

Winter Heating Outlook 2023



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State of Play

Natural Gas Records

Record high production, demand, exports, and numbers of consumers

Lower Prices

Return to historical natural gas pricing trends

Planning & preparation

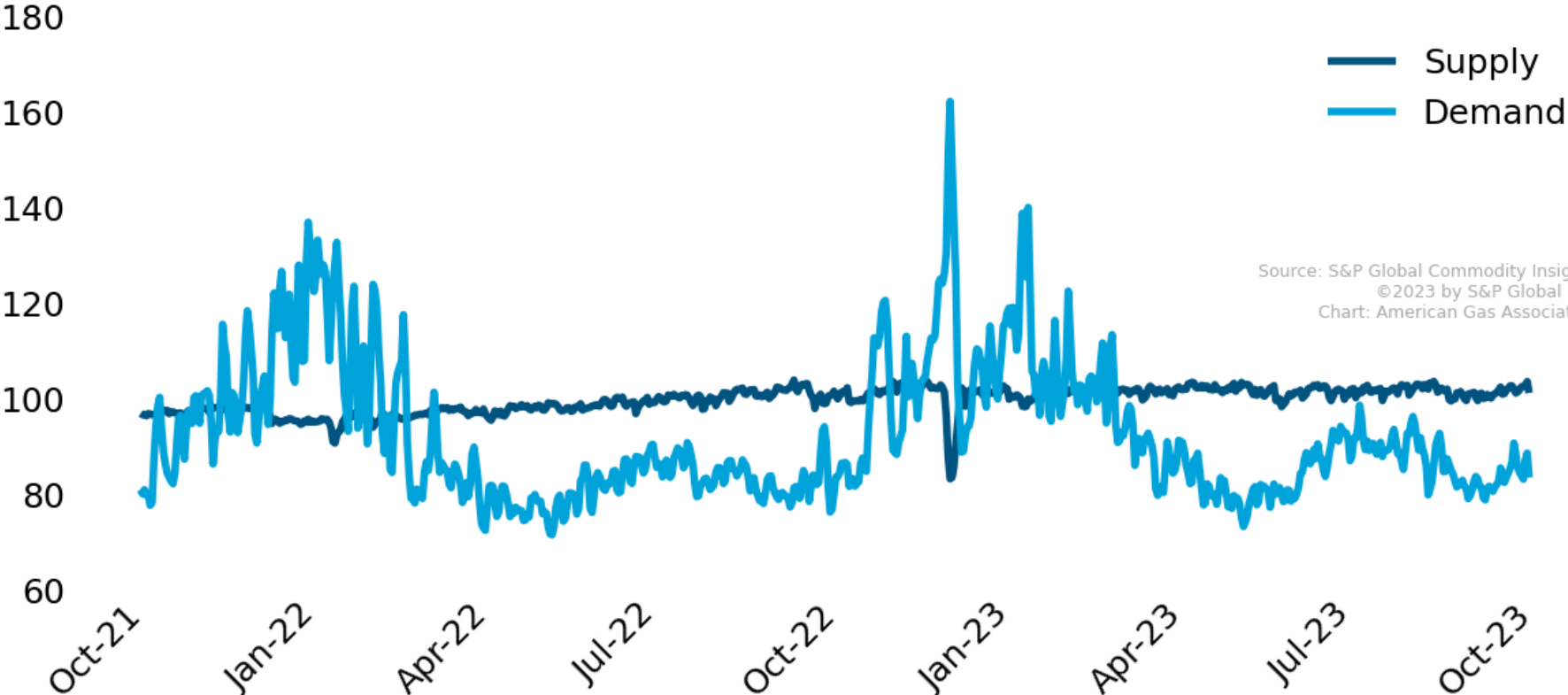
Natural gas inventories are above the five-year average

Lower Bills Expected

Price drops offsetting colder winter expectations

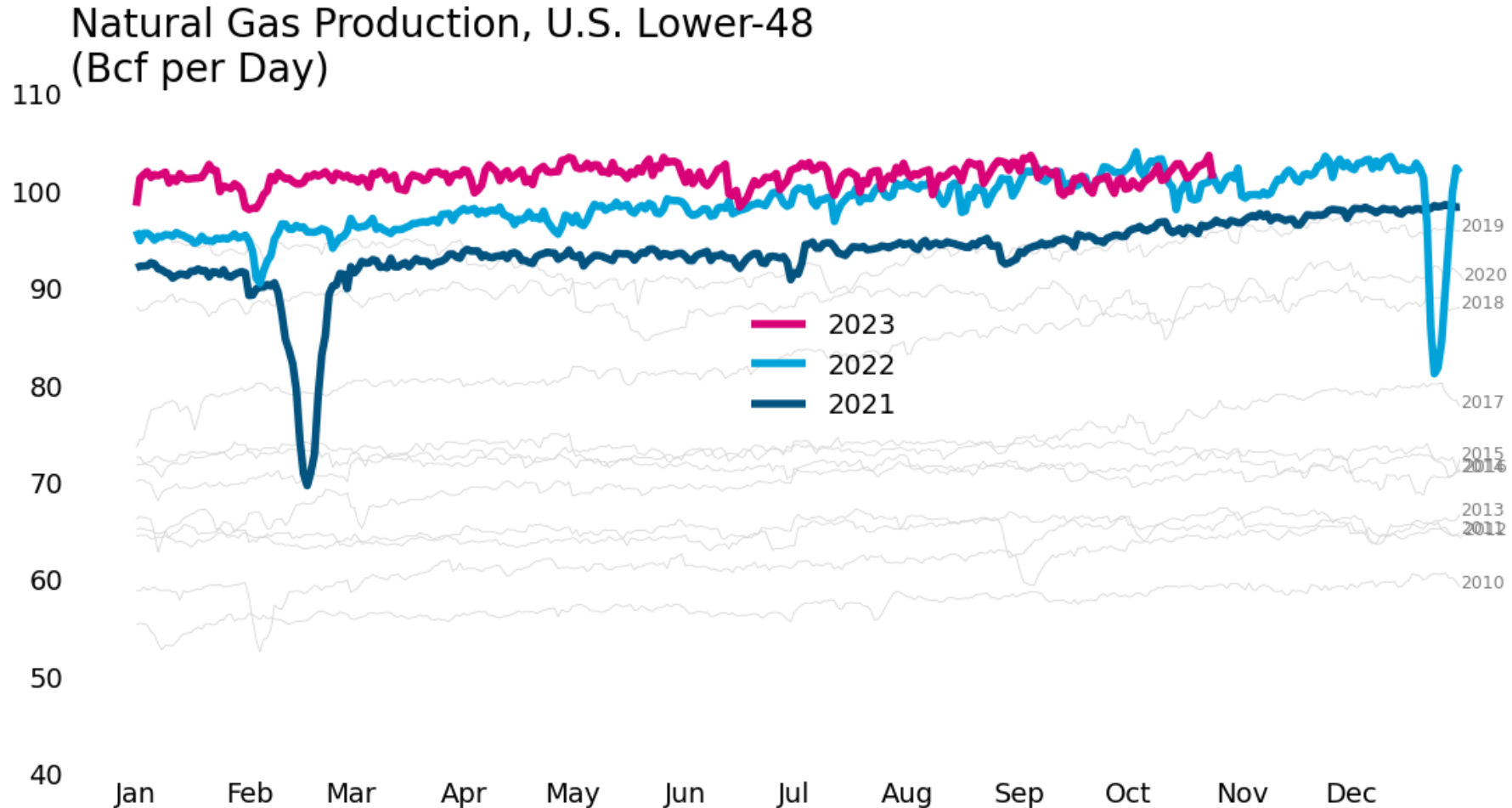
Steady production growth amid record high and variable demand

Natural Gas Supply and Demand, Daily, U.S. Lower-48 (Bcf per day)



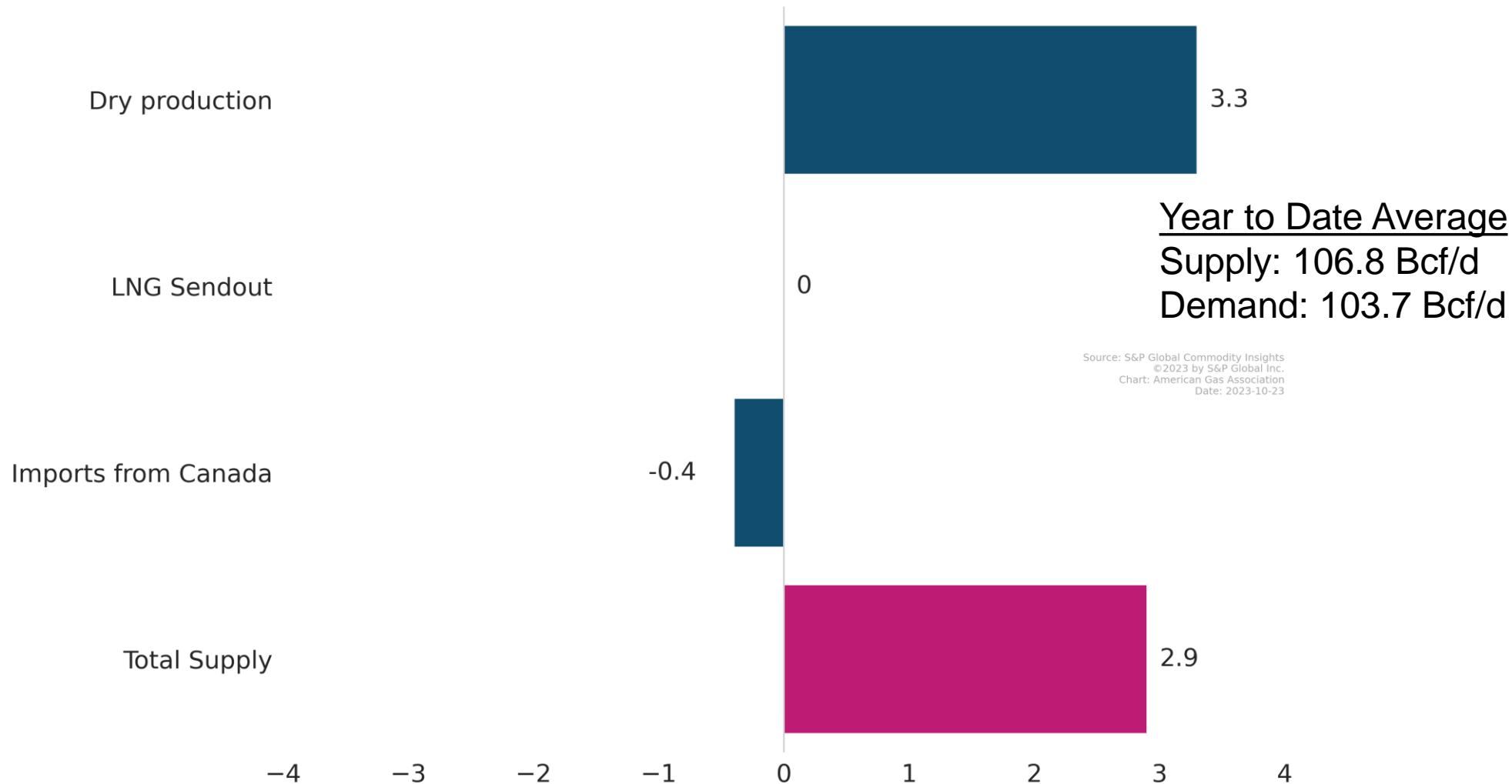
Source: S&P Global Commodity Insights
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Chart: American Gas Association

Record high natural gas production



Dry production growth outpacing demand

Natural Gas Supply, U.S. Lower-48, Change Year to Date 2022 to 2023
(Bcf per day)



Source: S&P
Global
Commodity
Insights

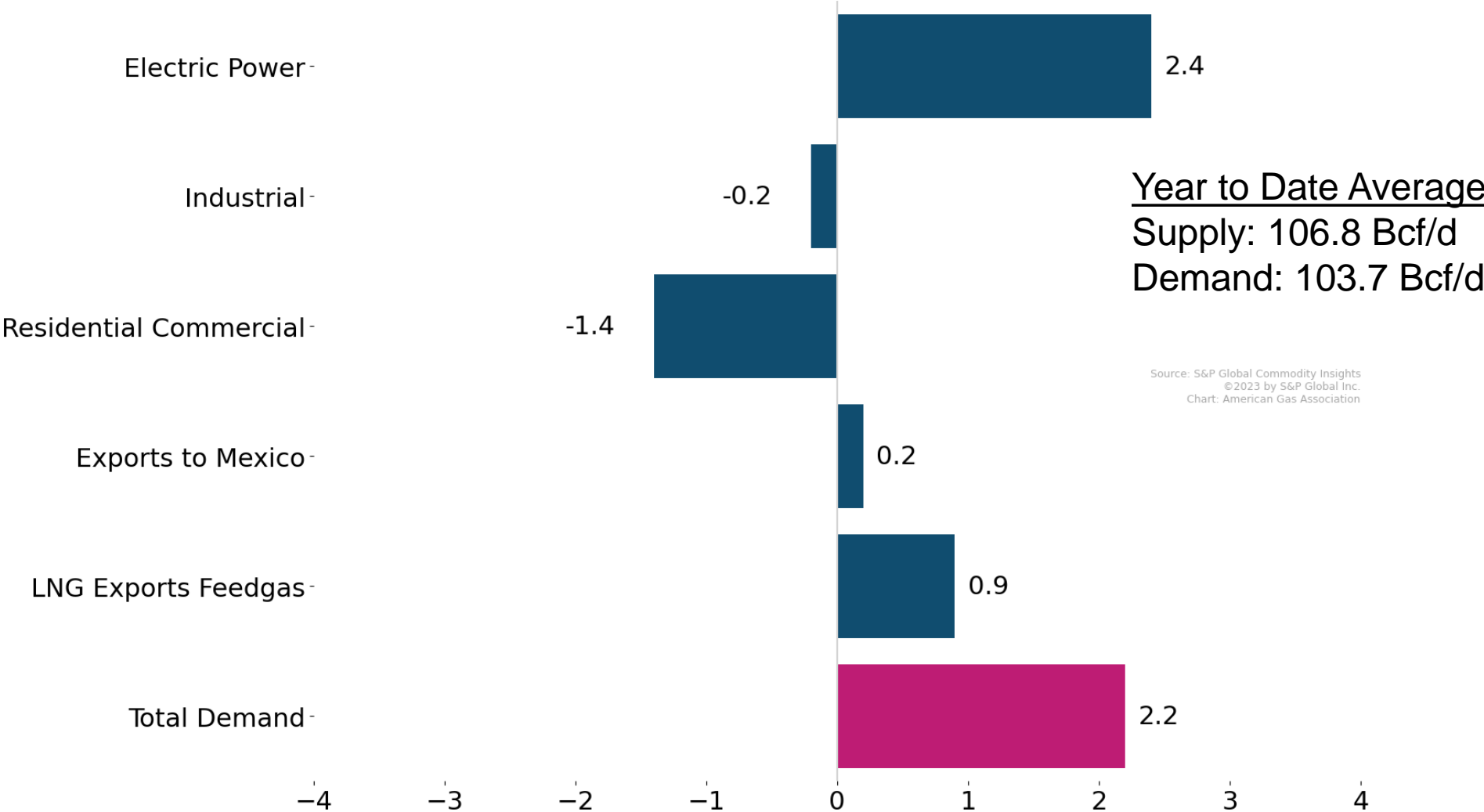
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Global Inc.

