An overview of the global LPG market and its impact in Latin America
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The Argus view

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- Indexation examples
  - US crude oil
  - US and European refined products
  - US and European natural gas
  - NGLs
  - US and European environmental markets
Agenda

• Global LPG supply/demand trends
• How is the price of LPG set around the world?
• What is the impact of the current oversupply in Latin America?
Global LPG supply and demand trends
LPG production will continue to grow until 2025

- US shale will continue to be the market disrupter
- Significant additional production and export availability also expected from other countries
- European and Asian production expected to be flat
Consumption growth will keep pace with production

- Incremental consumption will be driven by the petrochemical and residential sector.
- Other sectors are likely to remain flat.

Global LPG consumption by sector, 2010-27

- Residential
- Industrial
- Transport
- Refinery fuel
- Petrochemical
- Agricultural
- Commercial
- Other non-energy consumption

- Argus Consulting
Consumption growth will be driven by Asia

- Significant growth is forecast in south and southeast Asia due to fuel switching.
- Europe is forecast to remain flat – with declining energy markets but some additional demand from the petrochemical sector.
The next decade will be long LPG

We forecast a net structural long market until 2025.

From 2025 onwards, structural demand should match supply.

Until that time – significant and sustained price differences (arbitrages) between regions should not emerge....
Regional net positions in LPG will cause some volatility
How is the price of LPG set globally?
US shale has reshaped LPG trading flows

2017 vs 2016

US: Exports +7pc
Europe: Imports +3pc
Exports -4pc
Mideast: Exports +5pc
Nigeria: Exports +3pc
India: Imports +17pc
Thailand: Imports +33pc
Mexico: Imports +2.5pc
Brazil: Imports +4pc
China: Imports +14pc
Nigeria: Exports +3pc

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More US production will hit the market...

- US shale efficiencies and increasing rig count create an effective crude price ceiling – and are a driver for increased US LPG exports
Holding US back: Gulf coast basis distorts channel

- North American pricing used to be typically Mont Belvieu or derivative for USGC exports

- Pricing set almost entirely by domestic activity, distorting export economics:
  - Cold snaps
  - Crop drying and agriculture
  - Pipeline constraints

- Mont Belvieu arbitrage opens or closes because storage balances market when seaborne channel does not.
Delivered pricing, not MB, dominates seaborne LPG
What is the impact of the current oversupply in Latin America?
Asia, Europe and LATAM will continue to fight for US LPG

US LPG exports to Asia and Latin America

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EIA
Pricing cargoes on a cif ARA basis reduces risks.
Conclusions

• The global LPG market will remain oversupplied until at least 2025.

• Production growth will continue to come mostly from the US, whereas Asia will lead the increase in demand.

• Mont Belvieu pricing reflects the domestic supply/demand balance in the US – it is not a good representation of trade in the seaborne market.

• Seaborne markers such as AFEI and Argus CIF ARA are the most solid tools to price imports into Asia, Europe and Latin America.
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