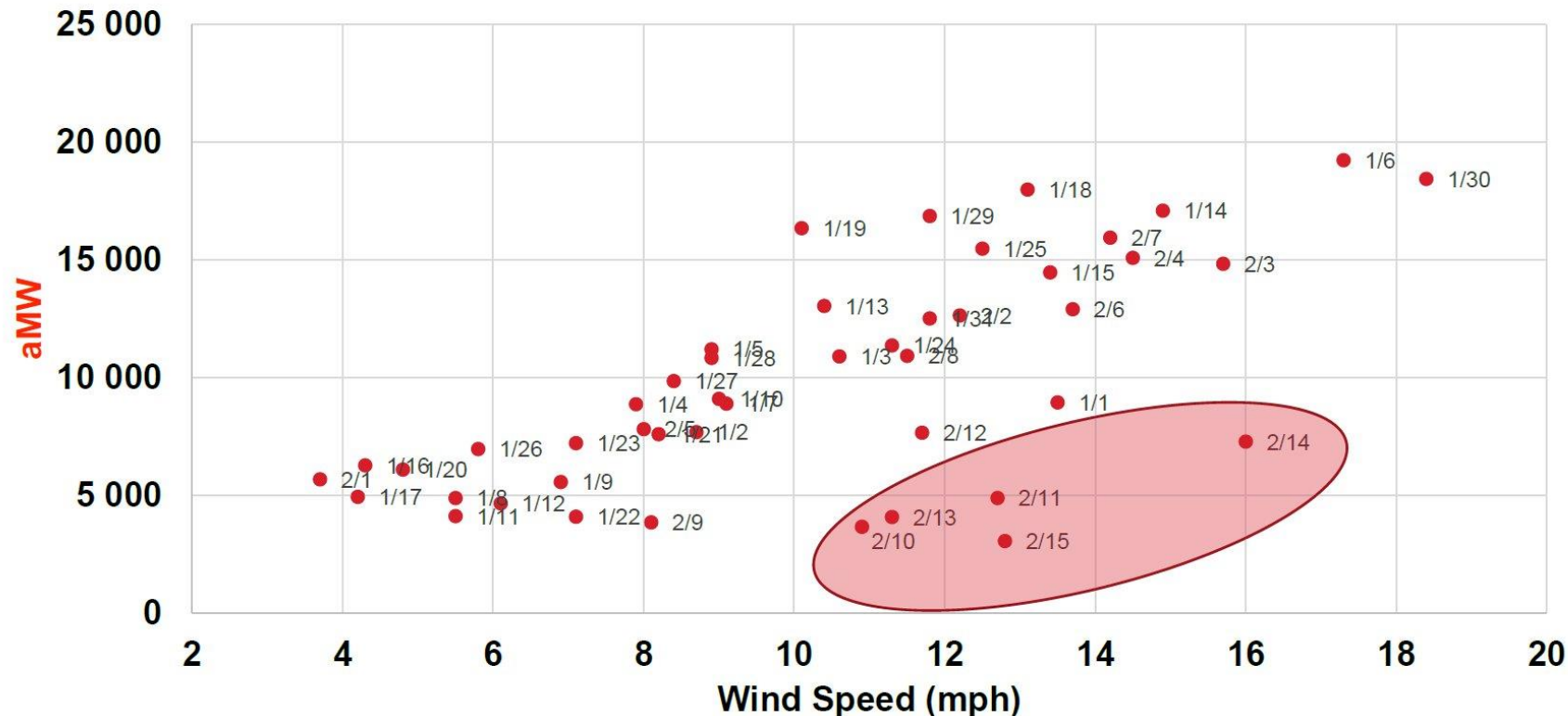
The largest declines in Texas (ERCOT) generation were due to gas-fired units. But, as you can see, natural gas continued to do the heavy lifting even as the grid was stressed under unprecedented demand.



