



JUST THE FACTS



The Facts on Appalachian Basin Markets & Manufacturing

Our Just the Facts for September highlights the current and emerging market opportunities for natural gas produced in the Appalachian Basin. These opportunities include a growth in manufacturing, increased chemical and plastics production, increased LNG exports, and the advancement of long-term projects like the regional hydrogen storage hub. The dynamic nature of the region's natural gas development, transportation, storage and marketing is becoming more fluid. The significant potential for growth, increased economic opportunity and continued benefit to local communities and the environment are some of the demanding attributes showcasing the opportunities for the natural gas market. The landscape is also not without its challenges, including legal and regulatory hurdles, workforce turnover and development, and geopolitical forces far beyond the region.

The Potential for LNG and Hydrogen Storage

The U.S. increased liquified natural gas (LNG) exports by 12 percent in the first half of 2022 against exports in the second half of 2021, averaging 11.2 billion cubic feet per day (Bcf/d). According to the Energy Information Administration, these exports continue to grow for three reasons—increased export capacity in the U.S., increased international natural gas and LNG prices, and increased global demand, particularly in Europe. The second half of 2022 is expected to see a slight decline in U.S. exports, due primarily to an extended outage at the Freeport, Texas, LNG facility which accounts for 17 percent of U.S. exports.

This summer also saw the announcement of early plans by New York-based Penn America Energy, LLC, to build an LNG export facility along the Delaware River in Chester, Delaware County, with a potential annual capacity of seven million metric tons of LNG. While a rough completion date of 2027-28 is far off, it reflects a positive long-term outlook for continued supply and demand for natural gas from Pennsylvania wells.



The Department of Energy's initial \$8 billion in funding available through the federal Infrastructure Investment and Jobs Act initiated the process of developing four hydrogen hubs in the nation, providing another prominent future development opportunity. A consortium of large energy producers, users and multi-national technology companies was formed in southwestern Pennsylvania in 2021 to pursue available federal funding. The consortium filed an Implementation Strategy Request for Information with the DOE in March to research the feasibility of a hydrogen hub in the Appalachian Basin. The initiative was endorsed by Gov. Tom Wolf in May, and funding to support the effort is included in the state's fiscal year 2022-23 budget.

CNG Vehicles

While the manufacturing and sale of electric vehicles has dominated recent headlines, the number of compressed natural gas vehicles around the world is expected to grow. Currently, there are approximately 175,000 CNG vehicles on the road in the U.S. Globally, the value of the CNG market was about \$9.9 billion in 2020, with projections to grow to \$22.3 billion by 2030, an 8.2 percent annual increase. An analysis of fuel costs showed CNG is less expensive than competing fuels, with the difference ranging from 35-75 percent compared to diesel and gasoline; 20 percent compared to electric; and about 60 percent compared to gasoline-electric hybrid fuel options.

Royal Dutch Shell's Beaver County Cracker

Final plans are being made by Royal Dutch Shell to commence operations at its Beaver County petrochemical facility, including the company's virtual public meeting at the end of August to detail the plant's "path to startup."

Infrastructure

While challenges to infrastructure and pipeline development remain, the Appalachian Basin received positive news recently with an agreement in Congress to facilitate the permitting of the Mountain Valley Pipeline (MVP). The pipeline is expected to provide more than 2 Bcf/day of natural gas to the southeastern U.S. upon completion. That was accompanied with the Federal Energy Regulatory Commission's decision to provide up to four years of additional time for completion of the project. Equitrans Midstream has targeted mid-2023 for MVP to go into service, which will provide a significant market for natural gas from Pennsylvania, Ohio and West Virginia.



Marcellus to Market Conference: October 19

PIOGA will host a one-day conference on a range of marketing, manufacturing and development topics in the Appalachian Basin on October 19, 2022, at Hollywood Casino at The Meadows in Washington County. Learn more about the issues briefly discussed here – and much more – by joining us for this informative look at current and future opportunities in our region and beyond. More information, including the full agenda, can be [found here](#).

Focus on CNX's Mentorship Academy

The CNX Foundation launched its Mentorship Academy in 2021 to provide career development assistance to economically disadvantaged urban and rural high school students who do not plan to immediately attend a four-year college. Under the program, students meet monthly with their mentors to learn more about careers in a diverse number of fields, including energy and skilled trades, that can provide upward mobility and opportunities without a traditional college degree. A mentor and mentee from CNX's program will discuss their experiences during a workforce development session at next month's Marcellus to Market conference. More about this innovative program can be found at www.cnx.com/about-us/the_mentorship-academy.



The Facts

Global demand for natural gas will continue to grow, making the Appalachian Basin's abundant supply an important and proven source to meet that demand. Regional cooperation among the basin's states for new investment, such as carbon capture technologies and hydrogen facilities, will be essential to make the states attractive for emerging technologies in energy, along with predictable and reasonable state and federal regulations that support all aspects of energy development.



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