Chart: American
Gas Association



Total demand growth driven by use in electric power and LNG exports

Natural Gas Demand, U.S. Lower-48, Change Year to Date 2022 to 2023 (Bcf per day)



Source: S&P Global Commodity Insights

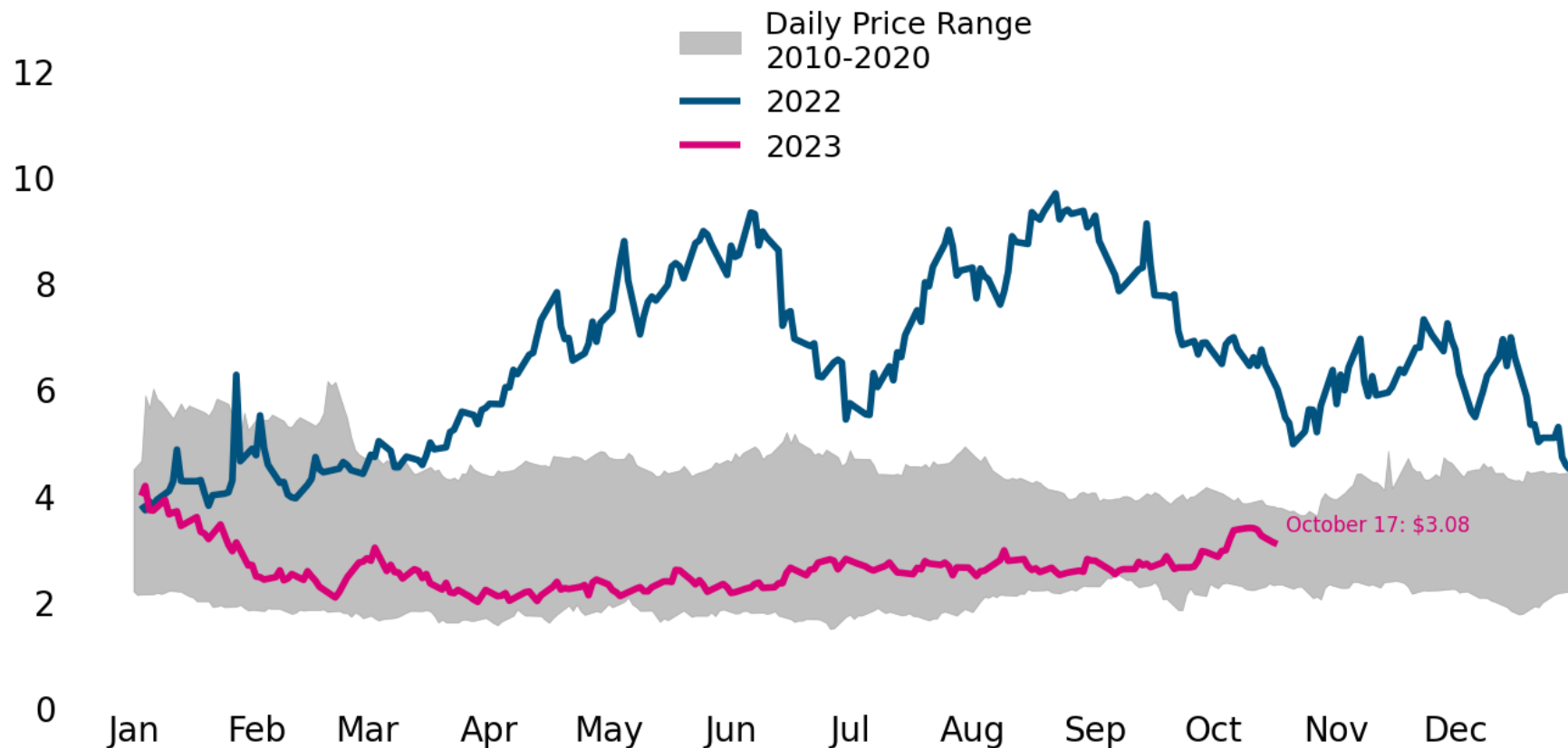
©2023 by S&P Global Inc.

Chart: American Gas Association



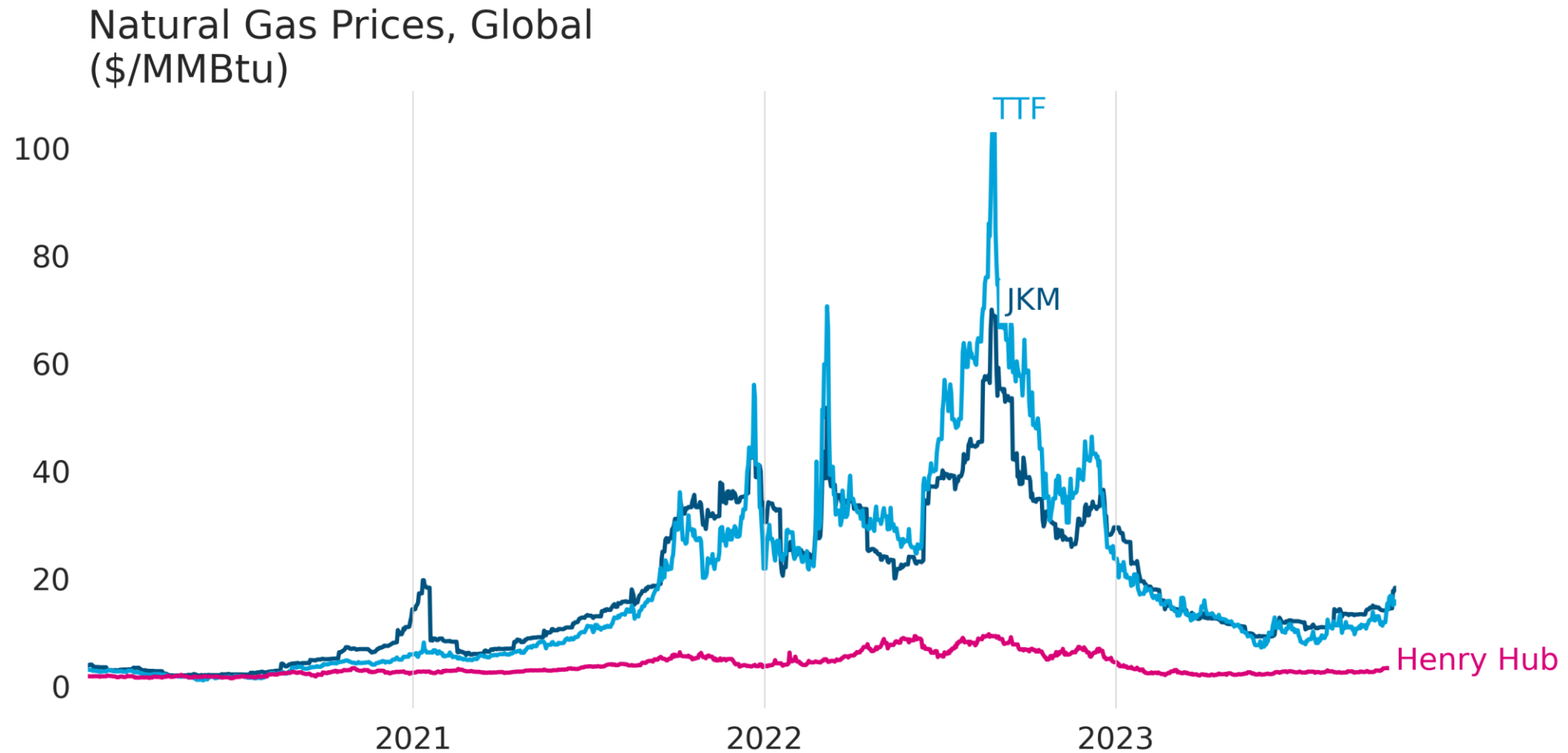
Natural Gas Prices have Fallen

Natural Gas Prices Daily Prompt-Month Futures, Henry Hub (\$/MMBtu)



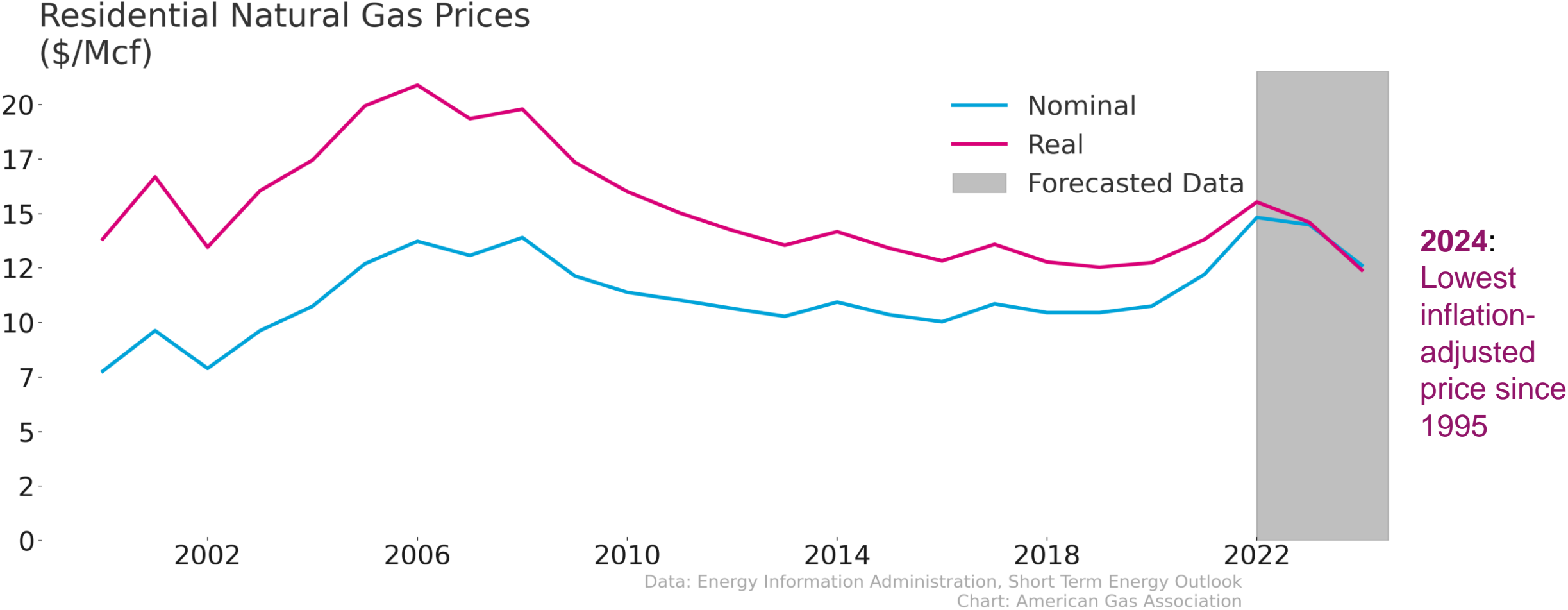
Source: Energy Information Administration
Analysis & Chart: American Gas Association

U.S. natural gas prices remain low and stable relative to the rest of the world.