Source: ERCOT, S&P Global Platts Analytics

Wind generation in Texas (ERCOT) was well below levels at prevailing wind speeds only days and weeks before the cold event, suggesting severe temperatures were affecting equipment operation.

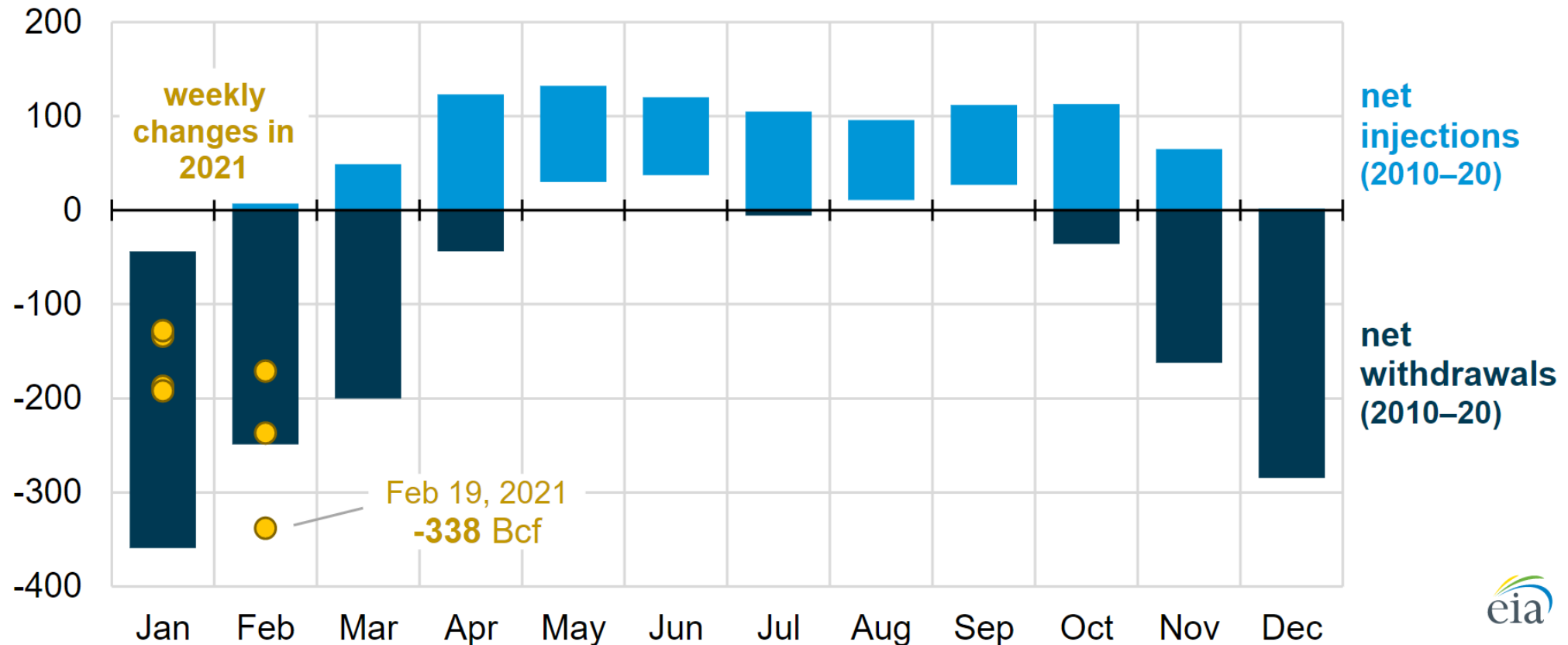
ERCOT Wind Generation vs Wind Speed (Abilene)



Natural gas storage stepped up in a big way to meet demand across the country.

