Q&A: 2021-2022 Natural Gas Market Conditions and LNG

Winter Natural Gas Market Insights from **Natural Gas Supply Association President and CEO Dena Wiggins** and **Center for LNG Executive Director Charlie Riedl**

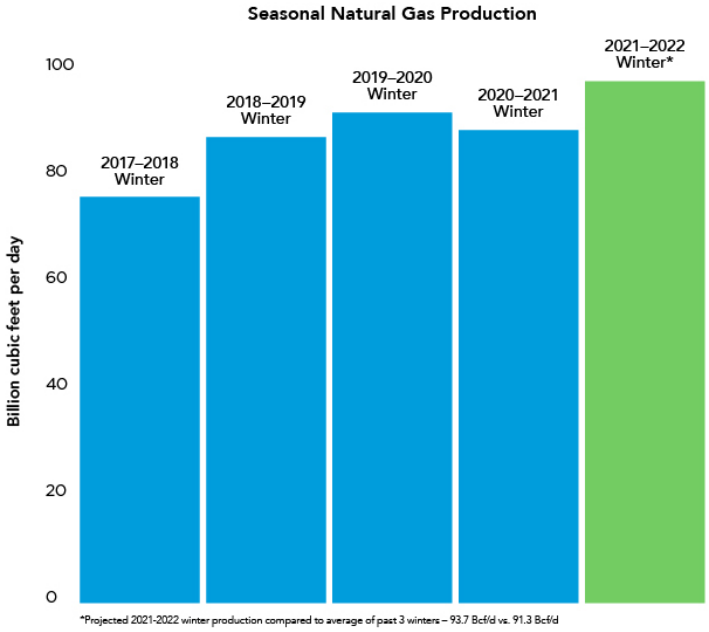
1. **Why is the U.S. Energy Information Administration (EIA) predicting a rise in natural gas prices this winter?**

Dena Wiggins: EIA is projecting higher energy prices across all sources this winter, not just natural gas. COVID-19 impacted demand patterns and stressed the supply chain in 2020 and 2021. These lingering effects have played a key role in the predicted higher price of energy and many other commodities. As the economy continues to rapidly recover and grow, natural gas producers are responding by growing production to meet demand. Production this November was up 4 billion cubic feet a day (Bcf/d), an increase of about 5 percent over last year. December is showing even greater increases. As more production flows to market, it will place downward pressure on prices, which lines up with EIA's prediction of declining natural gas prices in March of 2022.

NOVEMBER AND DECEMBER NATURAL GAS PRODUCTION IS **UP 4 BCF/D COMPARED TO 2020.**

THIS 5% INCREASE IN PRODUCTION WILL PUT **DOWNWARD PRESSURE ON PRICES** AS MORE SUPPLY FLOWS INTO THE MARKET.

Sources: Energy Information Administration, Energy Ventures Analysis Inc.



2. **How did COVID-19 impact the upcoming winter?**

Dena Wiggins: The pandemic destroyed global and domestic demand for energy in 2020, sent natural gas prices to near-historic lows (inflation-adjusted) and led to over 100 producer bankruptcies. Just one year later, the U.S. economy is rapidly expanding at a projected rate of 10%. Producers are catching up to this growth, a process that typically takes a few months.

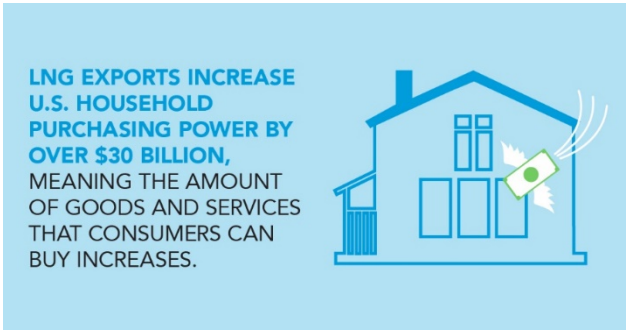
The growing response by producers is evidenced by production that is up more than 4 Bcf/day this November and December compared to one year ago – a 4-5% increase in production that will help ease market conditions as more supply flows into the market. EIA has projected that natural gas production will reach new monthly record highs in 2022, with declining natural gas prices beginning in March. (Sources: Rystad Energy, Moody's Analytics, Platts, EIA)

3. **What about weather?**

Dena Wiggins: As we always say in our Winter Outlooks, weather is a major factor in the natural gas market every summer and winter. A hot 2021 summer led to higher-than-average use of natural gas for electricity and less natural gas going into storage for later use this winter. The National Oceanic and Atmospheric Administration (NOAA) is predicting a 1% colder winter, which typically results in slightly higher winter demand for natural gas for heating. Storage also plays a vital role in the winter supply portfolio. This winter, storage is 3% lower than the 5-year average but within the recent historical range at 3,623 Bcf. The United States has the world's largest natural gas storage capacity, with over 4 trillion cubic feet.