Daily prices represent prompt-month futures
TTF=Title Transfer Facility, Netherlands
JKM=Japan Korea Marker

Retail gas prices are expected to drop through 2024

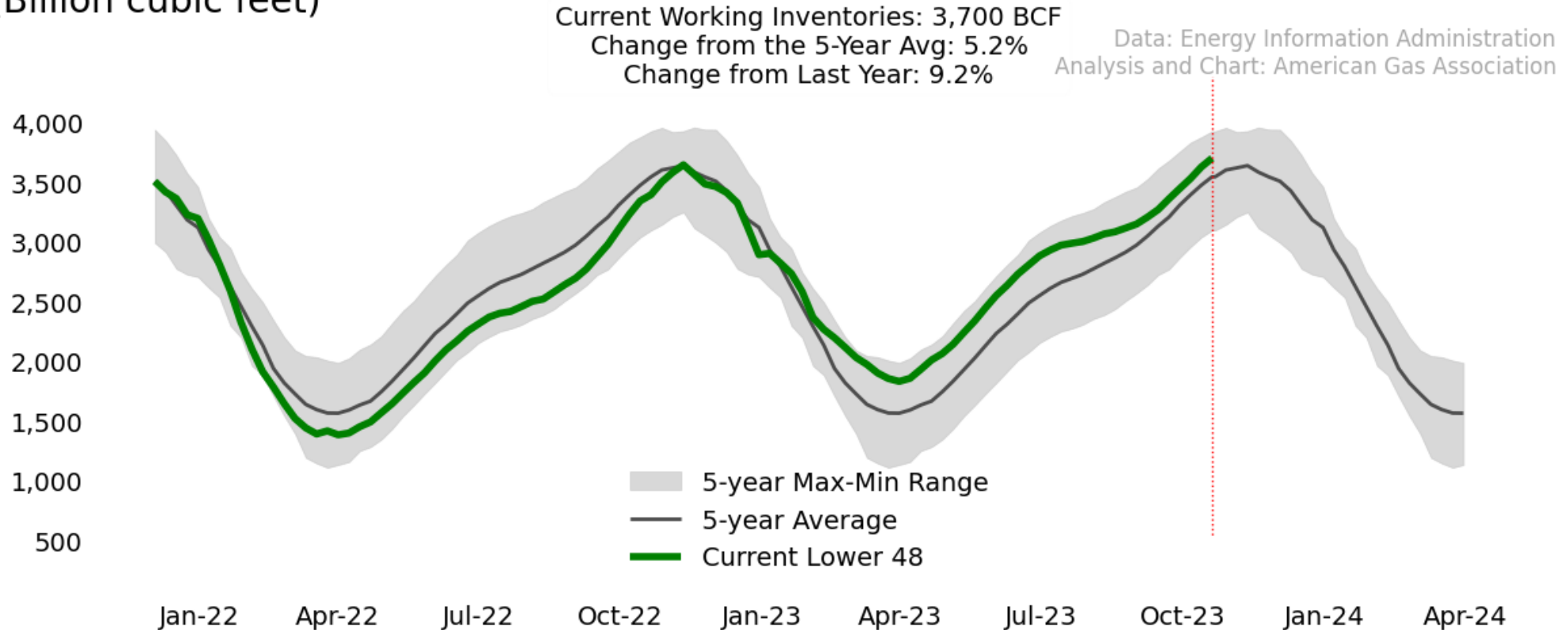


Source: Energy Information Administration
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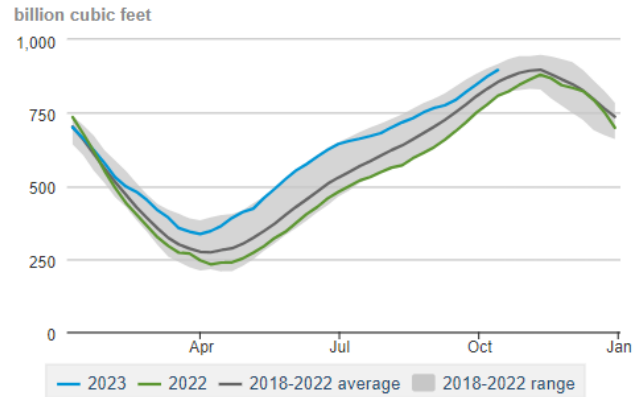
Healthy natural gas storage volumes are trending higher

U.S. Working Gas in Underground Storage Compared with the Five-Year Minimum and Maximum (Billion cubic feet)

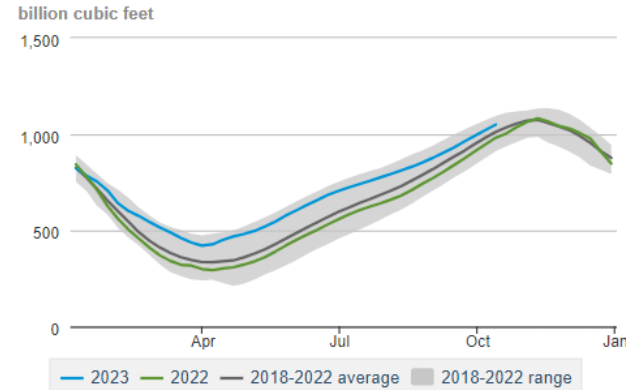


Every region is entering winter with above-average storage inventories

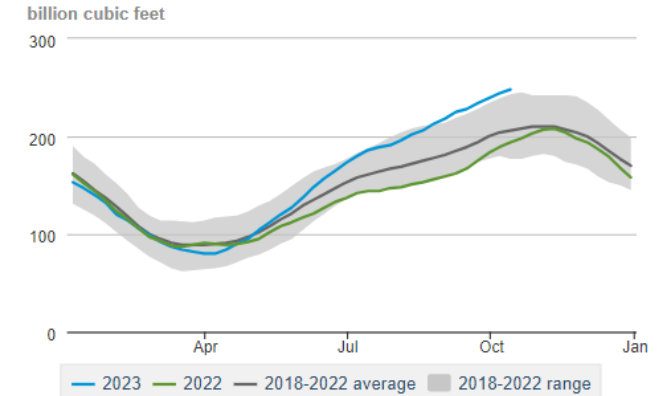
East region weekly working gas in underground storage



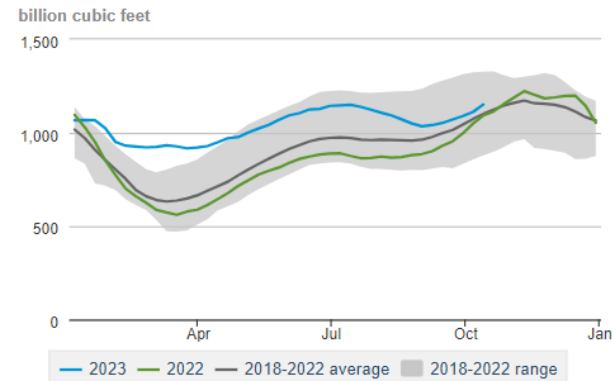
Midwest region weekly working gas in underground storage



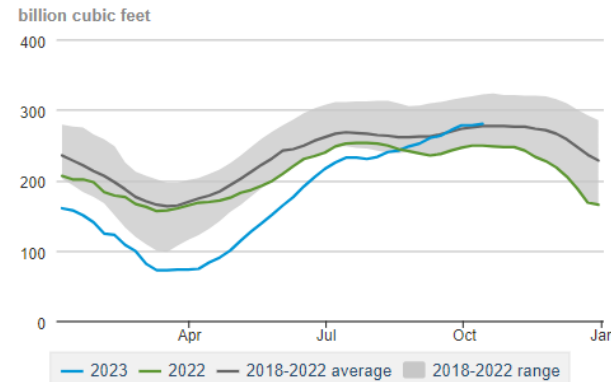
Mountain region weekly working gas in underground storage



South Central region weekly working gas in underground storage

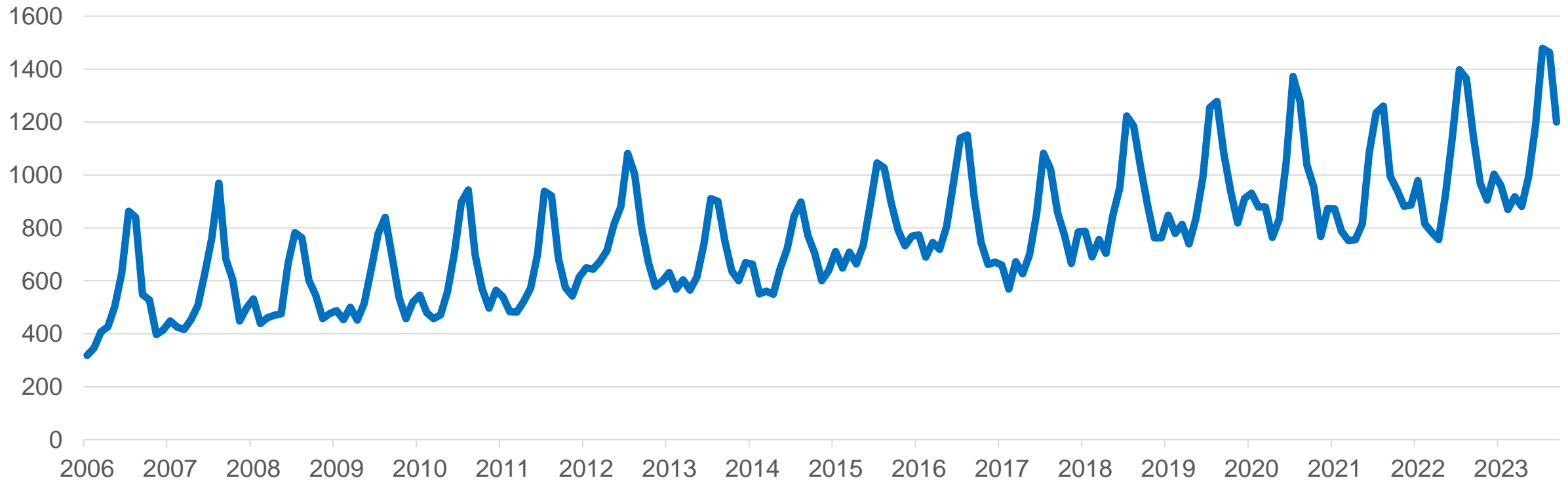


Pacific region weekly working gas in underground storage



Increased use of Natural Gas for power generation and for peak requirements

Total Monthly Natural Gas Demand for Power Generation
Billion Cubic Feet per Month

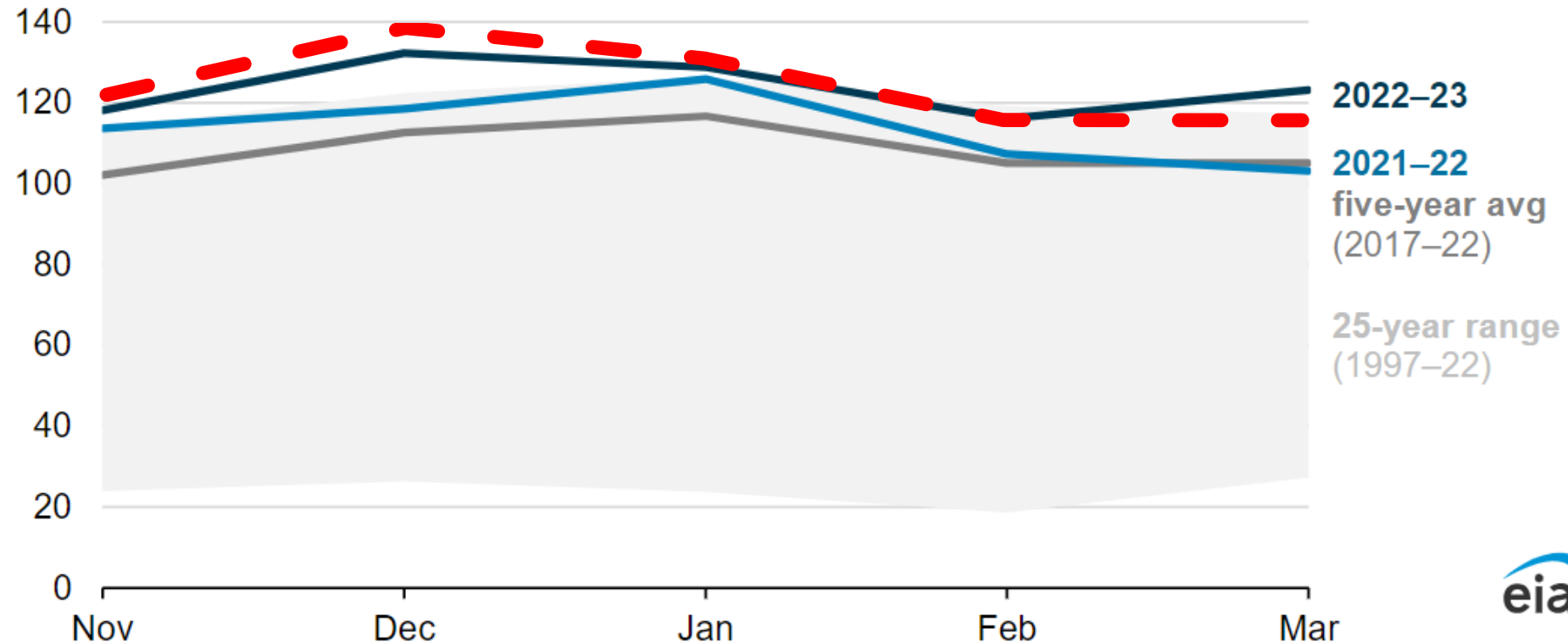


Source: Monthly Energy Review, Energy Information Administration

U.S. electricity generation from natural gas was highest on record this past winter. EIA expects this winter to be even higher.