Range of weekly natural gas storage net changes, Lower 48 states (2010–2021)

billion cubic feet

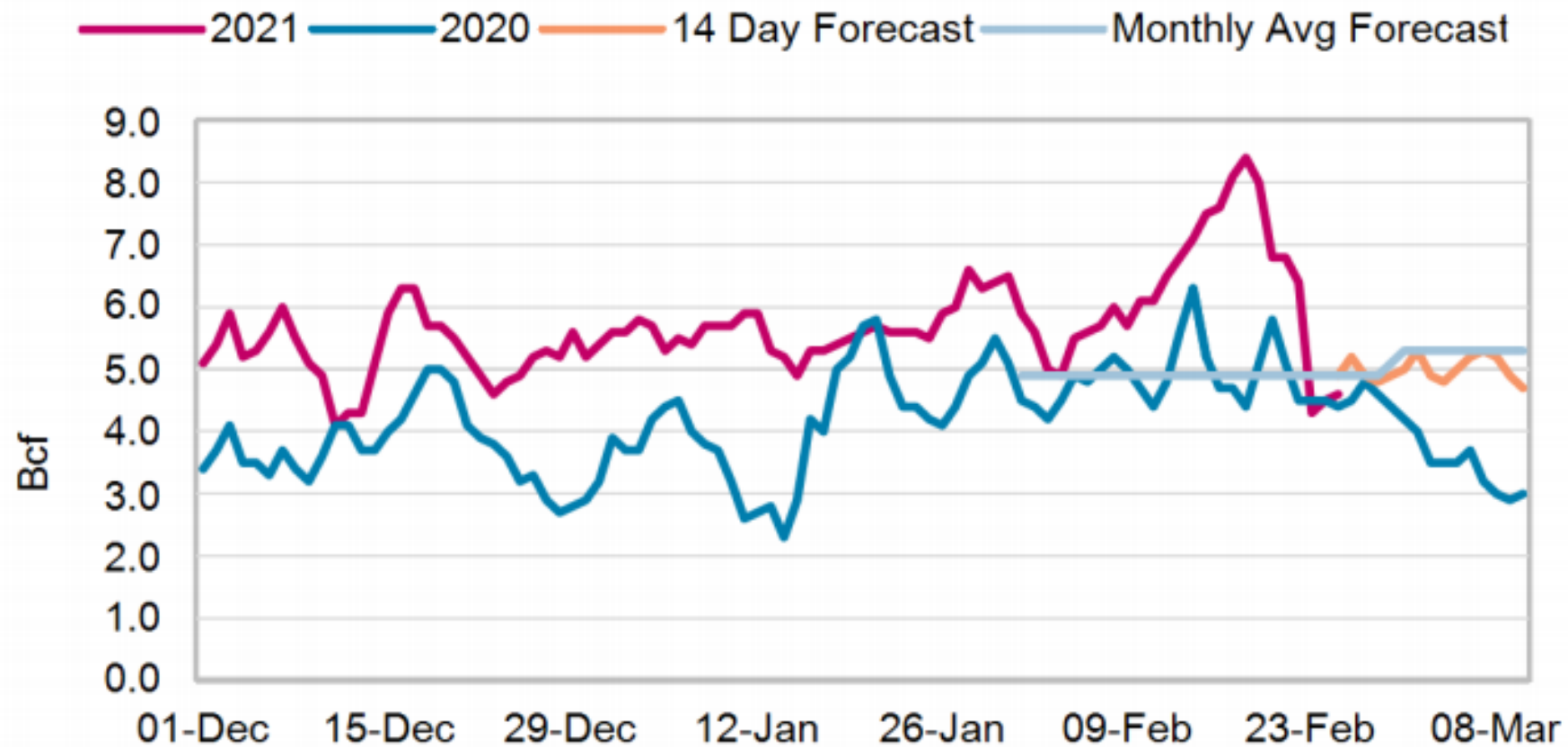


Source: U.S. Energy Information Administration, [Weekly Natural Gas Storage Report](#)