4. **Doesn't exporting America's natural gas as LNG raise prices here in the United States?**

Charlie Riedl: Exports are not the driver of higher prices this winter. In fact, year over year growth of LNG exports is only 1.7 Bcf/d. To put these numbers in perspective, total daily demand for natural gas this winter is projected to only grow about 1 Bcf/d on average compared to last winter – that is less than 1% growth. LNG exports actually play a key role in stabilizing the market by incentivizing production across the country. U.S. LNG exports are a vital tool for countries looking to make good on their Paris and COP26 climate goals and help the U.S. continue to be a leader on climate issues.

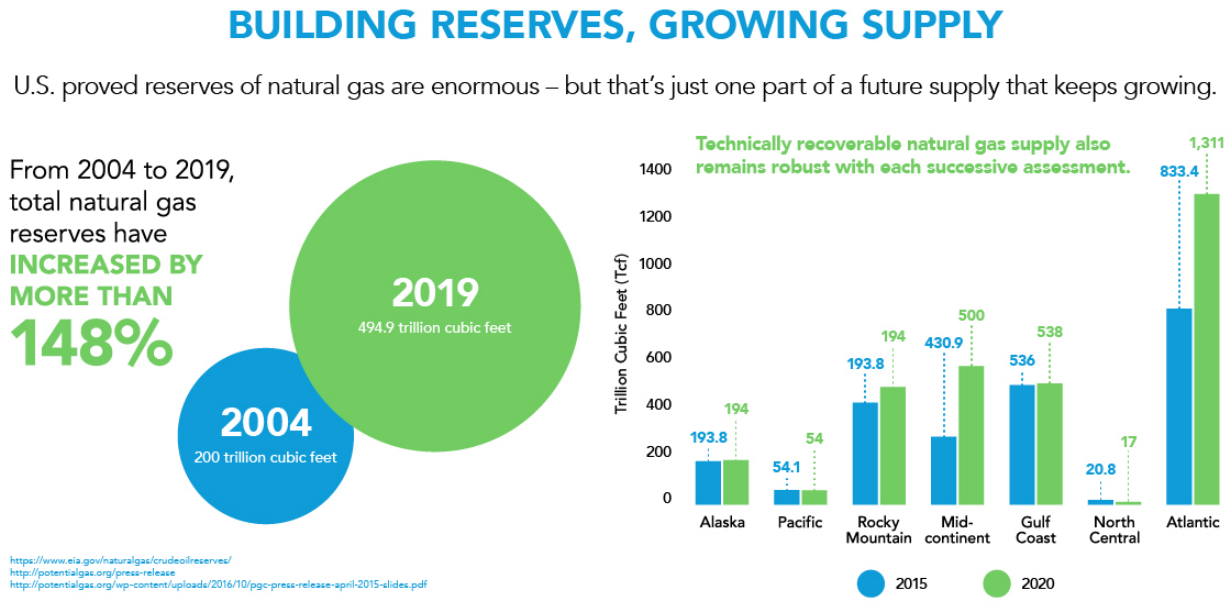


5. **Are U.S. LNG exports growing too much for the market to handle?**

Charlie Riedl: The U.S. natural gas market can easily absorb this winter's projected LNG export growth of about 1.7 Bcf/d. In fact, the natural gas market has weathered far greater increases in winter demand without a material impact on prices. To put these numbers in perspective, total daily demand for natural gas this winter is projected to only grow about 1 Bcf/day on average compared to last winter – that is less than 1% growth.

6. **If LNG exports continue to grow in the future, will there be enough natural gas for domestic customers?**

Dena Wiggins: There will be ample natural gas for all. The future supply of natural gas is an enormous number that keeps growing with each successive assessment of the resource. In fact, current LNG exports represent less than 1% of U.S. proven reserves of natural gas and about 0.001% of the total estimated U.S. natural gas resource base. (Sources: EIA, U.S. Potential Gas Committee)



7. **Would limiting LNG exports benefit consumers?**

Charlie Riedl: Not only would restricting LNG exports fail to benefit customers here at home this winter, but it would also set a dangerous precedent and throw domestic and global markets into an uproar, causing serious damage to U.S. credibility as a climate leader. As we talked about before, LNG exports send important signals to the market to increase production: by limiting exports, you are discouraging production of natural gas, ultimately leading to higher prices for consumers.