U.S. winter electricity generation from natural gas (Nov–Mar, 1997–2023)

billion kilowatthours



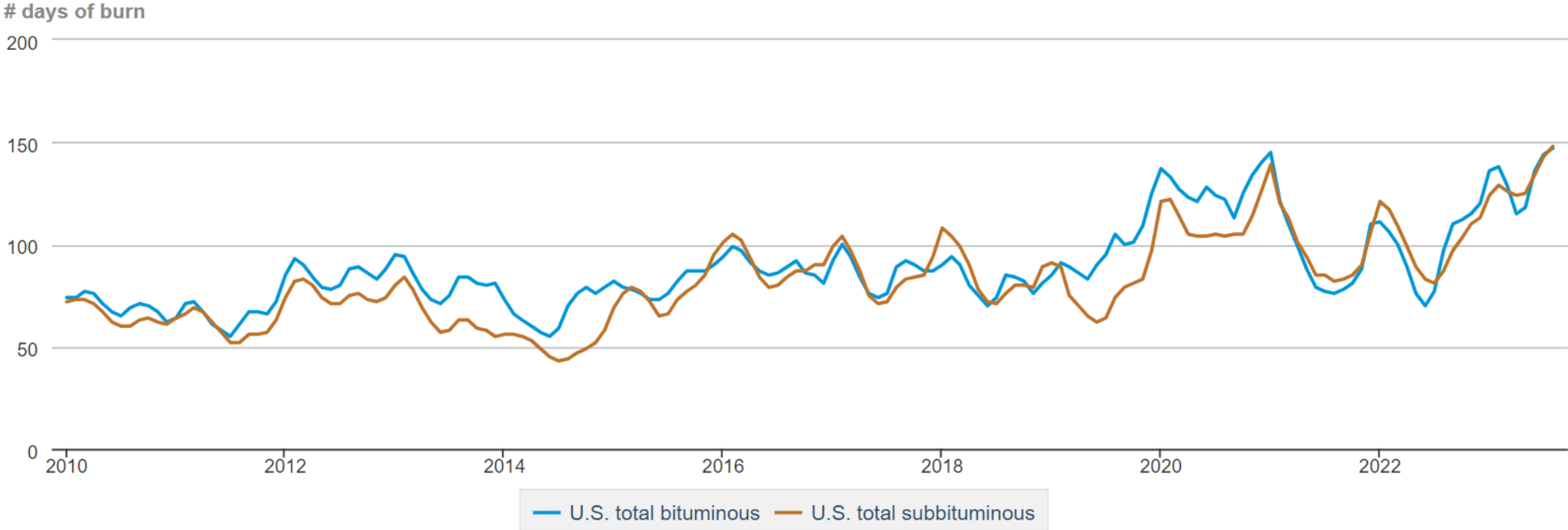
2023-2024
Forecast:
+1.3%



Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*

Higher coal stocks this winter may help avoid constraints on gas-to-coal switching

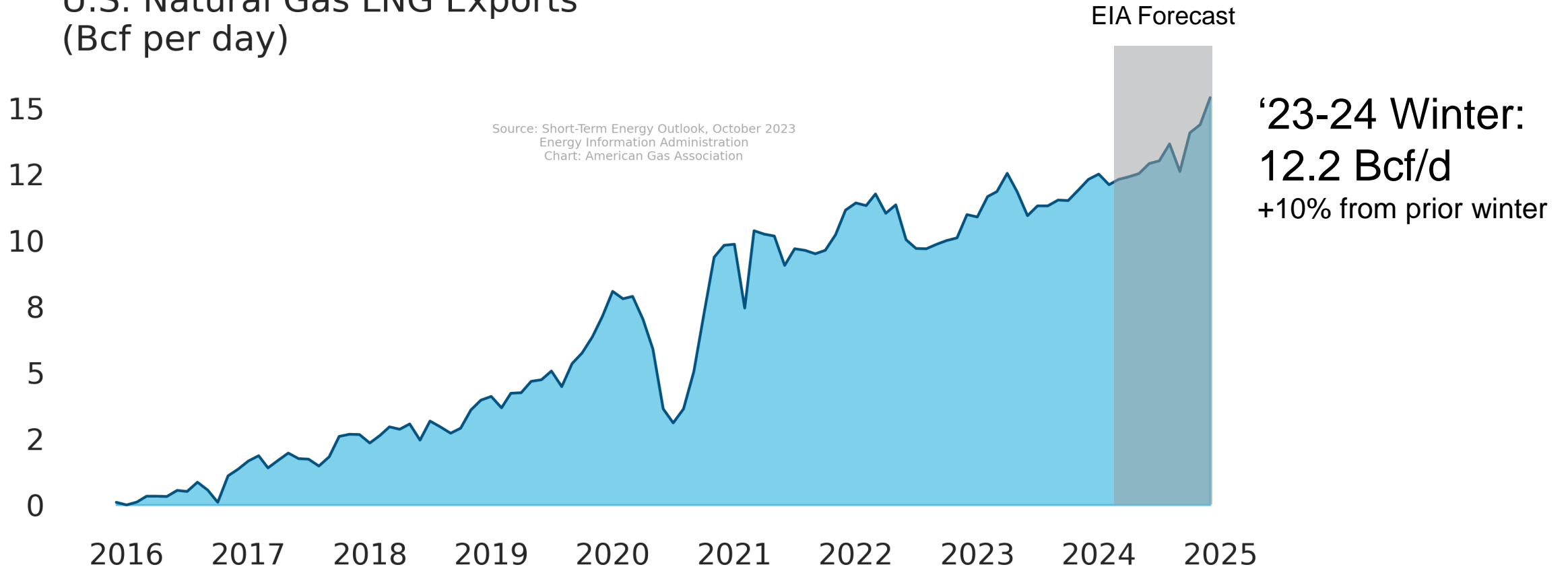
Days of burn by non-lignite coal rank, January 2010 - August 2023



eia Data source: U.S. Energy Information Administration

Short-term LNG export volumes to grow slightly relative to last winter.

U.S. Natural Gas LNG Exports (Bcf per day)

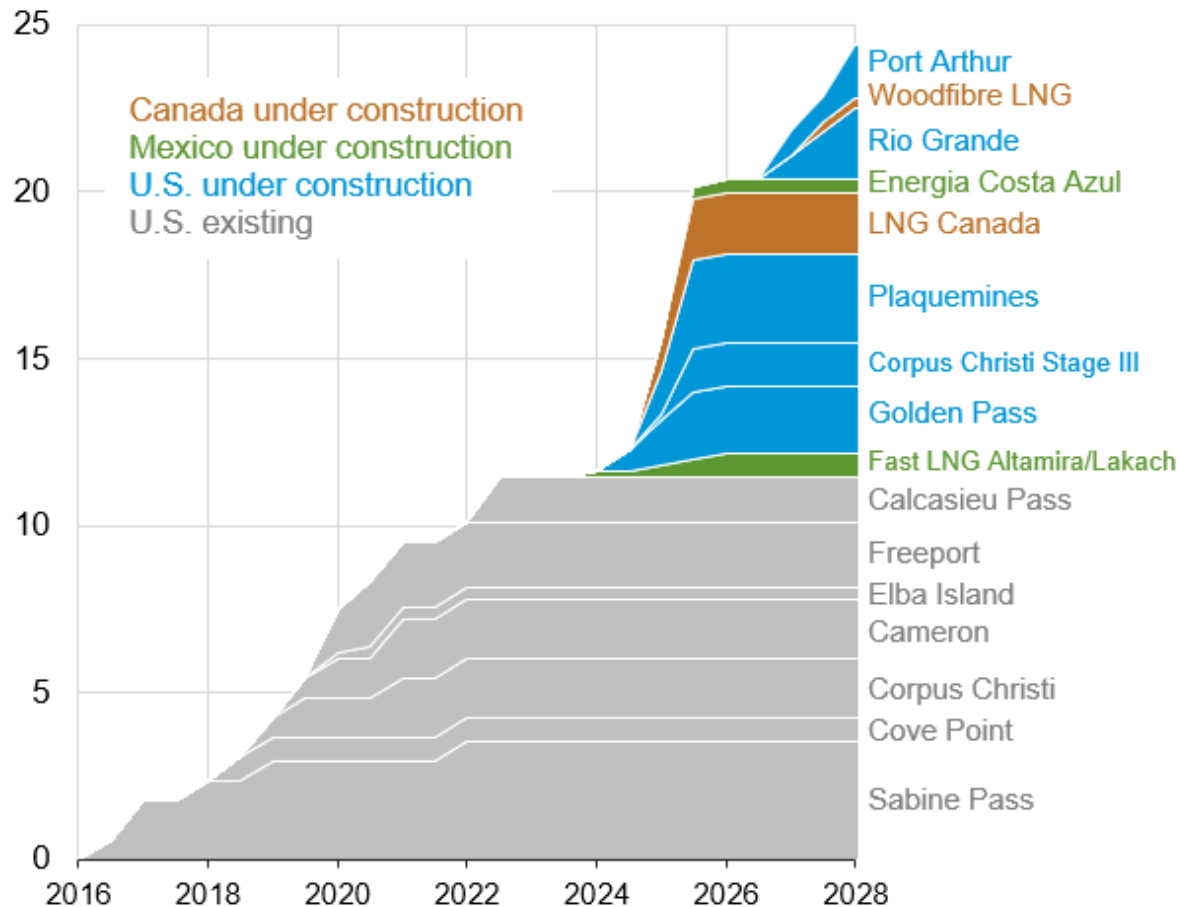


Longer-term U.S. LNG potential is significant

North America liquefied natural gas export capacity by project—existing and under construction (2016–2027)



billion cubic feet per day



Long-term build:
24 Bcf/d capacity
by 2028

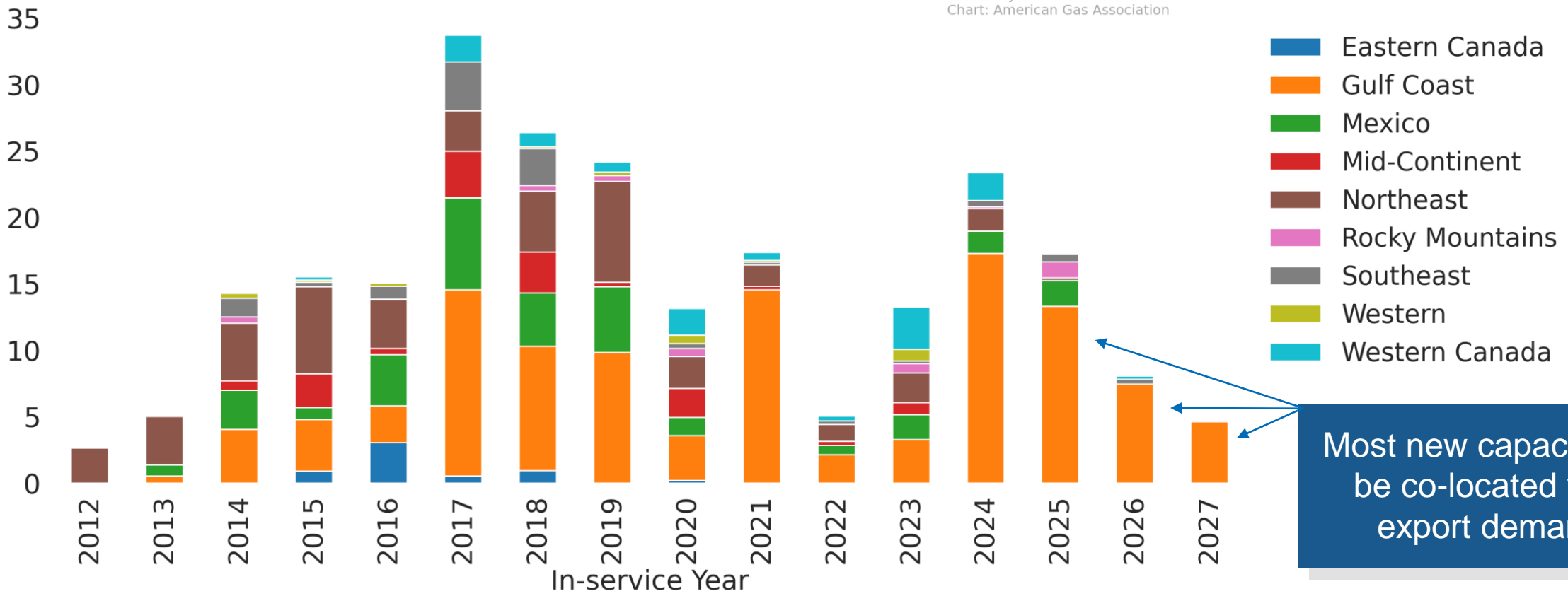
Energy
Information
Administration



Pipeline capacity expansion will resume this year, mostly with Gulf Coast additions

North American Natural Gas Pipeline Expansions by End Region
(Bcf per day)

Source: S&P Global Commodity Insights
©2023 by S&P Global Inc.
Chart: American Gas Association



Most new capacity will be co-located with export demand

Structural tightness in the market has eased, production continues to ramp up.

Natural Gas Balances (Bcf per Day)

						Forecast	
	2018	2019	2020	2021	2022	2023	2024
Dry Gas Production	84.3	92.9	92.4	94.6	99.6	103.7	105.1
LNG Net Exports	2.8	4.9	6.4	9.7	10.5	11.6	13.1
Pipeline Net Exports	-0.8	0.4	1.1	0.8	0.1	1.3	1.8
Total Consumption	82.6	85.3	83.5	84.0	88.5	89.2	88.4
Dec. Working Gas Inventories (Bcf)	2,708	3,188	3,341	3,210	2,925	3,279	3,446
Net Inventory Change	-0.9	1.4	0.5	-0.2	-0.7	1.0	0.5

**Demand
growing
faster than
supply**

**Supply
growing
faster than
demand**

Source:
*Short-Term
Energy
Outlook,
Energy
Information
Administration*
October 2023

Why do Utilities Plan for Winter Heating Season?

