US Growth Limited as Producers Remain Capital Disciplined

US dry gas production rose to a two-year high at around 96 Bcf/d in November 2021. Gas production was slightly higher than this level back in November and December of 2019 at just over 97 Bcf/d. Production has been steadily increasing since the February 2021 winter storm when production took a nosedive in Texas due to freeze offs. The increase in gas production helped gas plant LPG production increase 2% in 2021 to 81 MMt/y. The growth was down from 4.5% in 2020 and nearly 13% in 2019. Production growth in 2021 would have been about 4% without the winter storm, according to Poten estimates.

The big question is whether US gas plant LPG production will see a higher growth rate in 2022 even though the recovery in energy prices has not brought back in earnest drilling activity as one would typically expect. In recent surveys and earnings calls, producers have indicated that they plan to keep expenditures low and slowly increase production throughout 2022 in order to focus on shareholder returns. There are also uncertainties about global macroeconomic conditions, changes in consumer behavior and disruptions due to new variant of Covid-19, all of which US dry gas production can affect energy demand and make decisions to increase investments difficult.

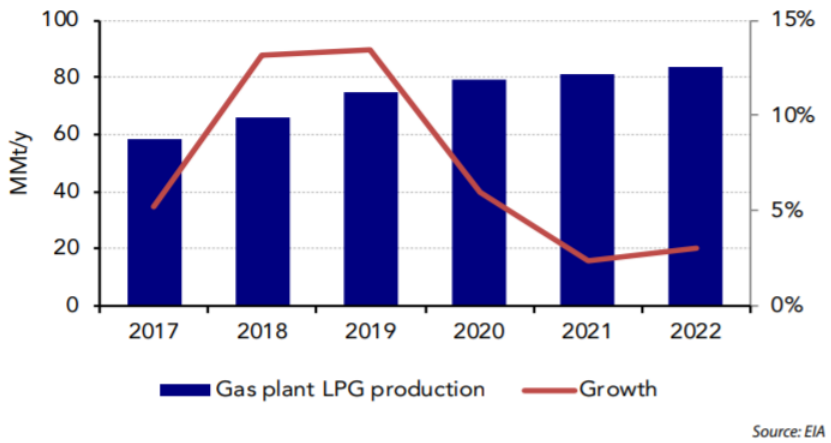
US dry gas production

These challenges were evident in 2021; however, US producers managed to increase production despite cutting capital expenditures by depleting the inventory of drilled but uncompleted wells (DUC). There is a limit to how much additional production can be added this way given the limits on the number of DUCs remaining. The number of DUCs at the end of November was 4,855, down 37% from the end of 2020, according to the US Energy Information administration (EIA). Nearly half of those DUCs were from the Permian basin which drove most of the production growth.

Meanwhile, the increases in drilling activity have been more tepid. US producers have added 235 rigs in 2021 increasing total rig count to 586 at the end of the year, still down 27% from end-2019 numbers. Roughly 50% of those new rigs were deployed in the Permian basin.

Given these uncertainties in its latest Short-Term Energy Outlook, the EIA projected that US crude oil production will average 11.9 MMb/d in 2022, 6% higher than 2021 but will still remain 4% lower than 2019 average production. Production is forecast to increase to 12.1 MMb/d in 2023. The agency projects US dry gas production will average 96 Bcf/d in 2022, 3% higher than 2021.

