

Global natural gas outlook: lower pricing, greater adoption

Natural gas expected to remain large part of energy mix. By **Brandon Johnson** & **Uday Turaga**

In July 2020, Warren Buffett's Berkshire Hathaway announced it will acquire Dominion Energy's natural gas transmission and storage business for US\$9.7 billion. The deal includes natural gas pipelines, storage terminals and a 25% stake in the Cove Point LNG terminal. Warren Buffet once said, "Our favorite holding period is forever".

While natural gas, like most commodities, won't be around forever, this deal does show that natural gas might be here for a while. Once thought of as a bridge fuel to renewable energy, natural gas has risen to prominence due to its environment friendliness, low cost and widespread availability.

This deal is yet another example of the growing role that natural gas will play in the energy mix going forward, either as a short- to medium-term bridge fuel or as a long-term backup fuel for renewable power generation.

Resource and supply outpace demand

Natural gas remained abundant in the world as production continued to outpace demand in 2019 and 2020. North America, the Middle East, Asia and Africa are expected to increase gas production moderately through 2025, while Europe and Latin America will experience a decline. Russia will

drive production growth in Europe, exporting most of its natural gas via pipelines into Europe and China.

As shown in Exhibit 1, most of the natural gas production growth came from North America, especially the United States due to the rise of shale. Production growth will be significant in the Middle East, especially in Saudi Arabia, Qatar and Iran due to the increasing production of large conventional projects. Growth through 2025 will be fastest in Africa where LNG export infrastructure developments will drive a ramp-up in natural gas production.

A large share of the gas produced will be used for exports in the form of LNG, which has seen rapid growth in recent years. Liquefaction capacity increased to 458 mtpa in 2020 and is expected to grow at 4% annually through 2025. In the near- to medium-term, natural gas production will be impacted as COVID-19 and lower oil prices

cause well shut-ins due to capex cuts and tighter spending. Going forward, the underlying market drivers remain in place as there is a vast resource base of natural gas around the world. While the market has shown instability in 2020, it is expected to rebound and experience a steep recovery in 2021.

Global gas demand growth accelerating

There are three primary drivers for natural gas demand growth globally. Growing societal and, therefore, policy and regulatory pressure towards decarbonization and environmental quality improvements; regional interest in energy supply security; and declining natural gas prices. Coal-to-gas switching continues to be a strong driver for natural gas demand but will have to compete with renewable power generation.

Although interest in natural gas has

NATURAL GAS PRODUCTION

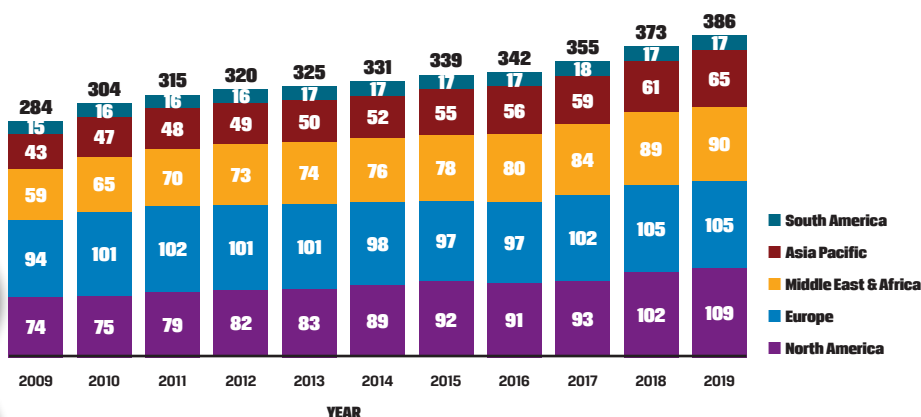


EXHIBIT 1 Natural Gas Production by Region in Billion Cubic Feet per Day.

SOURCE: IGU, ADI

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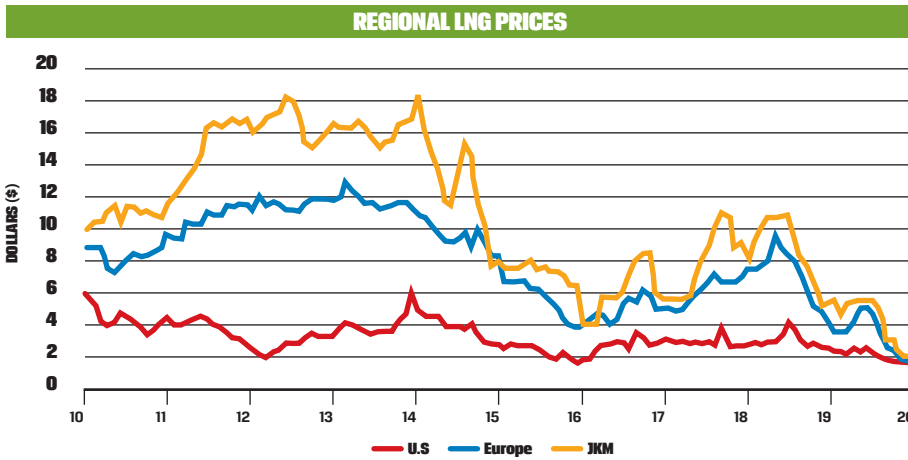


EXHIBIT 2 Regional LNG Prices in USD per Million Btu.