RECORD AMOUNTS OF U.S. LNG EXPORTS HAVE HELPED POWER HOSPITALS, HOMES AND BUSINESSES AROUND THE WORLD – ALL WHILE KEEPING EMISSIONS BELOW 2019'S RECORD HIGHS.

BY CONTINUING EXPORTS, OUR TRADING PARTNERS WILL HAVE ACCESS TO MORE **CLEAN AND RELIABLE U.S. LNG THAN EVER BEFORE.**

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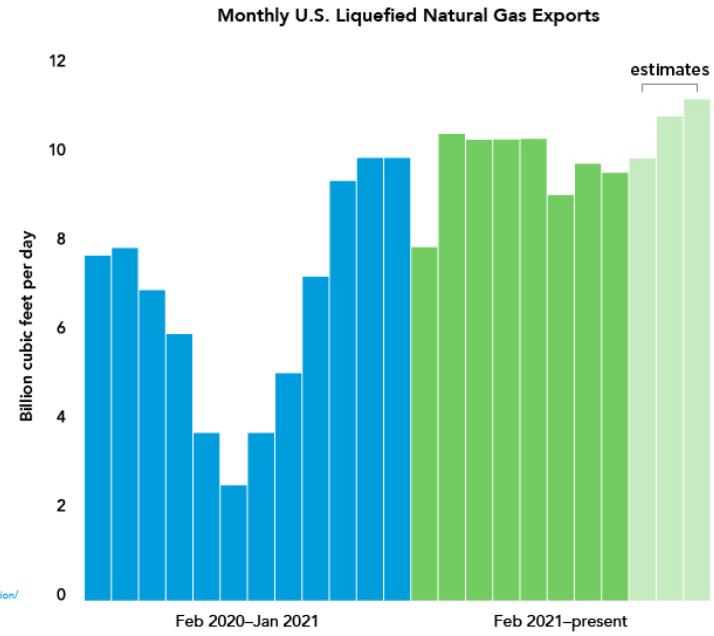


Dena Wiggins: Storage is an important part of the winter supply portfolio. In some parts of the U.S., natural gas can be stored in underground storage facilities. Storage enhances physical reliability and also helps customers to manage their costs, since gas is usually purchased and injected into storage when it is in least demand and thus at its lowest price in April through October. This winter, storage is 3% lower than the 5-year average but within the recent historical range. The United States has the world's largest natural gas storage capacity, with over 4 trillion cubic feet. (Source: EIA)

9. **Why are prices so different among different regions?**

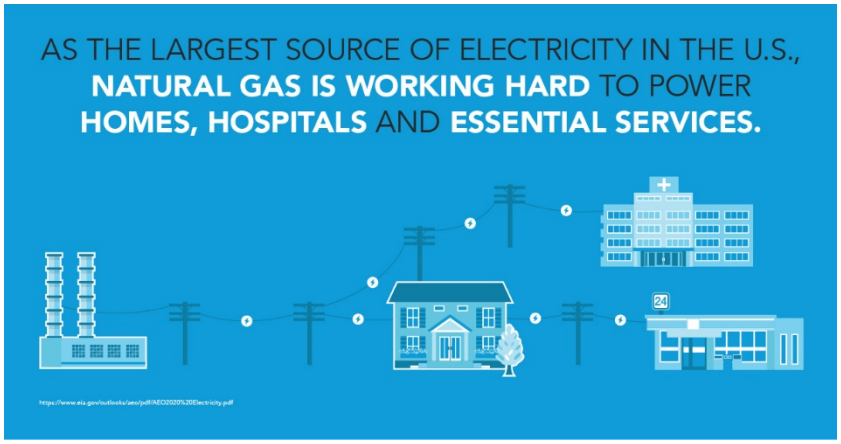
Dena Wiggins: Over the last 12 years, the average price of natural gas has decreased significantly across the U.S. due to the shale revolution. Although higher natural gas prices are projected this winter, prices are still considerably lower than they were a decade ago. However, during periods of cold weather and high demand in the Northeast, prices in the Northeast's daily spot/cash market often increase more sharply than other regions because of a lack of available pipeline capacity compared to other regions. Investment in new infrastructure is needed to deliver more natural gas to customers, like utilities, in the Northeast. But instead, billions of cubic feet per day of pipeline capacity in the Northeast have been cancelled or delayed since 2018. While the Northeast has had limited new infrastructure, other parts of the country, such as the Permian basin in Texas and New Mexico have seen close to 9 Bcf/d in additions.