- Anticipate demand
- Mitigate physical flow and market fluctuations
 - Extreme day-to-day demand and consumption fluctuations due to weather
- Diversify sources of gas
 - Balances consumption with domestic and international suppliers
- Deliver low-cost and reliable natural gas to customers
 - On the coldest day, week and month of the season

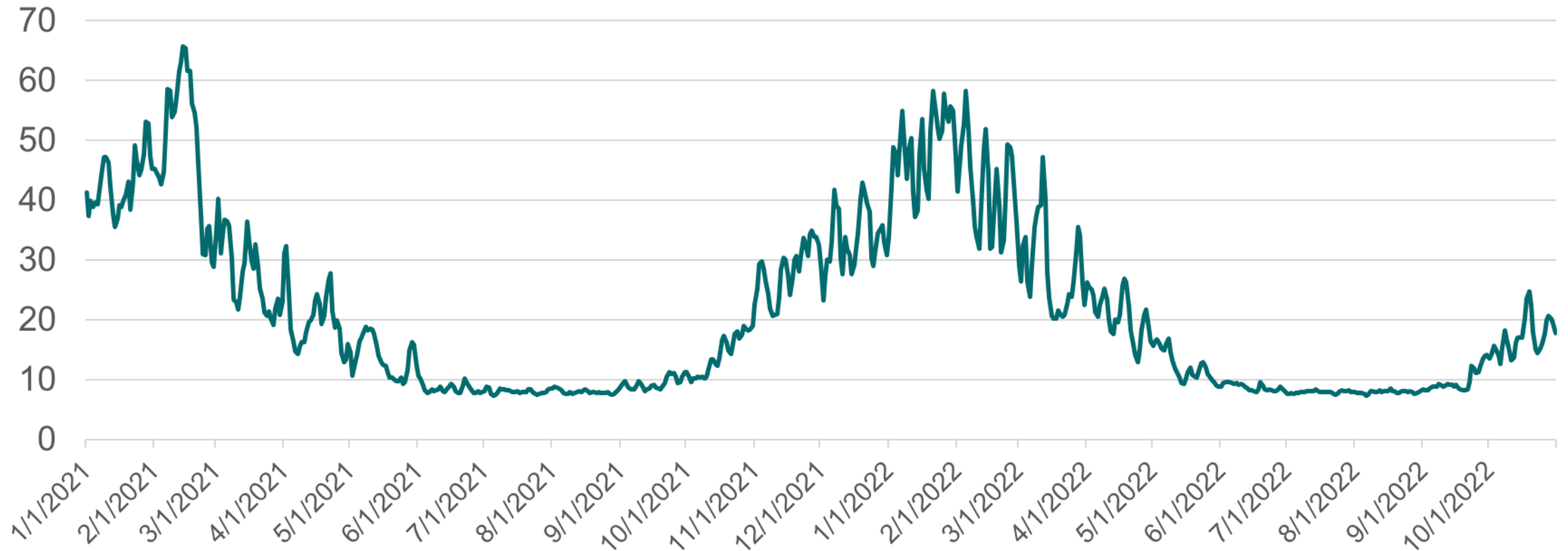
Sources: [AGA 2018-2019 Winter Heating Season Report](#), [AGA 2020-2021 Winter Heating Season Sources](#)

Big Picture

- 2021 – 2022 LDC participants
 - Total utility respondents: 49
 - Gross utility WHS reported volume - Dth: 82,368,961
 - Total WHS utility customers: 29,966,953

Consumption represents load swing for LDCs

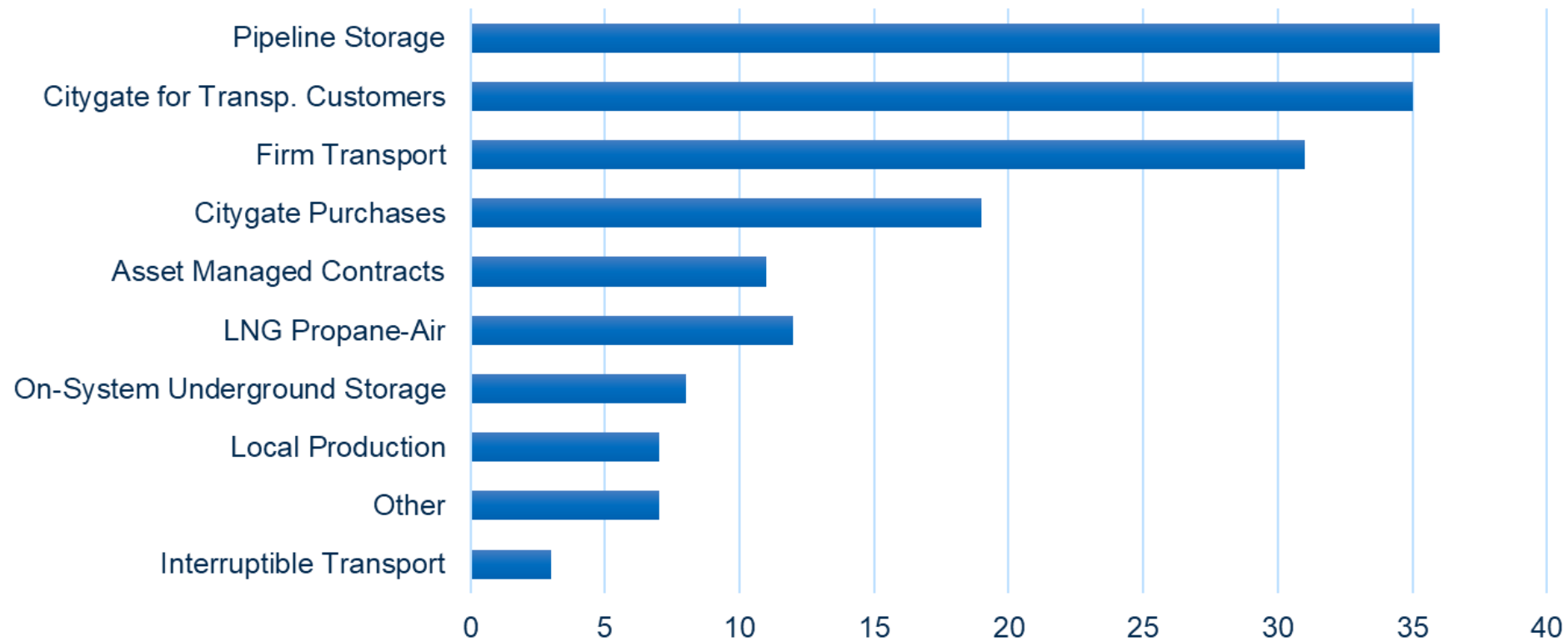
Daily Residential & Commercial Consumption(Bcf)



Source: S&P Global Commodity Insights
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Chart: American Gas Association

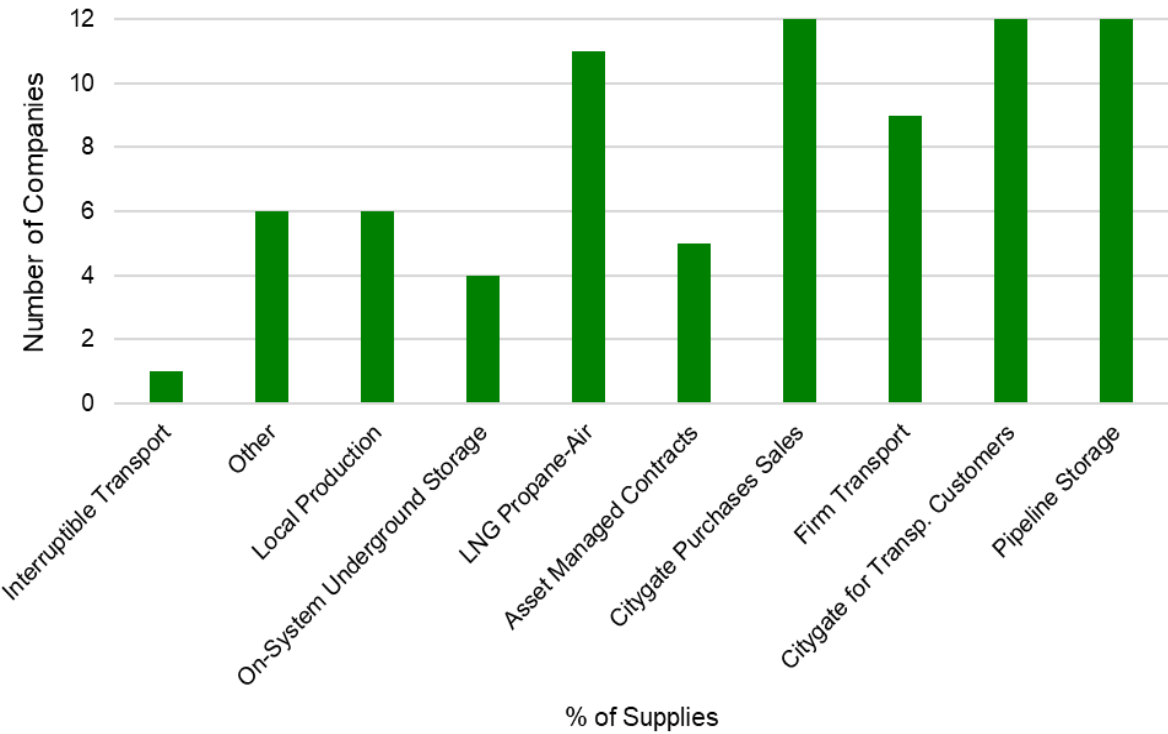
Pipeline storage utilized most for peak day supplies

