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LPG Fundamentals

PIEA/WLPGA LPG Summit Webinar

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Market Reporting

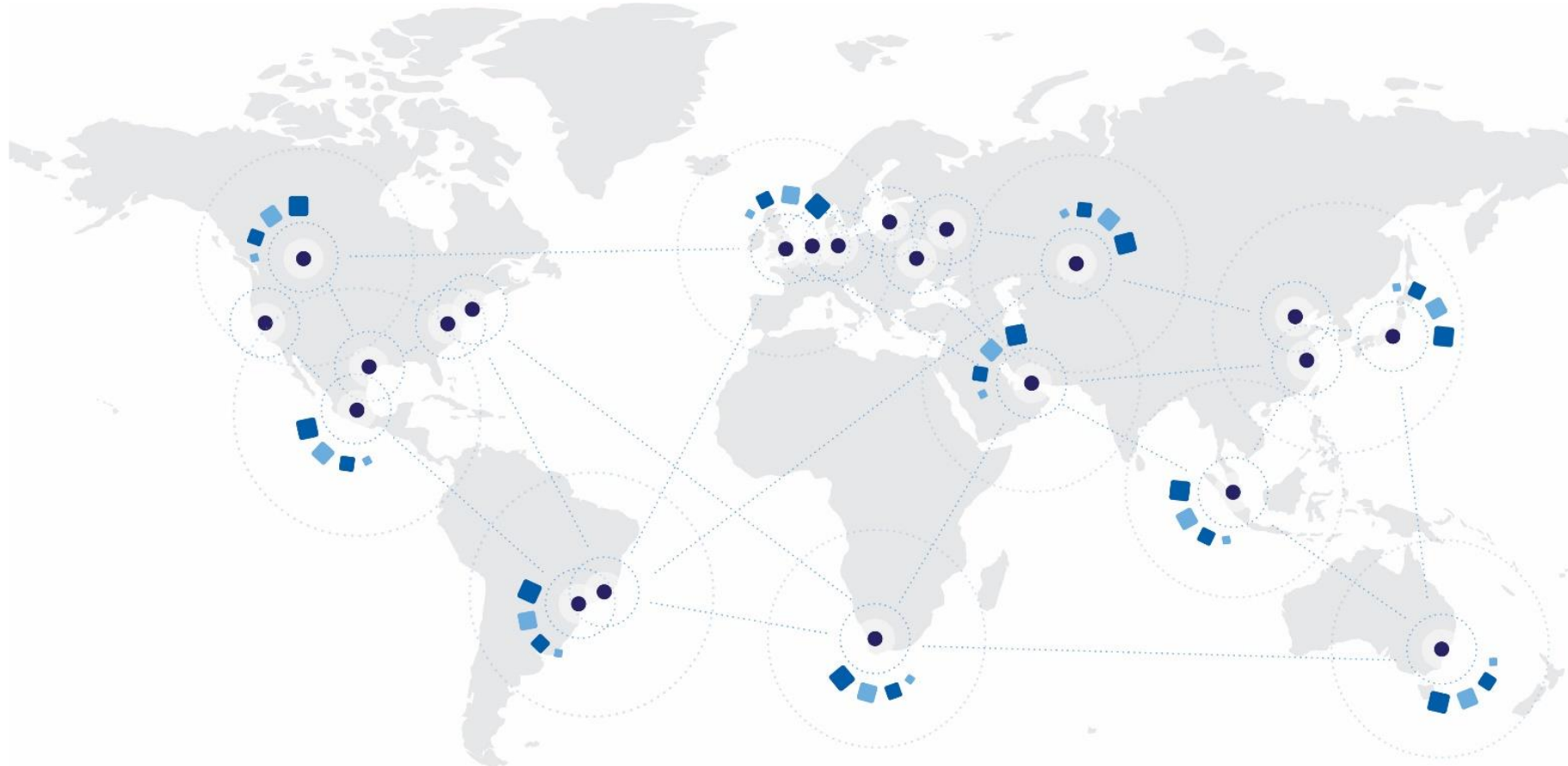
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illuminating the markets