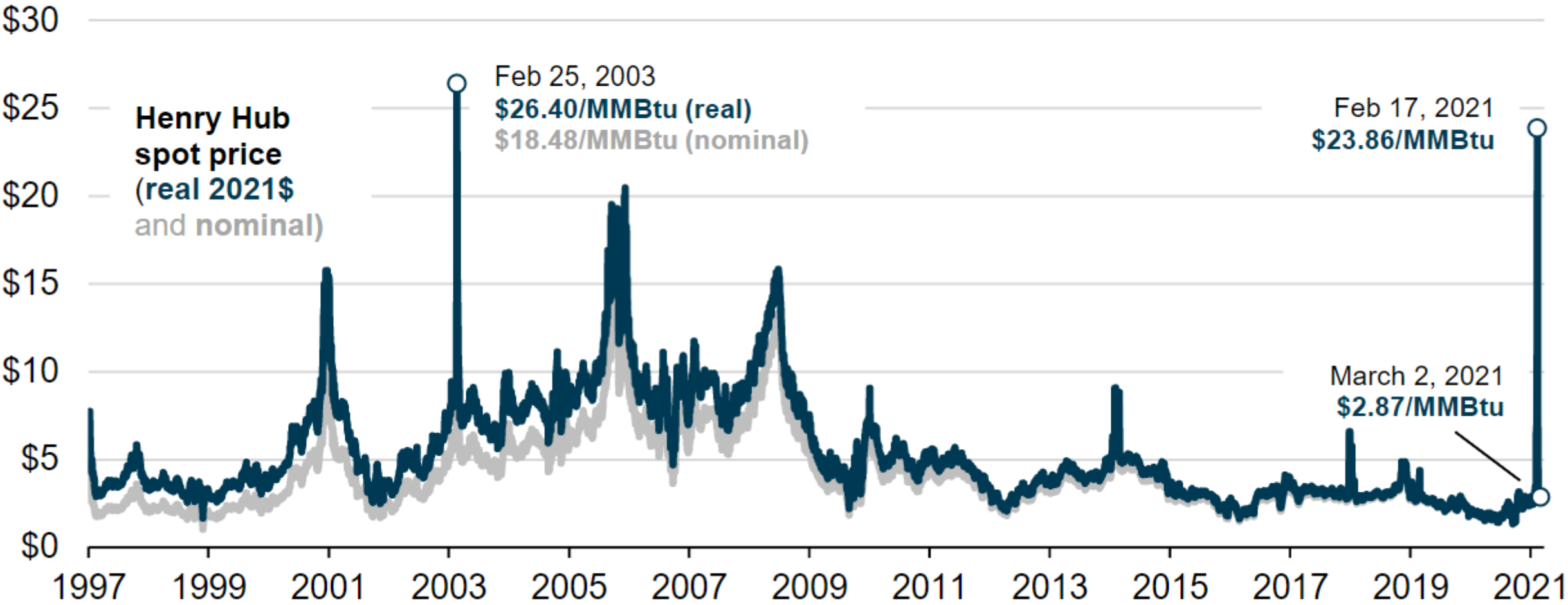


The Canadian gas market played a key role.