Source of Peak Day Gas Supplies Number of Companies using Supply Resource

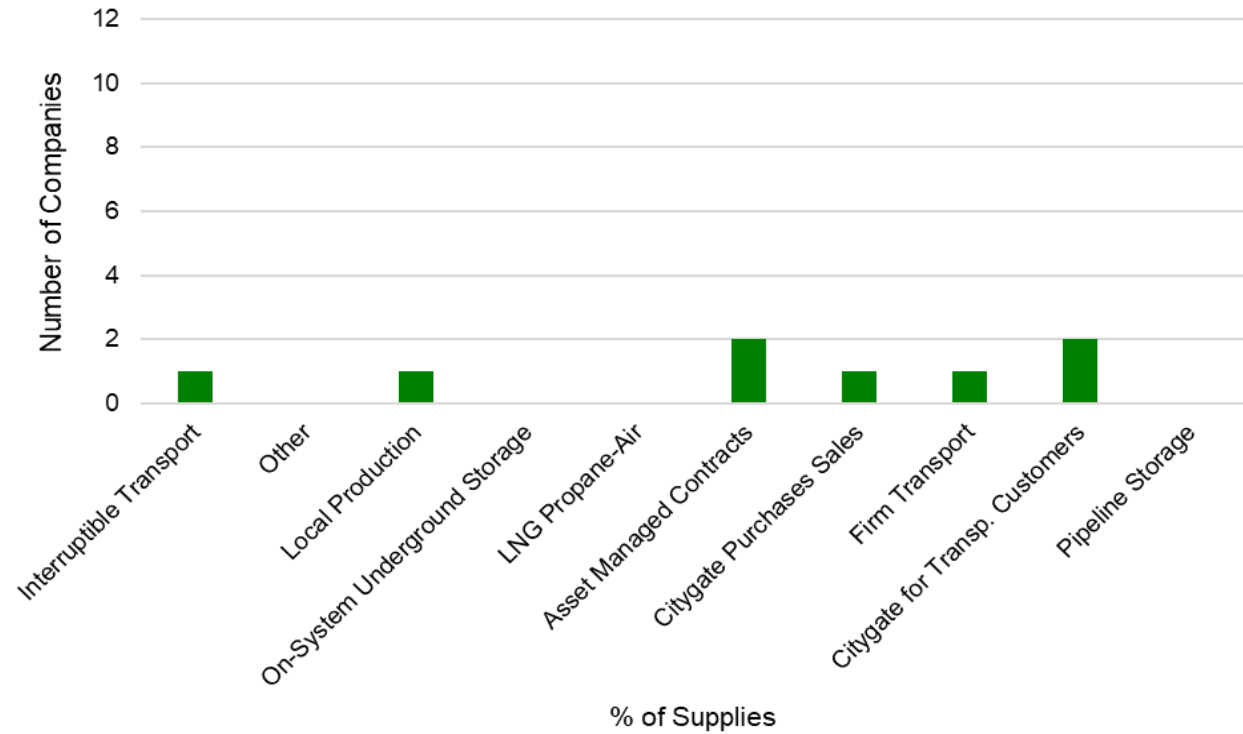


LDCs focus on source diversity

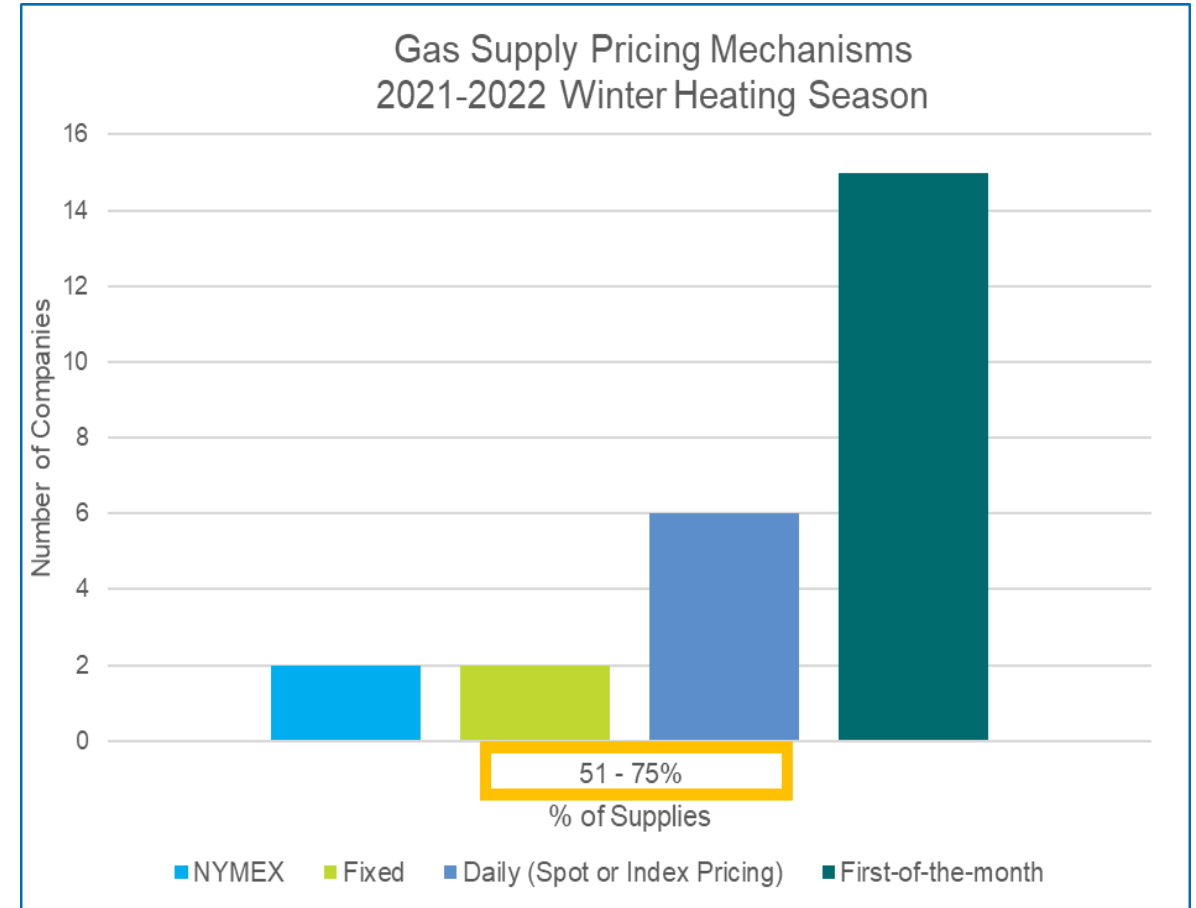
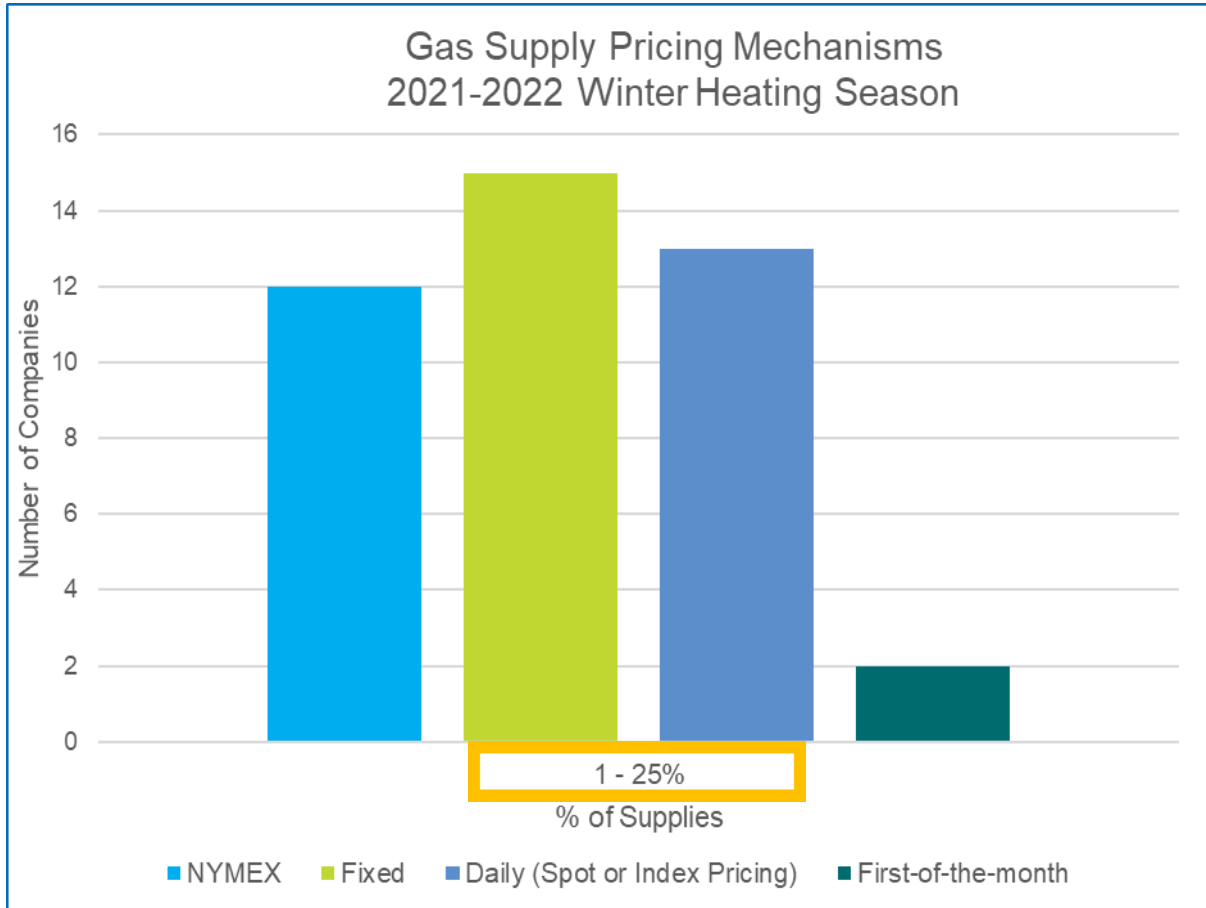
Sources that Represent 1-25% of Peak Day Supplies
2021-2022 Peak Day



Sources that Represent 76-100% of Peak Day Supplies
2021-2022 Peak Day



First-of-the-month futures lead as preferred purchasing method



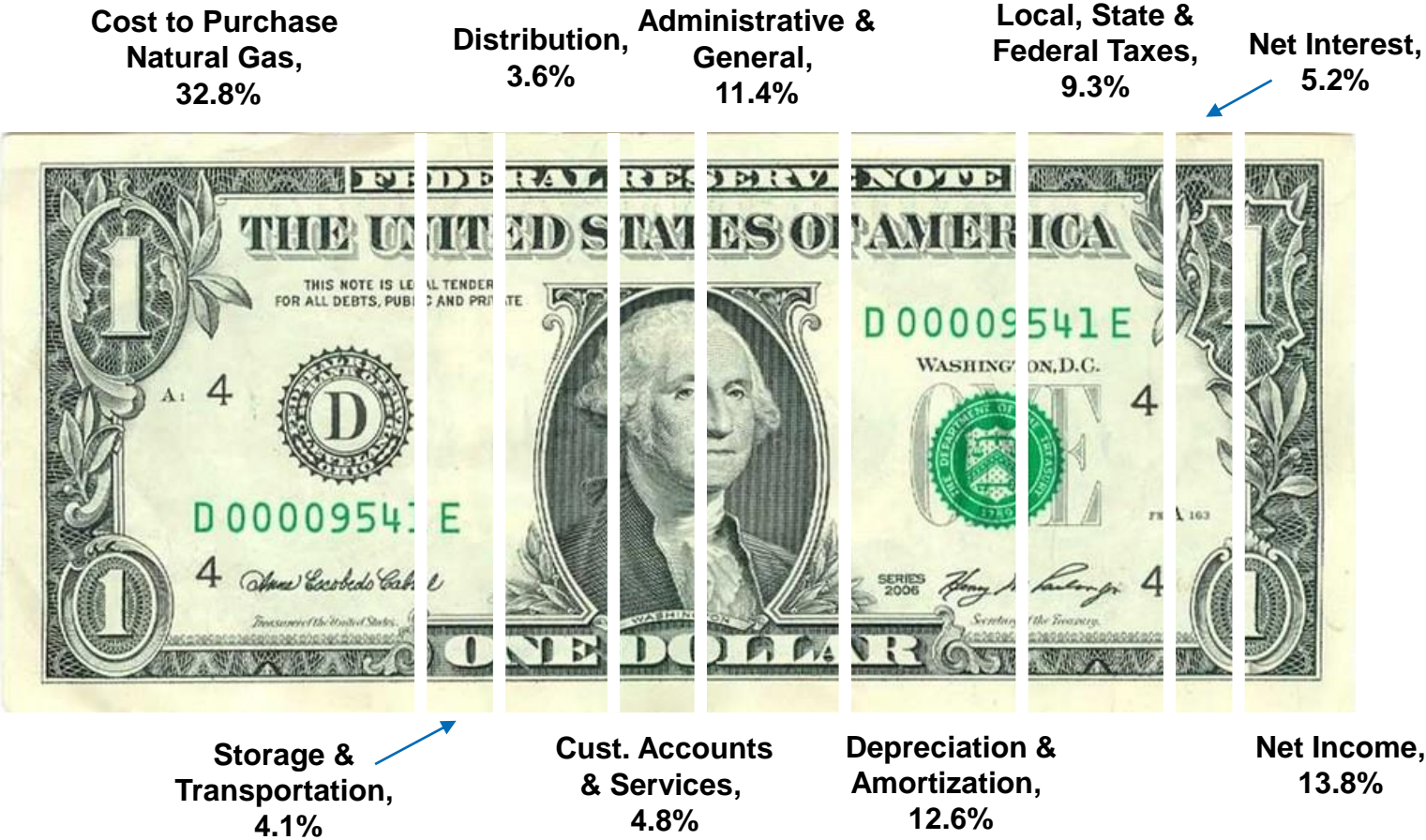
Summary

- Based on individual utility-specific conditions, utilities plan for reliable natural gas deliveries on a daily, weekly, monthly, and seasonal basis by matching supply resources to forecasted demand and preparing for “design day” conditions (or a historic peak day load).
- Companies tend to deliver their supply strategy in increments that often amount to less than 50 percent of their total supply package.
- Supply planners use a portfolio approach to pricing gas supplies, mirroring their approach to supply sources, providers, and transportation options.

How Much of the Final Bill Accounts for the Cost of Gas?

Average natural gas bill based on 2021 data. →

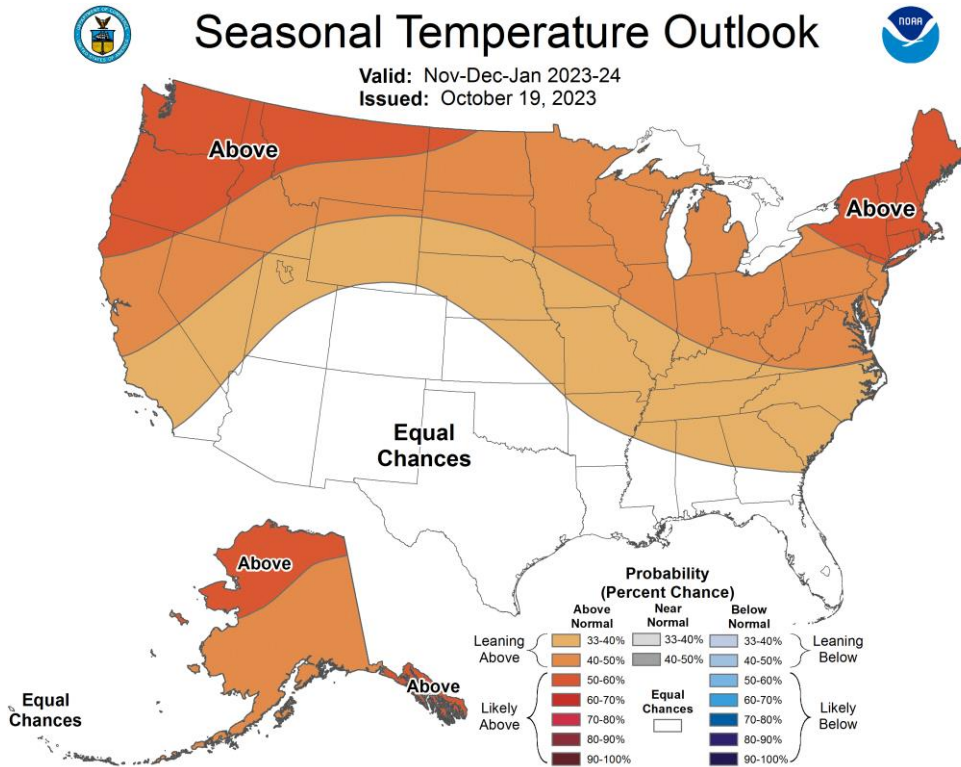
2021 energy bills best reflect EIA's current expectations for this winter.