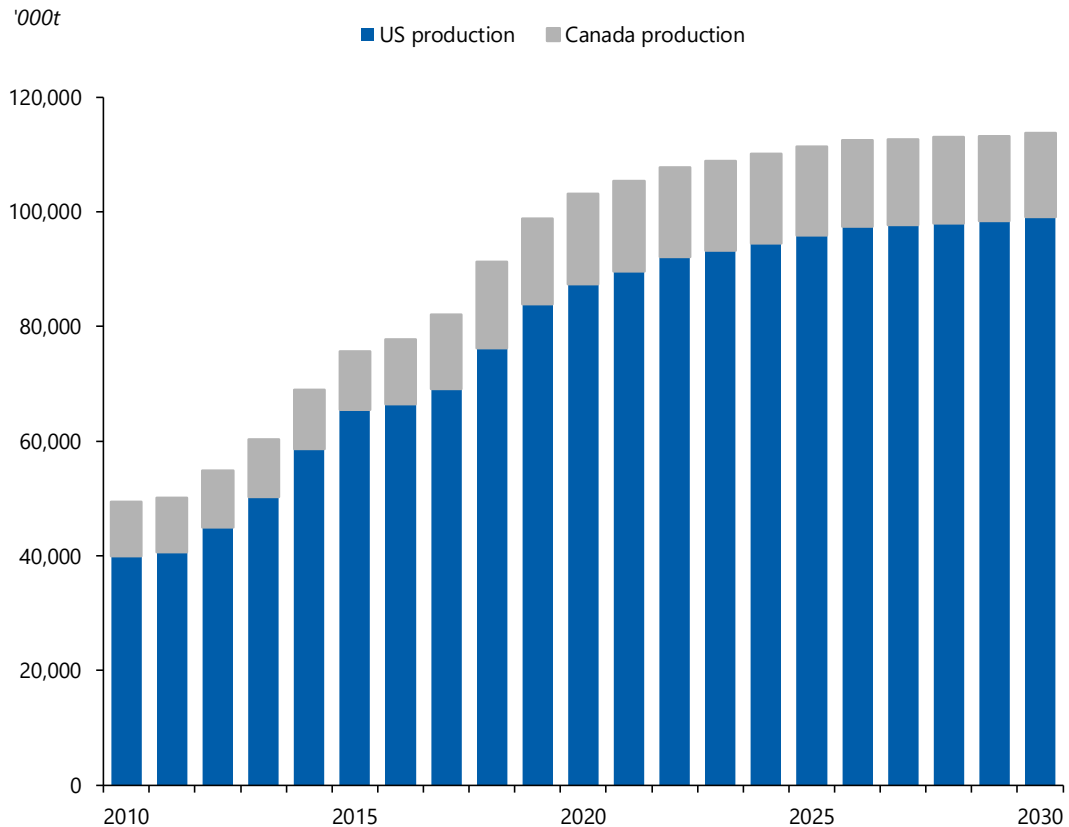
Global reach, local expertise

Argus has offices around the world's key energy and commodity producing, trading and consuming centres