IMPORTS FROM CANADA

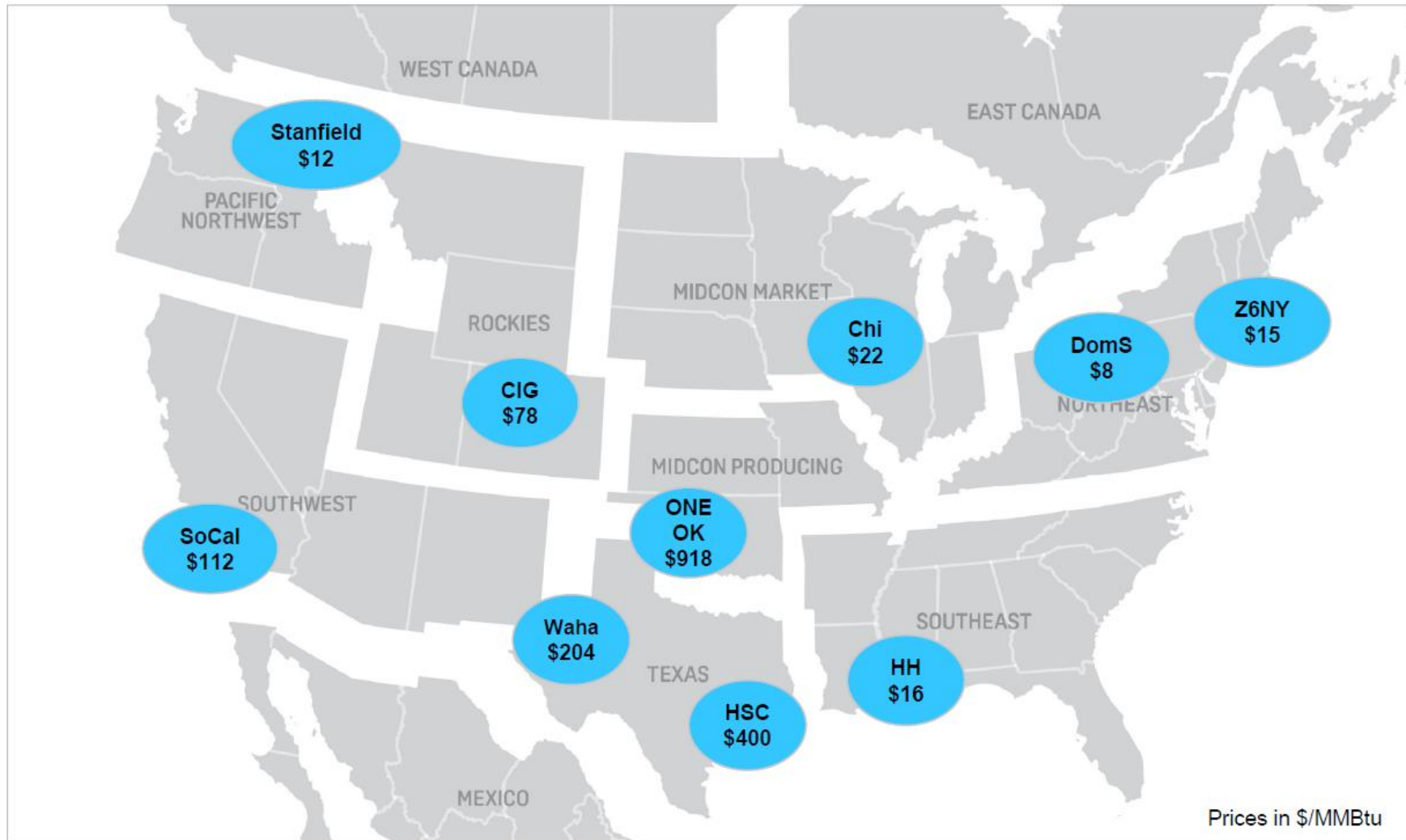


Daily Henry Hub natural gas spot prices (Jan 1997–Mar 2021)
dollars per million British thermal units (MMBtu)



