



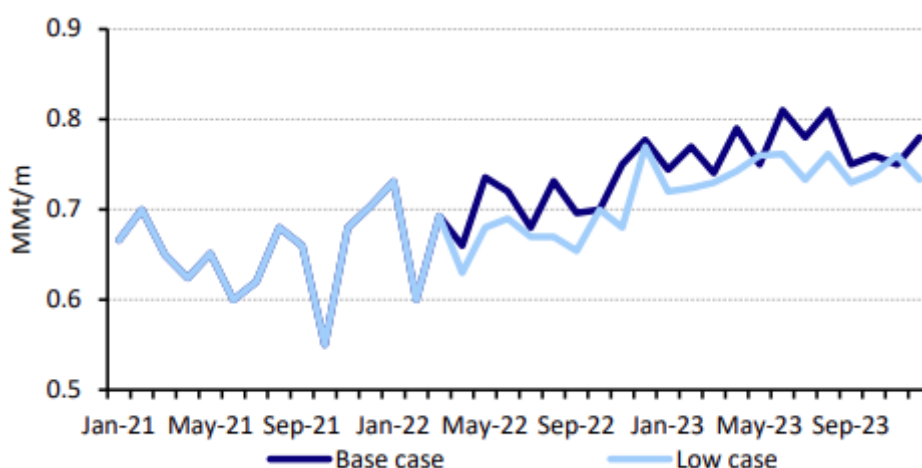
LPG Market Outlook

Attacks cloud Saudi Arabia's LPG export growth forecast

In late March, a drone strike targeted an LPG facility in the city of Yanbu, Saudi Arabia operated by Saudi Aramco. Amin Nasser, CEO of Aramco, said that there was no disruption of LPG supply, and it is assumed that LPG exports will continue as the base case forecast suggests.

A brief ceasefire was established between the Yemini Houthis, who claimed responsibility for the attacks, and Saudi Arabian officials soon after. However, reports indicate the ceasefire did not last. If no LPG producing or export infrastructure is targeted in the future and oil and gas production continues at its current pace, LPG exports are forecast at 8.5 MMt/y in 2022 and 9.2 MMt/y in 2023 as oil and gas production expands bringing with it higher LPG supplies.

Saudi Arabia LPG export forecast scenario



However, the ongoing dispute between the two parties is likely to continue. Additional destruction of energy infrastructure in Saudi Arabia would limit LPG exports at a time when higher Saudi Arabian supplies are critical to relieving upward pressure on global propane prices.

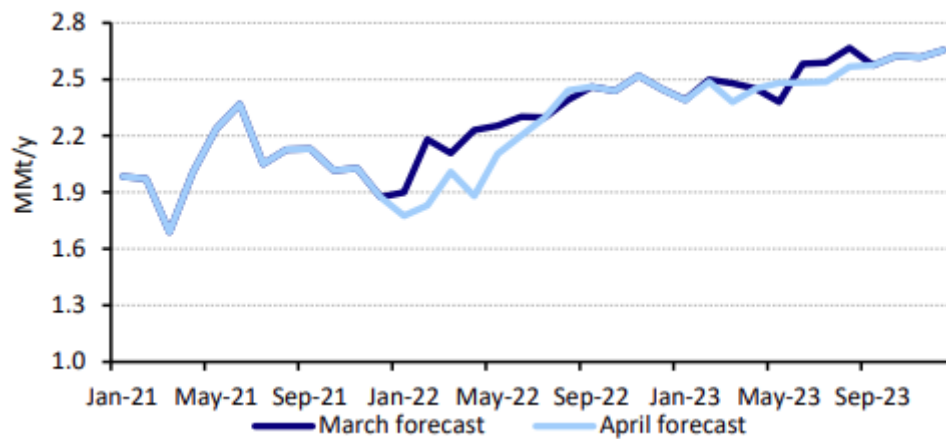
Additionally, there are questions surrounding the ability and willingness of Saudi Arabia to raise production much further in the next couple of years. In such a case where these factors are present, LPG exports may only reach 8 MMt/y in 2022 – 4% growth in the low case versus nearly 9% growth in the base case.

China's import forecast lowered on margin squeeze, lockdowns

LPG demand growth for China continues to be threatened by weak margins in the petrochemical sector. Margins have been tough for PDH operators in China since July 2021. Since that time, PDH units have adjusted by choosing to undergo maintenance, slow operating rates, or both. Despite poor margins, propane imports have continued at a relatively healthy level – between 1.8 MMt/

month to 2 MMt/month in 1Q 2022. A new round of lockdowns due to the spread of Covid-19 adds another bearish factor to the outlook for Chinese LPG imports. China's LPG imports have been lowered by about 1 MMt/y for 2022 to 26.4 MMt/y and about 300,000 t/y to 30.2 MMt/y in 2023 in this month's forecast from last month.

Changes to China LPG import forecast



2Q 2022 monthly imports are forecast to hang around the monthly average in 1Q of 2 MMt/month. It's not until 2H 2022 that imports rise above the 1Q and 2Q average. Steam crackers are cutting operating rates and the production of polypropylene due to poor margins in the same way that PDH units are cutting rates.

As the supply of polypropylene goes down and prices rise, margins for petrochemical operators should improve and create higher demand for LPG. At the same time, PDH units that began operating in late 2021 could begin ramping up operations if margins allow for it. Imports in 2H 2022 are forecast to average 2.4 MMt/month.