Following years of strong growth, increases from the US are forecast to slow

North America: Production by country, 2010-2030

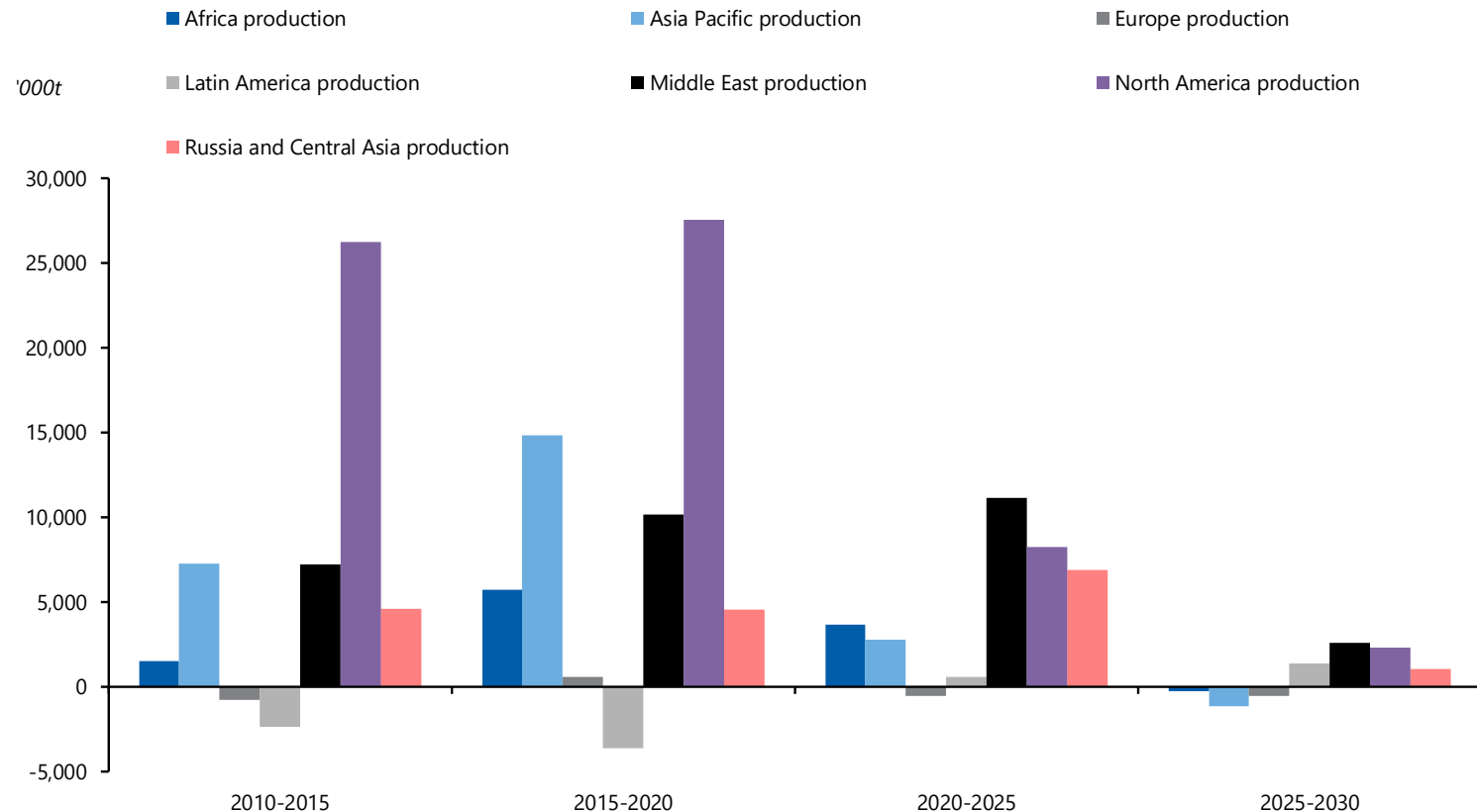


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- Increasing production from the US has long been the dominant headline and a major driver for investment with the buildout of midstream (pipeline and storage) infrastructure as well as export terminals
- Argus forecasts the region to see continued increases on the production side but the pace to cool slightly
- Export availability from the region has been a main driver of the expansion of long distance, seaborne trade and this is set to continue