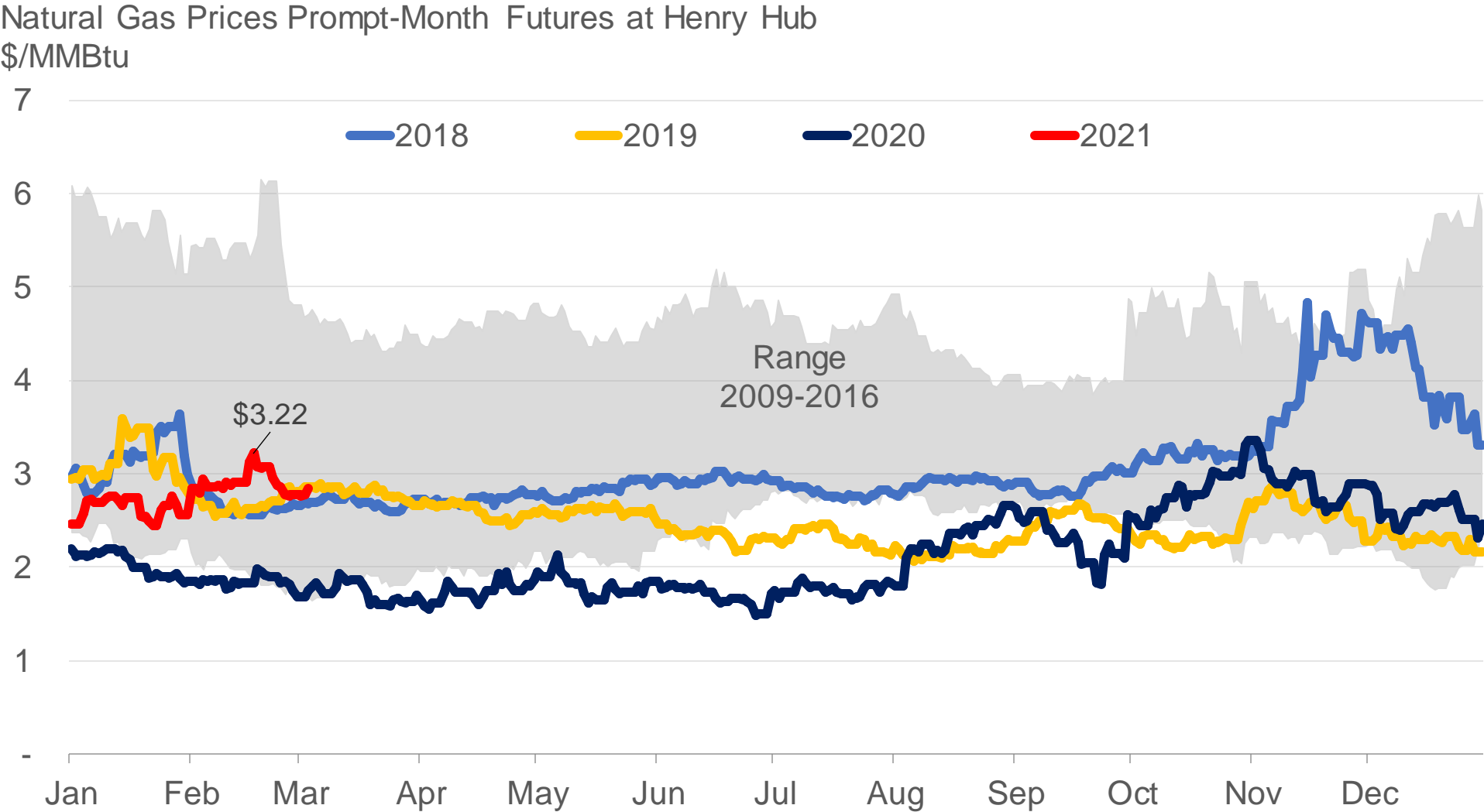
Source: U.S. Energy Information Administration, [Henry Hub natural gas spot price](#)