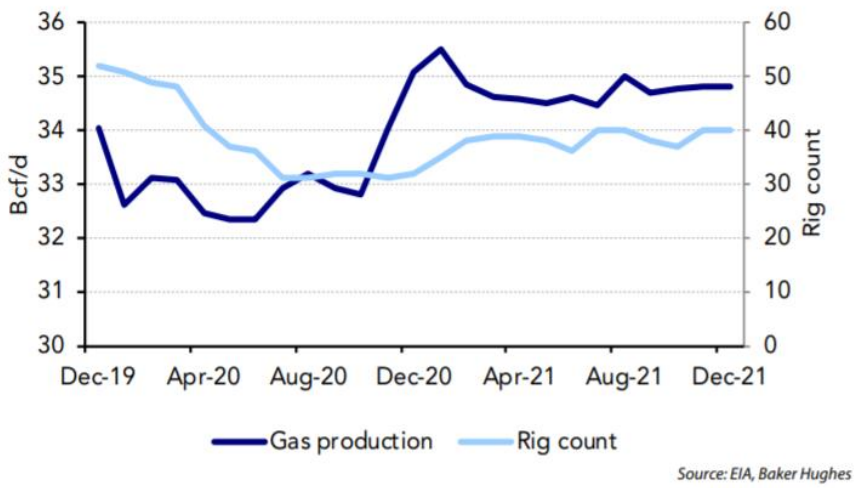
US gas plant LPG production



Poten estimates gas plant LPG production will increase 3% in 2022 to 83.5 MMt/y and will increase another 5% in 2023 to about 88 MMt/y. Production could be higher in 2022 if producers increase drilling at faster rate than what have been seen in recent months.

Pipeline takeaway capacity for natural gas is also filling up in the Appalachia basin (Marcellus/Utica) and Permian basin which is also a concern for future growth. There is a need for new natural gas pipeline to fuel growth, especially in the Appalachia region. However, completing a new pipeline project in the US Northeast has been a challenge for midstream companies given objections of the local population and governments.

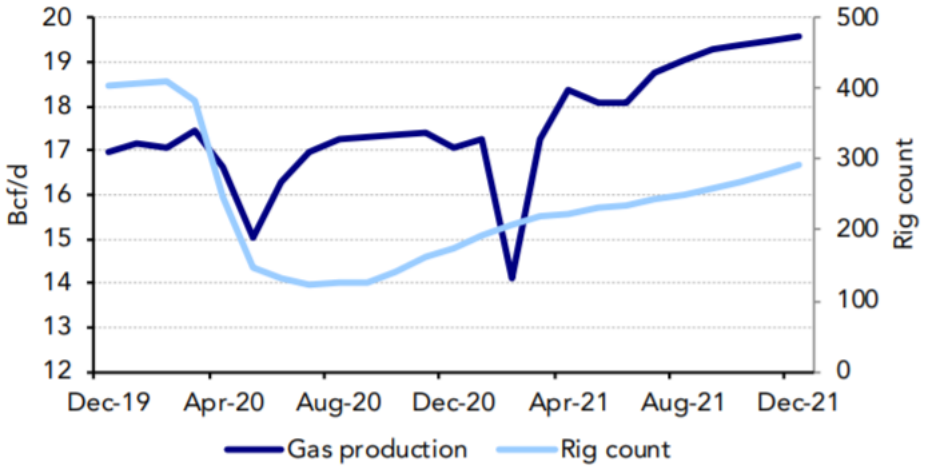
Appalachia gas production vs rig count



The constraint is evident in drilling activity and production numbers. Rig count in the Marcellus and Utica has increased by 25% in the past year compared to 67% increase in the Permian and over all US rig number. Natural gas production from the Appalachian region in November was about 34.8 Bcf/d, down 1% from end 2020 production, while production from the Permian was up 14% during the same time period.

There were two new pipelines added in the Permian in 2021. The 2.1 Bcf/d Permian Highway in January 2021 and 2 Bcf/d Whistler in July. Several gas processing plants and NGL pipelines increased production of LPG. More pipeline capacity will be needed as most drilling is now focused on the region; however, midstream companies are reluctant to announce new projects without firm commitments from producers.

Permian gas production vs rig count



Source: EIA, Baker Hughes

Midstream companies are also showing financial discipline. Rather than announcing new projects, they are increasing gas gathering and processing capacity by relocating processing plants and enhancing capacities of existing pipelines and processing plants. This should allow near-term growth in the Permian, but new infrastructure will be needed in the coming years.