The next decade should see more balanced growth

Incremental production increases by region, 2010-2030

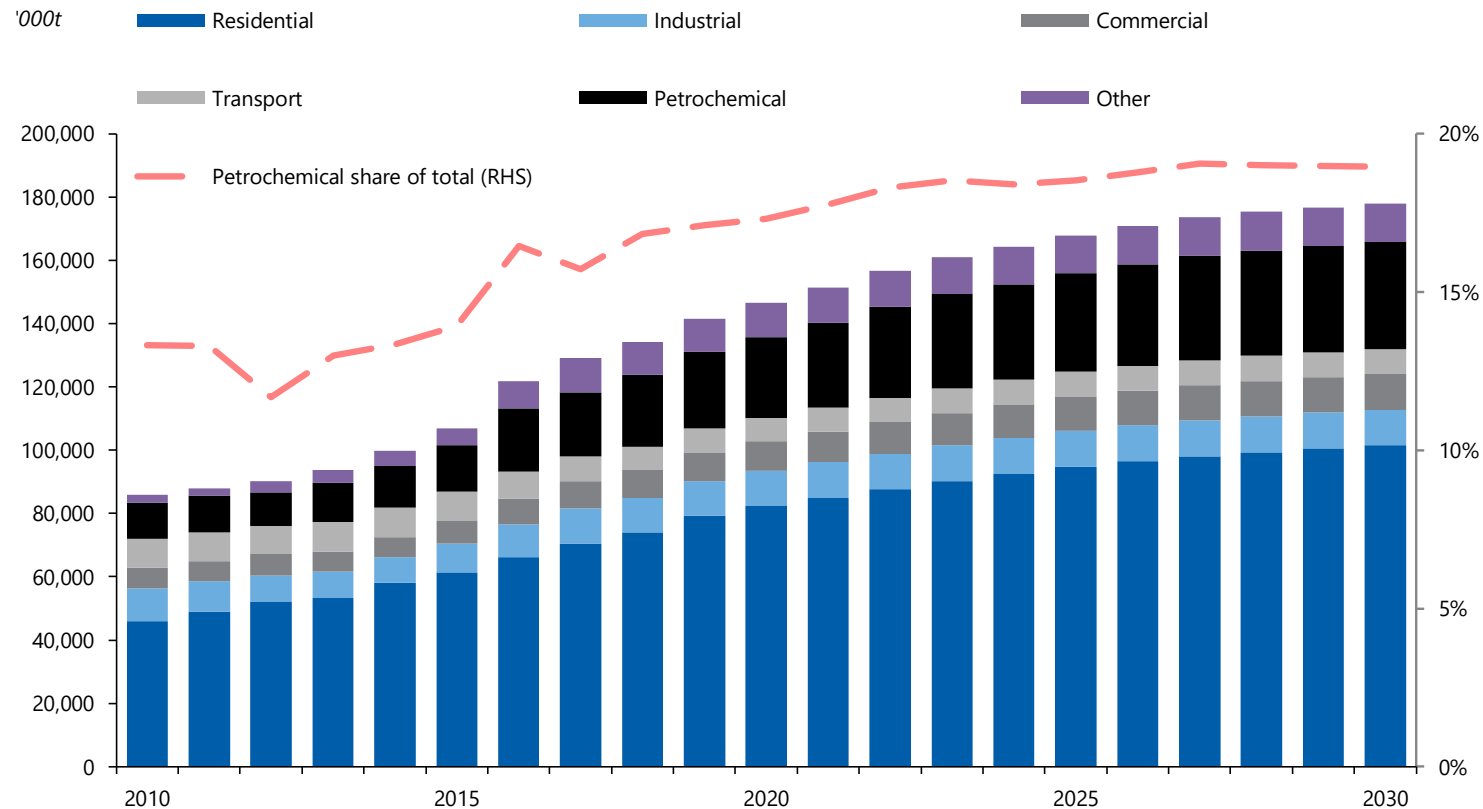


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- Argus forecasts supply from the US to continue growing but the Middle East to add even greater volumes and Russia and Central Asia to also have large gains
- Most of the forecast increases are from gas processing as demand for this commodity outpaces demand for oil
- After a decade of strong growth, the Asia Pacific region is forecast to see only small increases

Residential demand is the key driver in Asia

Asia: Consumption by sector and petrochemical share, 2010-2030



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- The residential sector represents around half of demand
- Whilst the uptake of demand in the petrochemical sector has received much attention (and driven a lot of investment) – its share of overall demand has only shifted upwards slightly

In the short term - the Pre and post COVID world is very different

Short term demand slump will need to be matched by cuts to supply

- The easing of the US-China trade war was overshadowed by a supply surge from the Middle east following the collapse of the OPEC+ agreement
- The spread of the coronavirus is forcing governments to take drastic quarantine measures. The reduction in economic activity will dampen overall demand from key consumer markets, such as petchems
- In contrast, residential demand is likely to see a rise in demand – India for eg
- A protracted low price market will force US producers to cut output

* For the countries not coloured in, these are included in 'Other Africa'

In the short term - the Pre and post COVID world is very different

- Short term key questions

- Supply
 - How will US production respond?
 - US LPG production is reliant on positive shale gas economics. Will rig counts drop and if they do will they return?
 - Can OPEC+ group reign in production? Booming OPEC+ production would crush prices
- Demand
 - Can China sustain any economic upturn?
 - Western Economies are set to post massive contractions-will this feedback loop pull down economic activity in China?
 - Can residential use make up for drop in petchem and autogas demand