10. **What is the difference between "spot" prices, "wellhead" prices and other kinds of natural gas prices?**

Dena Wiggins: Wellhead prices and citygate prices refer to the price paid at a physical point of sale. "Spot" (also called "cash" or daily) prices, futures prices, and short- and long-term contract prices refer to the expected term of delivery of the natural gas. Ideally, customers try to diversify their natural gas supply portfolios with a mix of gas from different supply regions acquired under different circumstances including spot market gas, short-term and longer-term contract gas, supplemented by gas from storage and peaking arrangements so that they limit their exposure to daily swings that can occur in demand.

11. What is the difference between "interruptible" and "firm" transportation?

Dena Wiggins: Businesses that can accommodate occasionally having their natural gas supply interrupted, or that can significantly reduce their consumption when notified by the provider, can get better rates for natural gas transportation by having "interruptible" service. Typically, an interruptible customer is a large industrial or commercial customer with the ability to use other fuels or temporarily halt operations. In some regions, even power generators choose to have interruptible transportation service for natural gas. In contrast, firm customers contract for a steady natural gas transportation service.



12. How can customers protect themselves against higher prices?

Dena Wiggins: Many times, people see higher prices mentioned in the news, but often those prices represent spot, or "cash" daily, prices that are short lived, very regional, and do not represent the market as a whole. One thing to point out about prices this winter, or any season, is that there are a variety of ways that customers like utilities and industrial consumers, buy their natural gas. The interconnected nature of the U.S. natural gas market allows utilities and industrial customers to secure a mix of natural gas supply from different regions, using tailored contract terms and storage to limit their exposure to swings in demand. They can further diversify their natural gas supply portfolios by buying natural gas under different terms and different lengths, from the daily spot market to longer terms of a month or more.

Winter Fuels Forecast, updated Nov. 2021 ("EIA") https://www.eia.gov/outlooks/steo/report/WinterFuels.php; EIA *U.S. Crude Oil and Natural Gas Proved Reserves*, Dec. 2021, https://www.eia.gov/naturalgas/crudeoilreserves/; EIA *Weekly Natural Gas Storage Report*, https://ir.eia.gov/ngs/ngs.html; EIA Natural Gas Supply Association *2021-2022 Winter Outlook for Natural Gas*, updated Nov. 2021, Report,%20https:/ir.eia.gov/ngs/ngs.html;; U.S. Energy Information Administration *Historical Henry Hub Natural Gas Spot Prices, https://www.eia.gov/dnav/ng/hist/rngwhhdm.htm;* Rytad Energy, Bankruptcy-hit US operators sets to lose a quarter of oil production in 2021, Dec. 16, 2020, Historical%20Henry%20Hub%20Natural%20Gas%20Spot%20Prices,%20https:/www.eia.gov/dnav/ng/hist/rngwhhdm.htm;; National Weather Service Climate Prediction Center *Three-Month Outlook Official Forecasts*, Oct. 2021, https://www.cpc.ncep.noaa.gov/products/predictions/long_range/seasonal.php?lead=3; Platts *Gas Daily Market Fundamentals*, Nov. 24, 2021, https://www.spglobal.com/en/research-insights/articles/daily-update-november-24-2021 ("Platts/Bentek"); ICF International, *Impact of LNG Exports on the U.S. Economy: A Brief Update, 2017, https://www.api.org/-/media/Files/Policy/LNG-Exports/API-LNG-Update-Report-20171003.pdf*; NERA, *Macroeconomic Outcomes of Market Determined Levels of U.S. LNG Exports*, 2018, https://www.energy.gov/sites/prod/files/2018/06/f52/Macroeconomic%20LNG%20Export%20Study%202018.pdf; Energy Ventures Analysis, *Winter Outlook for Natural Gas*, Oct. 2021, https://www.ngsa.org/wp-content/uploads/sites/3/2021/10/EVA-NGSA-Winter-2021-2022-Natural-Gas-Executive-Summary.pdf; Moody's Analytics *Economic View United States GDP Forecast*, Sept. 30, 2021, https://www.economy.com/economicview/indicator/usa_gdp/EB1707EE-D1F2-4627-A262-FCDF27266DA7/United-States-GDP; Potential Gas Committee, *Potential Supply of Natural Gas in the United States Biennial Report*, Dec. 31, 2020, http://potentialgas.org/press-release; U.S. Energy Information Administration, *Today in Energy*, Dec. 16, 2021. https://www.eia.gov/todayinenergy/detail.php?id=50678