US natural gas prices surged due to supply constraints and record demand



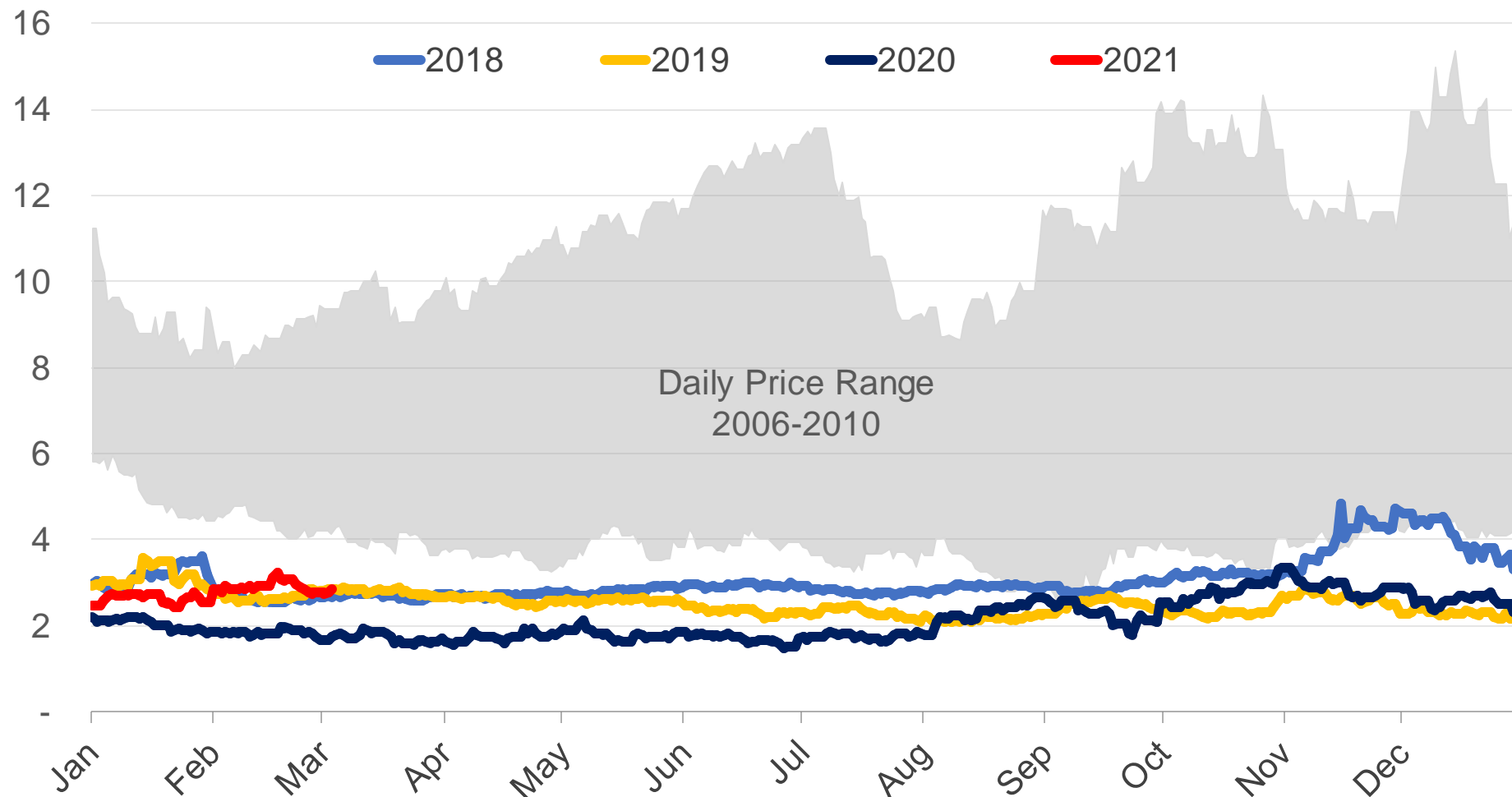
Source: S&P Global Platts Analytics

Despite the sharp increases in daily cash prices, futures contracts faced moderate pressure.



Natural gas prices remain the lowest in decades.

Daily Natural Gas Prices Prompt-Month Futures at Henry Hub
\$/MMBtu



Early Lessons from the 2021 Cold Event

- Natural gas utility operations were largely uninterrupted during the cold event.
- Energy diversity of supply and end-uses is vital.
- Energy systems with heavy dependence on electricity for space heating will be challenged by exceptionally cold temperatures.
- Energy system resilience will be achieved through a diverse set of integrated assets.