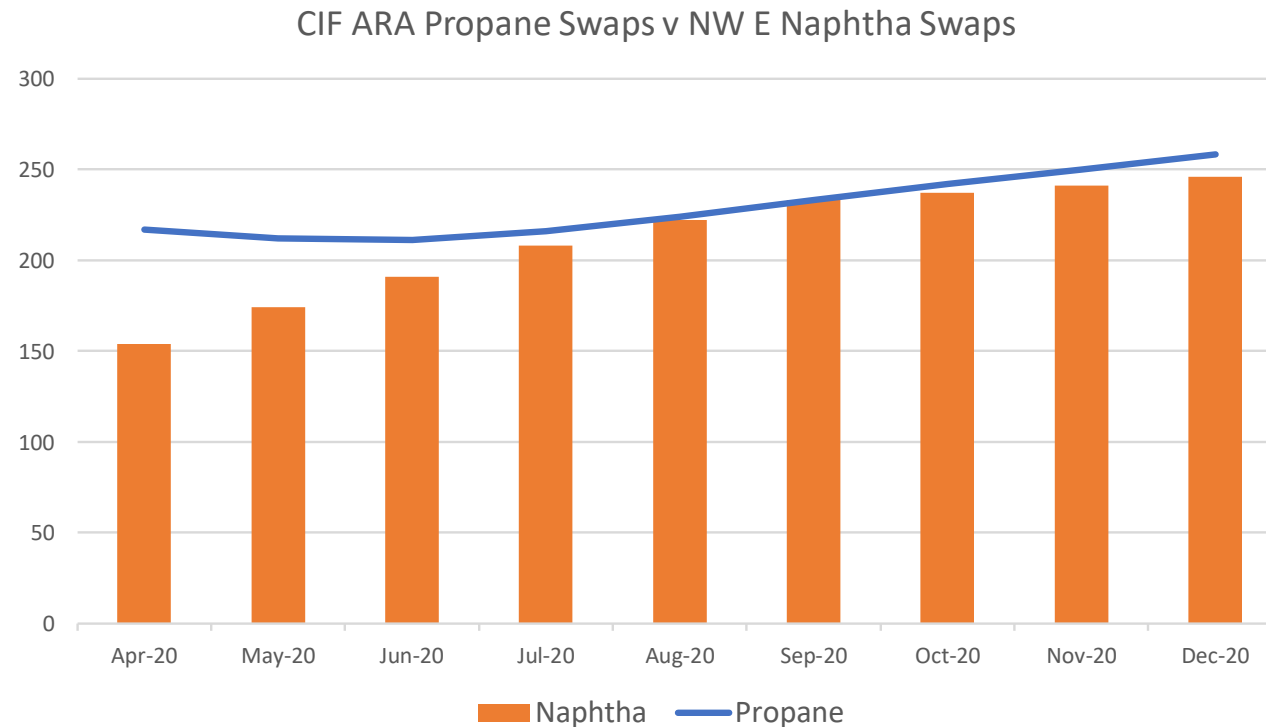
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LPG and naphtha prices have flipped

