AGA Energy Markets, Analysis and Standards

Natural Gas and the 2020-21 Winter Heating Season

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

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Despite disruptions to global energy markets and hurricanes in the Gulf Coast, the natural gas market in terms of flowing gas supplies remains relatively stable.



Source: S&P Global Platts Bentek Data

Market stability is evident with natural gas demand as well. Total demand including exports is down 0.4% from 2019.

US Total Natural Gas Demand, Year-to-Date (Including Mexico/LNG exports) Bcf per day



Natural Gas Year-to-Date Demand



Source: S&P Global Platts Bentek Data



Source: Energy Information Administration. Forecast: October 2020 Short-Term Energy Outlook

Natural gas prices have remained low compared with history





Source: Energy Information Administration

Natural gas prices are low and stable when examining a longer history of prices.



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

Source: Energy Information Administration

Expectations for 2020-2021 Winter Weather



NOAA Forecast January-March



Temperatures are the key variable that will drive consumption

- NOAA's forecast is expected to be below normal in terms of total heating degree days.
- Estimated usage for 2021 based on an AGA survey of its members suggests an increase in throughput of 4-5 percent.





Total Residential Natural Gas Consumption During

Source: National Weather Service Climate Prediction Center, Energy Information Administration

Survey of AGA Members

- Question:
 - Do you expect normalized residential heating bills to go up this winter compared to last?
- Response:
 - 58 percent said yes, 42 percent said no.
- Question:
 - By what percent will bills and throughput change compared to last winter?
- Response:
 - 5 percent *increase* in bills and 4 percent *increase* in throughput. Averages weighted by number of customers.

EIA's Current Winter Heating Outlook (Residential)

Natural Gas Winter Heating Season

	16	5-'17	1	7-'18	1	8-'19	1	9-'20	2	0-'21	
Consumption (Mcf)		52.9		57.6		60.2		55.5		59.9	7.9%
Price (\$/Mcf)	\$1	0.06	\$	9.82	\$	9.72	\$	9.73	\$	9.55	-1.8%
Expenditures (\$)	\$	533	\$	565	\$	586	\$	540	\$	572	5.9%

Electric Winter Heating Season

	16-'17	17-'18	18-'19	19-'20	20-'21	
Consumption (kWh)	8,424	9,049	9,256	8,764	9,431	7.6%
Price (\$/kWh)	\$0.125	\$0.126	\$0.127	\$0.129	\$0.128	-5.0%
Expenditures (\$)	\$1,055	\$1,142	\$1,174	\$1,128	\$1,209	7.1%
Heating Degree Days (Oct - Mar Only)	3255	3610	3788	3433	3611	5.2%

Sources: Energy Information Administration, Winter Fuels Outlook 10/9/2020

Findings show, homes heating with natural gas this winter could save between 46% and 71% compared to an electrical alternative. These findings are consistent with EIA's own winter fuels forecast.

The cost to heat with Electric v Gas this winter



Source: AGA Based on 2018 Winter Heating Data

When space heating matters most...



Households heating with gas could see a January heating bill of just \$111 vs. \$277 with an Energy Star air sourced 8.8 HSPF heat pump. For many heat pump customers, January contributes to almost 1/3 of the entire winter heating season bill.

Source: AGA Based on 2018 Winter Heating Data

Potential Emissions Impact from the 2020 – 2021 Winter Heating Season

The average gas household could have a *carbon footprint that is 19% fower* this winter compared to an Energy Star rated heat pump; *50% lower emissions* compared to an electrical resistance furnace.

Estimated Winter Heating Emissions by Furnace Type

(Metric Tons CO₂)

	Average Gas	Energy Star Gas	Energy Star	Electrical	
	Customer	Furnace	Heat Pump	Resistance	
Northeast	3.3	2.9	3.3		5.2
Midwest	3.4	3.0	5.1		7.8
South	2.1	1.9	2.5		4.6
West	1.4	1.2	1.2		2.4
National	2.5	2.3	3.1		5.1
Average Percent Savings with Gas			19%		50%

Source: AGA model based on 2018 winter heating data; Emission factors based on 2018 EPA eGrid NERC regional data

AGA Outlook for Winter Bills

- On average, residential natural gas bills will be around 4 to 6 percent *higher* than the previous winter based on AGA survey of members and EIA's current winter heating outlook.
- Characteristics of 2021 Heating Season:
 - Weather: Warmer than normal winter based on NWS 2020-2021 winter forecast (3,611 HDD vs 3,816 normal HDD) but colder than last winter (3,433 HDD)
 - **Consumption**: Average use per customer is expected to increase slightly compared to the 2019-2020 winter heating season
 - Price: Relative to past years, price of natural gas remains historically very low
 - Supply: Abundant storage and production available to meet supply and peak demand concerns

Natural gas will continue to be the lowest-cost energy option for home heating.

How much of the final bill accounts for the cost of gas?



Source: AGA Gas Facts, 2016 Data

One in three U.S. households faces a challenge in meeting energy needs



Energy Assistance Programs

Natural gas utilities offer and participate in several energy assistance programs to help customers in need.

- LIHEAP, State, and Local Funds Energy cost assistance for low income households.
- Budget Billing Customers spread cost 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 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

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Natural gas utilities spent \$365.34 million on lowincome efficiency programs in 2018.

2018 Efficiency Programs by Customer Segment 105 Utility Participants





AGA Member Winter Heating Season Survey

Source of Peak Day Gas Supplies 2018-19 68 LDCs total, different sources can be counted more than once



AGA Member Winter Heating Season Survey

Number of Companies Using Gas Pricing Mechanisms for Underground Storage LDC 2018 Storage Refill Season, (69 LDCs)