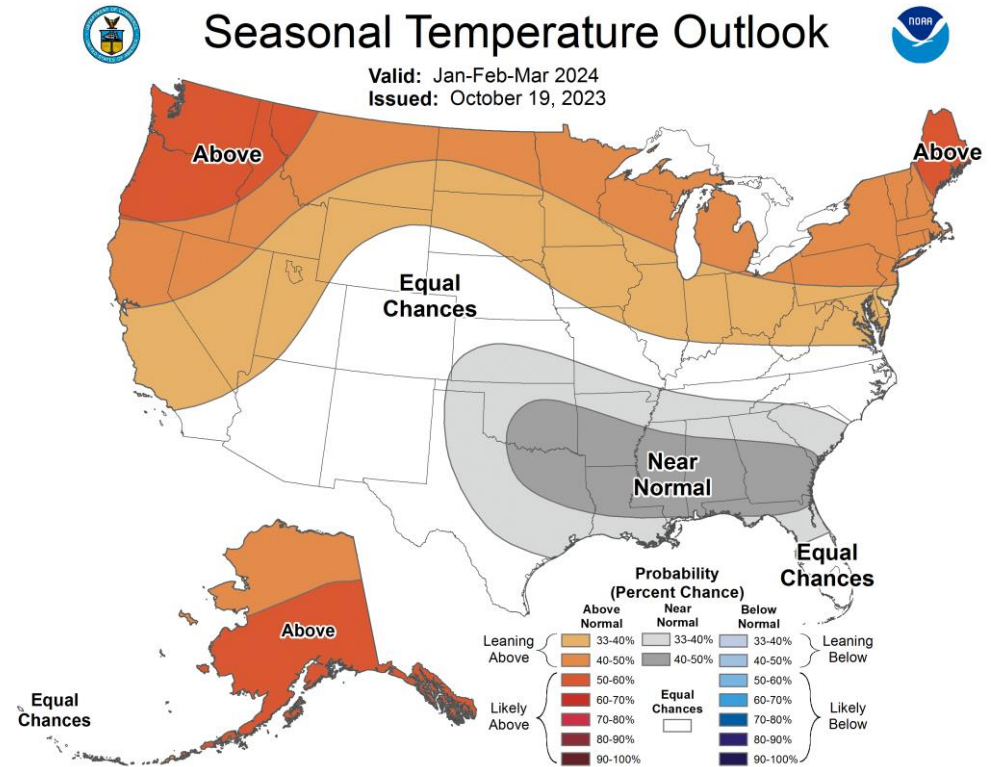
Source: AGA Gas Facts, 2021 Data

Expectations for 2023-2024 Winter Weather

NOAA Forecast November-January

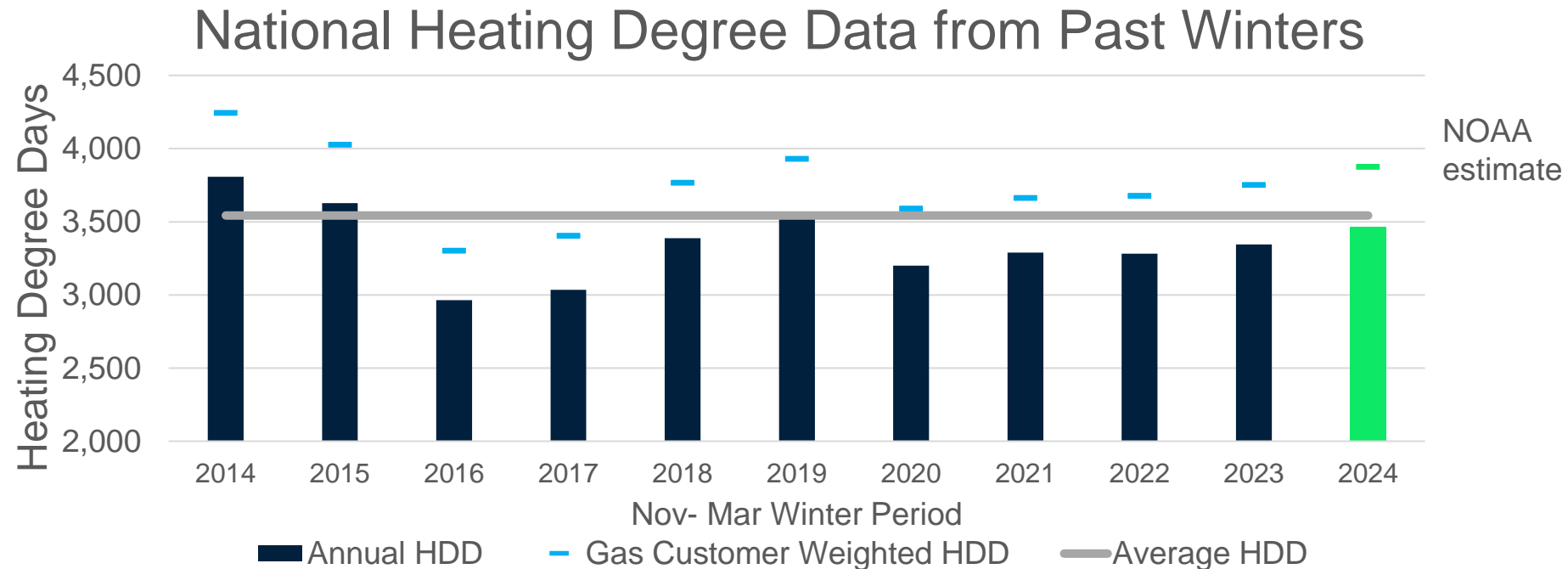


NOAA Forecast January-March

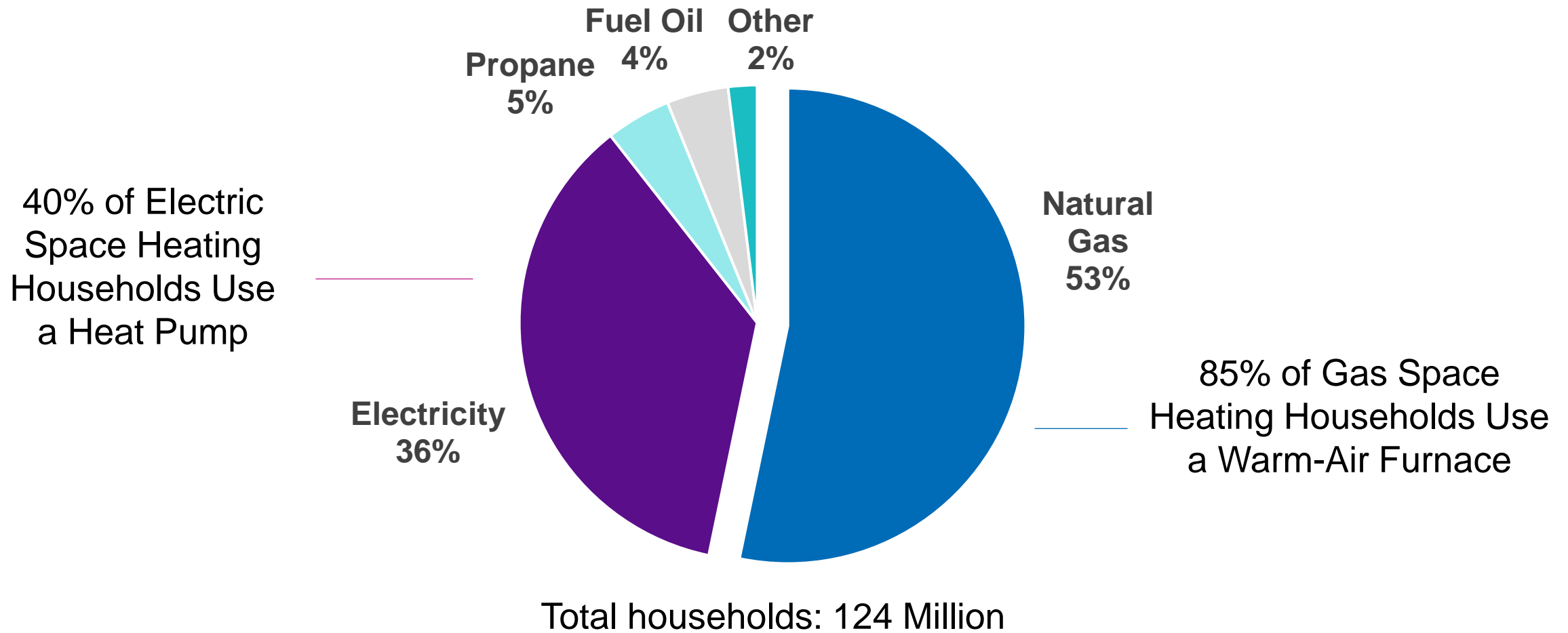


Temperatures are a key variable that will drive consumption

- NOAA's forecast is expected to be close to normal in terms of total heating degree days.
- El Nino will have a large role in estimating space heating demand.
- Gas customer weighted HDD are typically 12% higher than the population average.

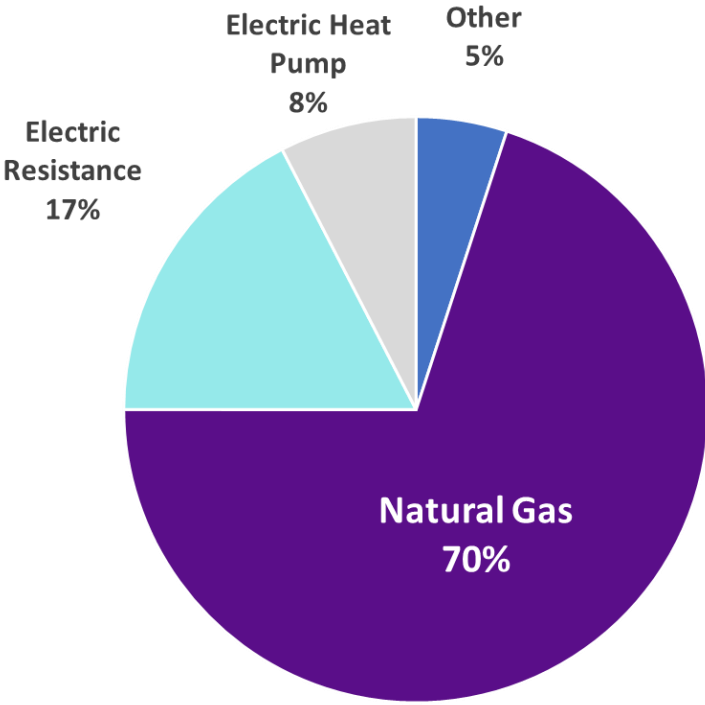


Main Heating Fuel by Household

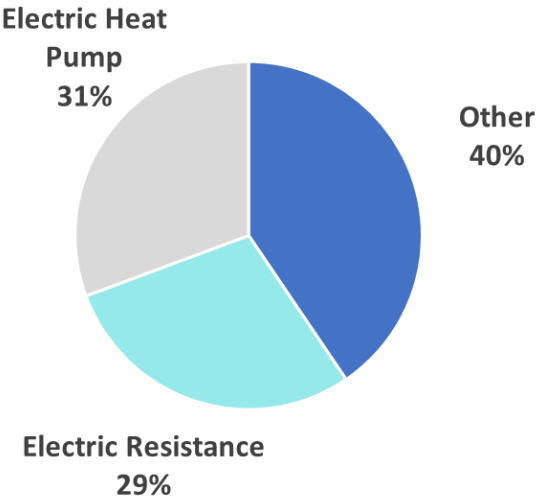


People who have access to natural gas use it!

Homes with Natural Gas



Homes without Natural Gas



34 Million Homes Do Not Have Access to Natural Gas

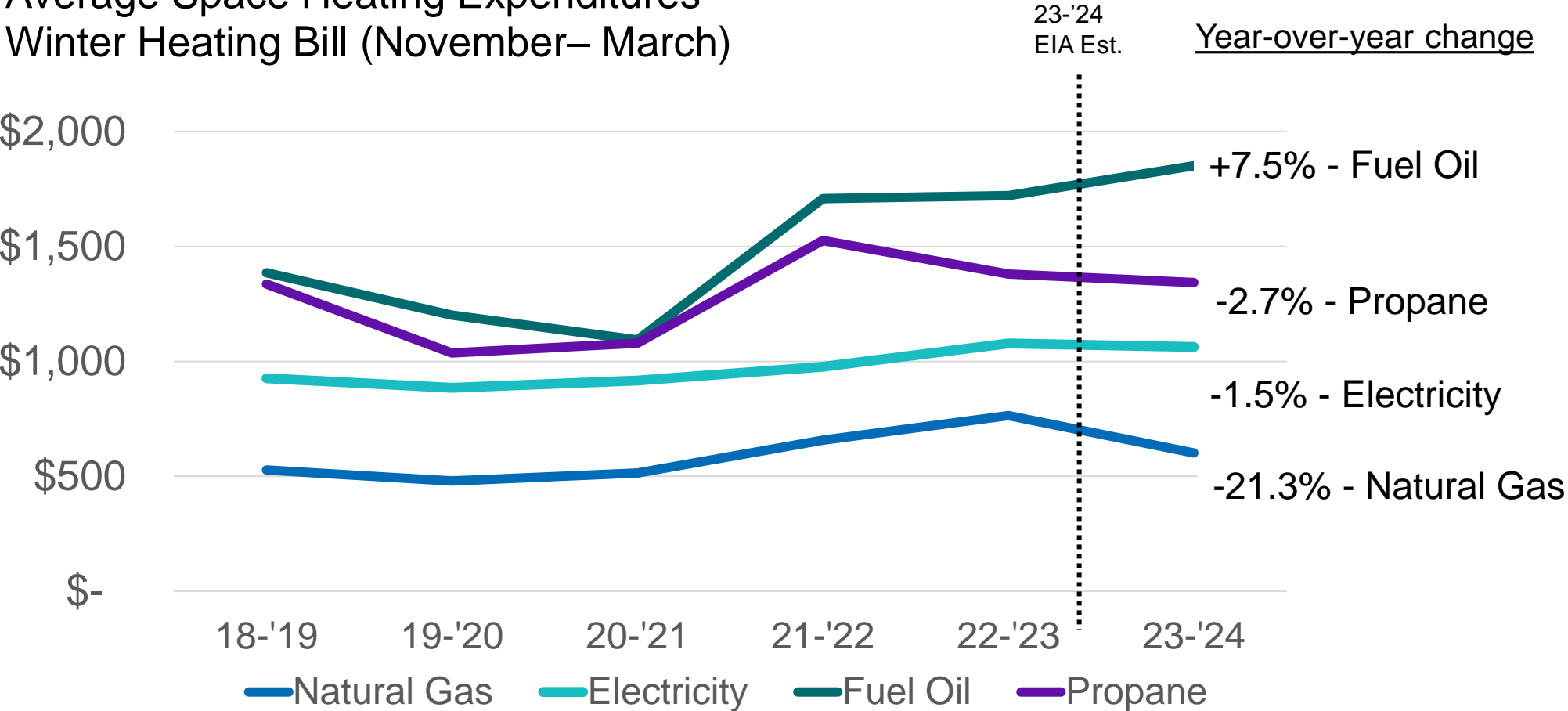
90 Million Homes Have Access to Natural Gas
76 Million Homes Have At least One Natural Gas Appliance (84%)