Propane swaps at a premium to naphtha swaps

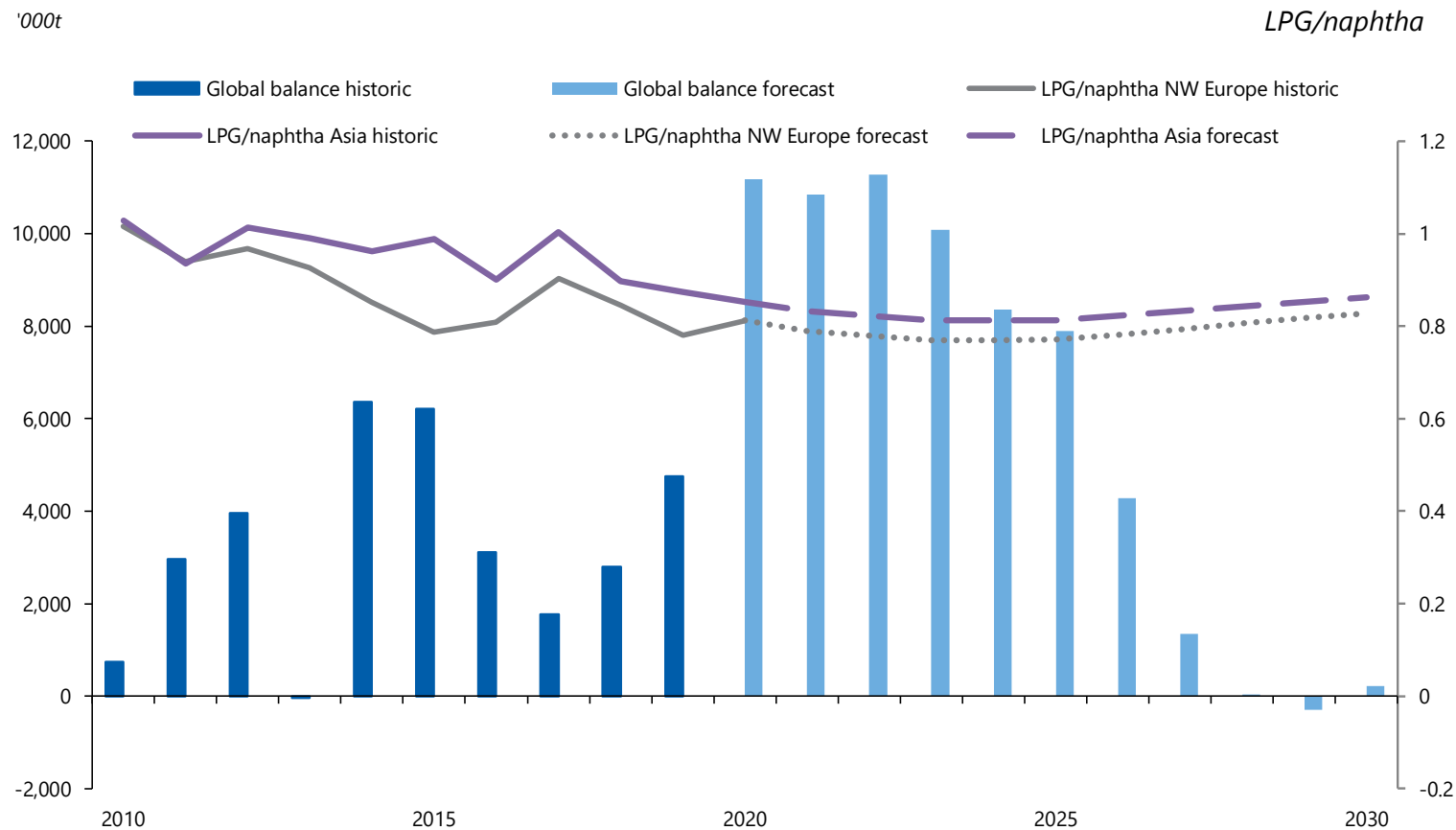
LPG/naphtha



- The collapse of gasoline demand has plunged naphtha prices to multi-year lows-this is reflected in the swaps market
- Residential demand has put a floor under LPG prices
- The weakness of naphtha and relative strength of propane has flipped LPG swaps prices to a premium

Prices set to remain low LPG could lose out to naphtha-in the short run

Global balance and LPG/naphtha price, 2010-2030



- In the near term, LPG is likely to price at a premium to naphtha-reversal
- This will reduce petchem LPG demand in western markets
- Supply cuts could halt the price collapse but the lack of demand will keep prices under pressure
- The price crash is an opportunity for developing markets

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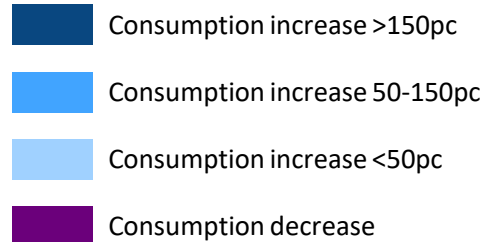


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Most markets are forecast to continue growing and long term, significant upside is possible

Africa: Consumption change by country, 2020-2030*



- Growth in LPG consumption in Kenya is driven by government policy and demographics
- Health and Environmental benefits can be huge
- Investments in infrastructure is being made and policies to regulate local suppliers
- There is significant upside potential to this forecast particularly if government policy supports development and further internal infrastructure can be built to support increased demand

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