Gas Utility Responses to Winter Storm Uri

- Ensuring safe and reliable operations across the life of the storm
- Making sure the financial impact to customers is as minimal as possible
 - Accessing capital to cover the extraordinary costs of gas experienced during the storm
 - Filings for the establishment of regulatory assets

State Regulatory Commission Responses to Winter Storm Uri

**Commission ordered investigations into
the impacts of Winter Storm Uri on
customers and utilities**

**9 state regulatory
commissions**
responded to the event
with an ordered
investigation

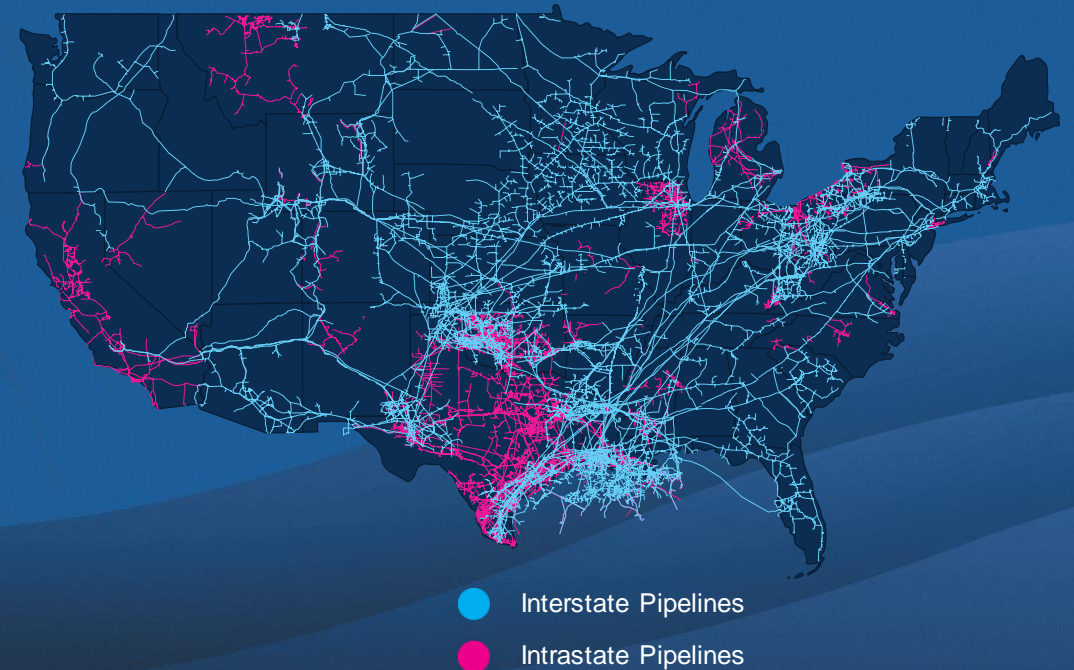
**4 state regulatory
commissions**
ordered some form of
deferred cost treatment
for costs relating to
Winter Storm Uri



What were lessons learned from the interactions between state regulators and gas utilities?

- How can gas utilities better serve customers during these extraordinary events?
- The importance of gas supply and capital planning
- Effective strategies to minimize extraordinary impacts on utility customers

Natural gas is delivered to customers through a 2.6-million-mile underground pipeline system. This includes approximately 2.3 million miles of local utility distribution pipelines and 300,000 miles of transmission pipelines that stretch across the country.





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The American Gas Association, founded in 1918, represents more than 200 local energy companies that deliver clean natural gas throughout the United States. There are more than 76 million residential, commercial and industrial natural gas customers in the U.S., of which 95 percent — more than 72 million customers — receive their gas from AGA members. Today, natural gas meets more than 30 percent of the United States' energy needs.

www.aga.org