



Global natural gas outlook: steep recovery, moderate growth

The European Commission in July 2021 released far-reaching plans to help the region cut greenhouse gas emissions by 55% in 2030 and attain net zero status by 2050. Although a number of hard-to-abate industries such as steel and fertilizers will be regulated, oil and gas were excluded from the scope of these regulations at this time.

However, leading natural gas producers are embarking on a number of initiatives – flaring cuts, carbon-neutral LNG, “responsible” gas procurement, and fugitive emission leak reductions to name a few – to burnish the relative carbon competitiveness of natural gas amidst growing societal demand for cleaner energy.

While all long-term energy mix scenarios forecast a substantive role for natural gas even in 2050, the industry faces a number of challenges and pressures that

The impacts of COVID-19 will be felt in energy markets through 2025. By Panuswee Dwivedi and Uday Turaga

will collectively drive change from where it stands today.

Gas supply will rebound in 2021 and show moderate growth

Global natural gas production dropped by almost 2.5% or 10 billion cubic feet per day in 2020 impacted by reduced demand due to the COVID-19 pandemic and resulting economic recession.

As shown in Exhibit 1, Europe suffered the maximum production loss in 2020 led by domestic as well as export demand reductions during the pandemic. Demand recovery in 2021 and growth in emerging markets from continued displacement of coal with natural gas will drive gas supply growth although most of it will mainly come from projects already under development. Europe, mainly led by Russia, followed by Middle East, Africa, North America, and Asia Pacific are collectively expected to grow at 7-9% through 2025.

North American gas supply growth will

mainly be driven by U.S. LNG exports of natural gas produced primarily from plays such as Appalachian and Permian. European gas production growth will be driven by Russia, which will benefit from projects such as the Power of Siberia and Nord Stream 2 pipelines, and the Yamal and Arctic LNG 2 plants.

Azerbaijan will also increase its capacity to accommodate the start-up of the Trans Anatolian Natural Gas Pipeline (TANAP) and Trans Adriatic Pipeline (TAP) pipelines to Europe. Middle East and Africa will also contribute to the gas production growth driven by number of large-scale conventional gas exploration projects including Qatar’s North Field/South Pars offshore field that will meet scheduled start-up of expanded LNG capacity.

While the Mozambique LNG export project has been postponed, other export-driven projects in Africa such as Grand Tortue Ahmeyim will support gas production growth. Latin America is expected to regain 2019 supply levels by 2024 while Asia Pacific will be driven by domestic gas production growth in China and some growth from India and Australia.

After some instability in 2020, global natural gas production is expected to rebound and experience a steep recovery in 2021 and show moderate growth over the medium term.

Global gas demand growth is accelerating

Three primary drivers for global natural gas demand growth continue to support the

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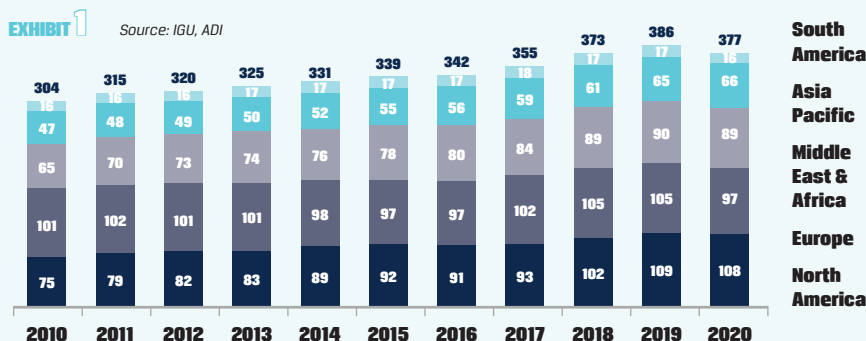
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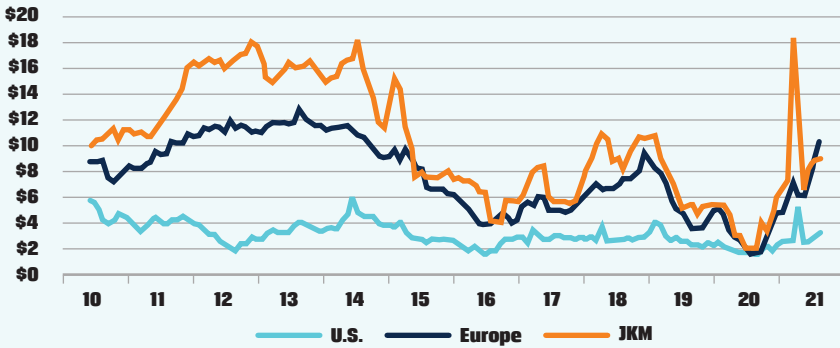
NATURAL GAS PRODUCTION BY REGION IN BILLION CUBIC FEET PER DAY