SOURCE: World Bank, EIA

increased, demand growth declined due to milder temperatures and the economic disruption of COVID-19. This is particularly true in the United States where natural gas demand growth fell slightly but its overall share of the energy market increased due to a rapid decline in coal-fired power generation.

As countries seek to pursue decarbonization goals by switching from coal- to natural gas-fired power generation, they will expand LNG imports as we have seen in Japan, Korea and India. Beyond decarbonization policies, air pollution and quality concerns are also driving natural gas demand, especially in China, and to a certain extent in India. China is expected to drive demand growth post-COVID as its coal-to-gas conversion program has driven natural gas infrastructure investments.

Demand growth will be limited in Latin America and Africa, where fuel-switching and changes in power generation needs are slowly driving demand.

Ensuring a secure supply of energy has also been a major driver for natural gas demand growth. This is particularly true in Europe where natural gas is seen as a near-to medium-term solution to diversify supply risk and improve energy supply security. Emerging markets (Latin America and Africa) will benefit from low natural gas pricing, which will drive demand growth as low prices encourage gas-consuming infrastructure investments.

Lower LNG pricing will accelerate demand

Low Henry Hub feedstock prices have allowed new U.S. LNG exporters to disrupt the traditional pricing formulas where LNG prices were indexed to oil prices. Instead, U.S. exporters now offer LNG that is linked to the Henry Hub benchmark price of natural gas, which is expected to remain below US\$3 per Btu for the foreseeable future. The abundance of natural gas coupled with technological advancements has contributed to falling LNG prices globally. Those prices will likely stay lower for longer due to surplus supply. LNG prices fell sharply and ultimately collapsed to historic lows in 2020 as shown in Exhibit 2, driven by the pandemic.

Power generation is the primary end use for natural gas, but declining prices will promote growth in the adoption of natural gas as an alternative fuel (CNG and LNG) in applications such as trucking, marine and rail. Overall, LNG supply growth will primarily come from North America, Europe and Africa, led by a few megaprojects – Golden Pass, Arctic LNG and Mozambique LNG, respectively. These projects are expected to capture rising demand in Asia and the Middle East, where regasification capacity has been steadily increasing as these regions seek cleaner energy solutions. A relative view of supply and demand growth in key regions is illustrated in Exhibit 3.

Finally, LNG drives international natural gas trade. Slower growth in natural gas demand post-COVID will widen the gap between demand and supply as liquefaction capacity will outpace incremental demand.

In summary, natural gas production will continue to rise due to its cheap and abundant resource base. Regulations, particularly in Europe and China, drive global demand for natural gas. Declining natural gas prices are driving interest in LNG in emerging countries. Power generation accounts for the bulk of natural gas demand but its use as CNG or LNG in applications such as trucking and marine is increasing. Lastly, the impacts of COVID-19 will be felt in energy markets through 2025 but natural gas will continue to play a key role in the global energy mix. **CT2**

LNG SUPPLY AND DEMAND			
REGION	SUPPLY GROWTH	DEMAND GROWTH	KEY PROJECTS
AFRICA	■	■	- Mozambique LNG trains 1-2 are poised to come online by 2024, adding 12.88 mtpa of additional liquefaction capacity
ASIA-PACIFIC	■	■	- BP's Tangguh train- 3 3.8 mtpa liquefaction project in Indonesia will be completed in 2021 - Nong Fab LNG's mega-regasification project will import 7.5 mtpa of LNG
EUROPE	■	■	- Liquefaction growth (19.8 mtpa) will come from Russia with its Vysotsk, Yamal train-4 and Arctic LNG projects
LATIN AMERICA	■	■	- Acu Port LNG has the largest Latin American regasification project planned for Brazil at 5.6 mtpa
MIDDLE EAST	■	■	- Qatar's North Field Expansion trains 1-4 are awaiting FID and are poised to come online in 2021
NORTH AMERICA	■	■	- Golden Pass LNG's megaproject will add 15.2 mtpa of capacity by 2025

EXHIBIT 3 Relative LNG Supply and Demand Growth by Region