Sources: EIA Residential Energy Consumption Survey 2020



EIA's Winter Outlook Shows Natural Gas Bills Down 21%

Average Space Heating Expenditures
Winter Heating Bill (November– March)



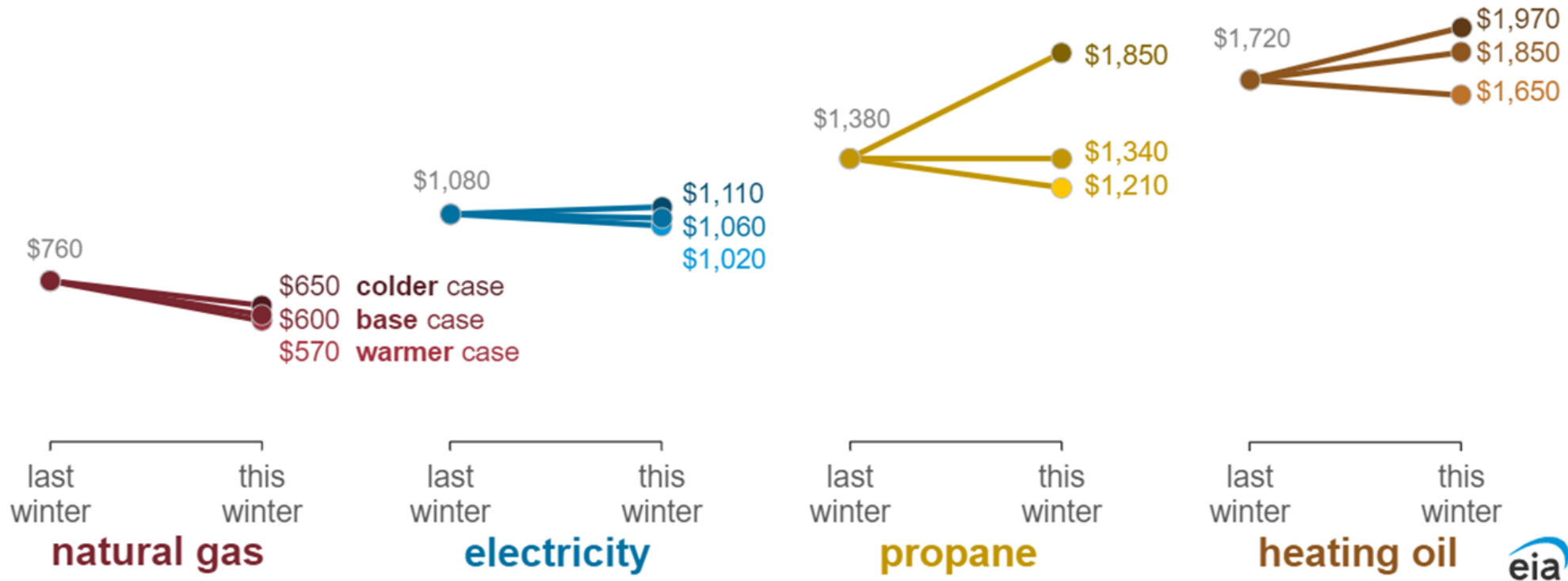
Sources: Energy Information Administration, Winter Fuels Outlook 10/11/2023



Other Fuels Share Higher Costs and Sensitivity to Weather

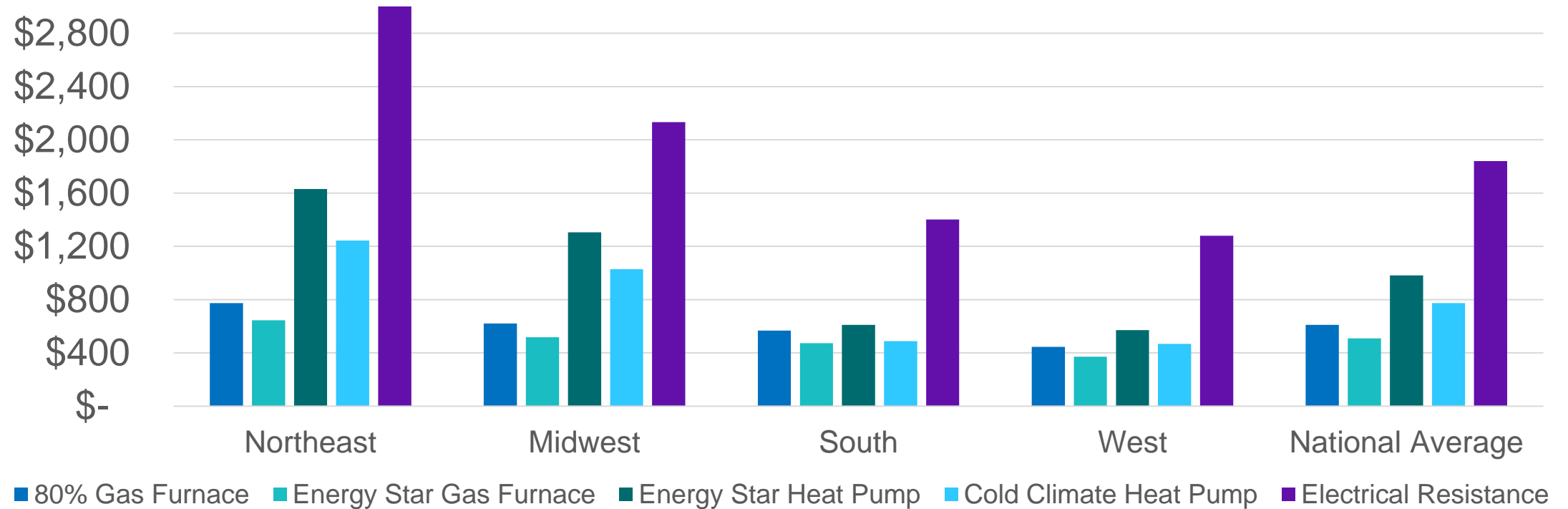
Residential energy expenditures

nominal dollars



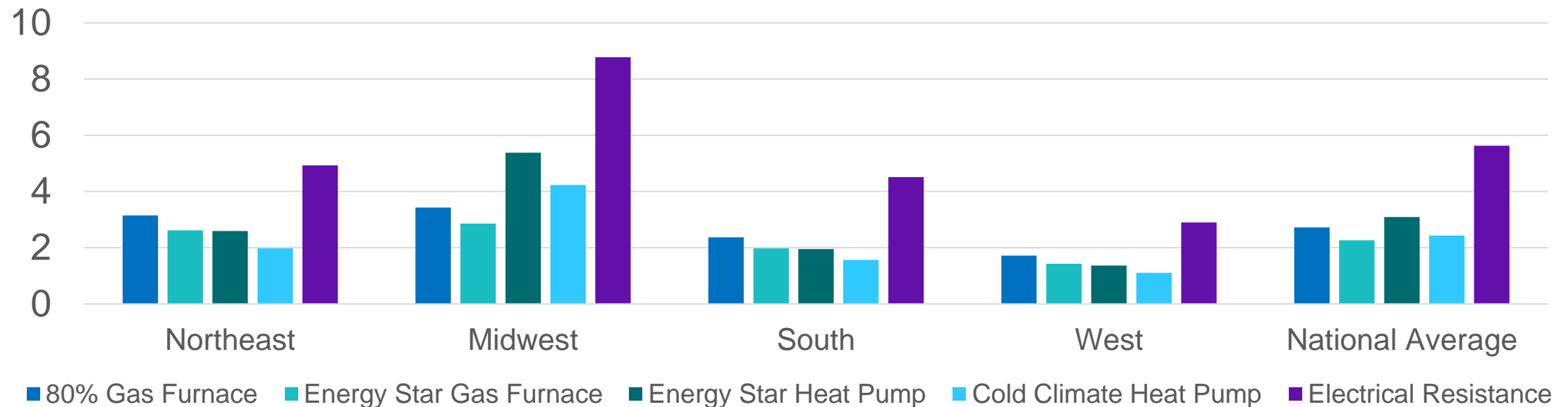
Consumers can save between 34% and 72% with natural gas compared to popular electric alternatives.

2023 - 2024 Winter Heating Cost by Furnace Type
Winter Heating Bill (November through March)



Potential Emissions Impact from this Winter Heating Season

2023 - 2024 Winter Heating Emissions by Furnace Type
(Metric Tons CO₂e)



An Energy Star gas household could have a **carbon footprint that is 27% lower** this winter compared to a standard Energy Star-rated heat pump; **60% lower emissions** compared to an electrical resistance furnace.

Energy assistance programs are available to help consumers in need

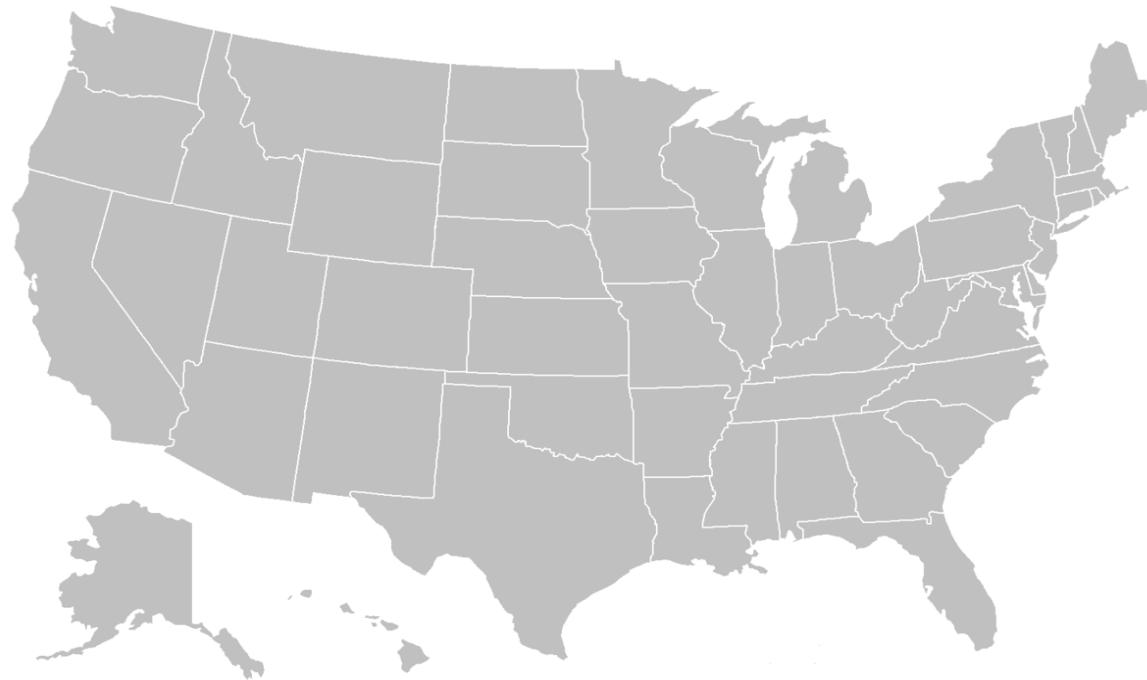
Natural gas utilities offer and participate in several energy assistance programs

- **LIHEAP, State, and Local Funds** – Energy cost assistance for low-income households
- **Budget Billing** – Customers spread costs equally across 12 months, effectively prepaying a portion of heating season bills during the cooling season
- **Weatherization Assistance** – Provides qualifying customers with weatherization assistance to ensure a household is winter-ready
- **Payment plans** – Customers may spread high bills over several months
- **Voluntary Non-terminations** – Certain utilities do not terminate customers during the heating season

New Resource

<https://neuac.org/>

<https://neuac.org/state-resource-directory/>



neuac

NATIONAL ENERGY & UTILITY AFFORDABILITY COALITION

Final Thoughts

- Today's **market is very different** from last year
- Seeing **lower and stable pricing** in U.S.
- **Natural gas utilities plan and prepare** to meet their winter heating season obligations to consumers.
- **Natural gas bills are expected to decline** this winter, even under colder conditions.
- **Energy assistance** programs are available to help consumers in need


Questions





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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