REGIONAL LNG PRICES IN USD PER MILLION BTU

EXHIBIT 2

Source: World Bank, EIA



market. 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 whose costs are falling rapidly. Global natural gas demand dropped by 1.9% in 2020 due to the COVID-19 pandemic and resulting global economic recession. Globally, natural gas demand will be dominated by the industrial sector, demand mainly coming from using natural gas as a fuel as well as feedstock for petrochemicals and fertilizers industries. In terms of growth, Asia Pacific will dominate, followed by Middle East. This trend will continue in the United States, where gas prices are expected to rise. In fact, natural gas prices in the summer of 2021 were the highest for the same season since 2014. Gas demand in Canada will also grow because of fuel switching in power generation.

Demand in Europe was impacted by a decline in domestic and export sales in 2020 but is expected to pick up mainly driven by Russian exports to China and Europe. In the Middle East, gas demand will be driven by Iran and Saudi Arabia followed by Iraq and Israel in power generation and water desalination applications.

African gas demand will be driven by Egypt, Algeria, and Nigeria, mainly for power generation. South American demand will be driven by Argentina and Brazil in remote power applications. Gas as a transport fuel is also expected to grow, primarily in Asia, as LNG for trucks and marine transportation

although demand in industrial and power sectors will dominate the Asia Pacific market.

Competitive LNG pricing will accelerate demand

Despite the recent rise in prices, U.S.-sourced natural gas continues to be very cost-competitive globally. These low 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.

The abundance of natural gas coupled with technology advancements has contributed to falling LNG prices globally and, they will likely stay lower for longer due to

surplus supply. LNG prices fell sharply and ultimately collapsed to historic lows in 2020 driven by the COVID-19 pandemic but are rising now as shown in Exhibit 2.

Power generation is the primary end use for LNG and stabilizing prices will promote growth in its adoption as an alternative fuel in applications such as trucking, marine, and rail. Overall, LNG supply growth will primarily come from North America Europe, and Middle East led by a few megaprojects, e.g., Golden Pass, Arctic LNG 2, and North Field Expansion project. A relative view of supply and demand growth in key regions is illustrated in Exhibit 3.

Finally, LNG continues to be driven by LNG and the market is constantly evolving as the LNG market matures. Market insecurity and growing concerns against fossil fuels, including natural gas, has created a gap in supply and demand, leading to lower utilization rates and increased pricing pressure. Buyers recognize the surplus of natural gas in the market and are committing to shorter term contracts with volume and destination flexibility.

In summary, natural gas production will continue to rise due to its cost-competitive and abundant resource base. Global demand for natural gas is being driven by regulations, particularly in Europe and China. **CT2**

REGION	SUPPLY GROWTH	DEMAND GROWTH	KEY PROJECTS
NORTH AMERICA	High growth	Medium growth	Golden Pass LNG's megaproject will add 15.2 mtpa capacity by 2025
SOUTH AMERICA	Low growth	Low growth	Acu Port LNG, the largest Latin American regasification project in Brazil at 5.6 mtpa started up earlier this year
EUROPE	High growth	High growth	LNG supply growth of 19.8 mtpa comes from Russia's Vysotsk, Yamal train-4, and Arctic LNG projects, last of which will start-up by 2025, sooner than planned earlier
MIDDLE EAST	Medium growth	High growth	Qatar Petroleum made final investment decision (FID) for North Field Expansion project with 33 mtpa capacity
AFRICA	Medium growth	Medium growth	Mozambique LNG with 12.8 mtpa capacity has been indefinitely suspended Ghana imported first LNG at its 1.7 mtpa LNG floating regasification unit (FRU) this year
ASIA PACIFIC	Medium growth	High growth	BP Tangguh train-3 3.8 mtpa liquefaction project in Indonesia has been delayed till mid-2022 Nong Fab LNG's 9 mtpa facility in Thailand is on track for a 2023 start-up

EXHIBIT 3

● Low growth ● Medium growth ● High growth