

Fueling the Future:

Latin America's Journey in the Global LPG Market

Adrian Calcano

VP, Energy & Feedstocks – NGL & Naphtha

Chemical Market Analytics by OPIS

A Dow Jones Company

On another level...



THE WALL STREET JOURNAL.

BARRON'S

MarketWatch



CHEMICAL
MARKET
ANALYTICS
BY OPIS, A DOW JONES COMPANY

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New service: NGL & Naphtha

• Weekly coverage of propane, butane, ethane, natural gasoline, and naphtha

■ Analysis includes:

- Supply & Demand
- Inventories
- Trade
- Price with 100-day forecast
- Market Commentary

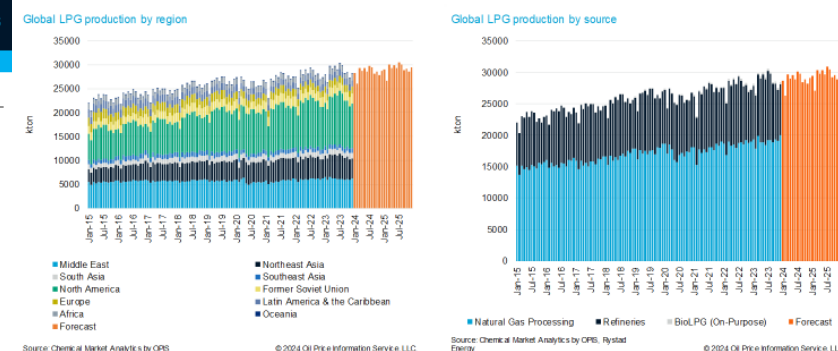
• Monthly Report

■ Analysis includes:

- Supply & Demand of more than 155 countries
- Inventories
- Trade
- Price forecast for the next 18 to 24 month
- Monthly analysis of relevant topics.



LPG: Most of the supply growth continues to come from natural gas processing
Other than North America and the Middle East, there is little growth in LPG production elsewhere.

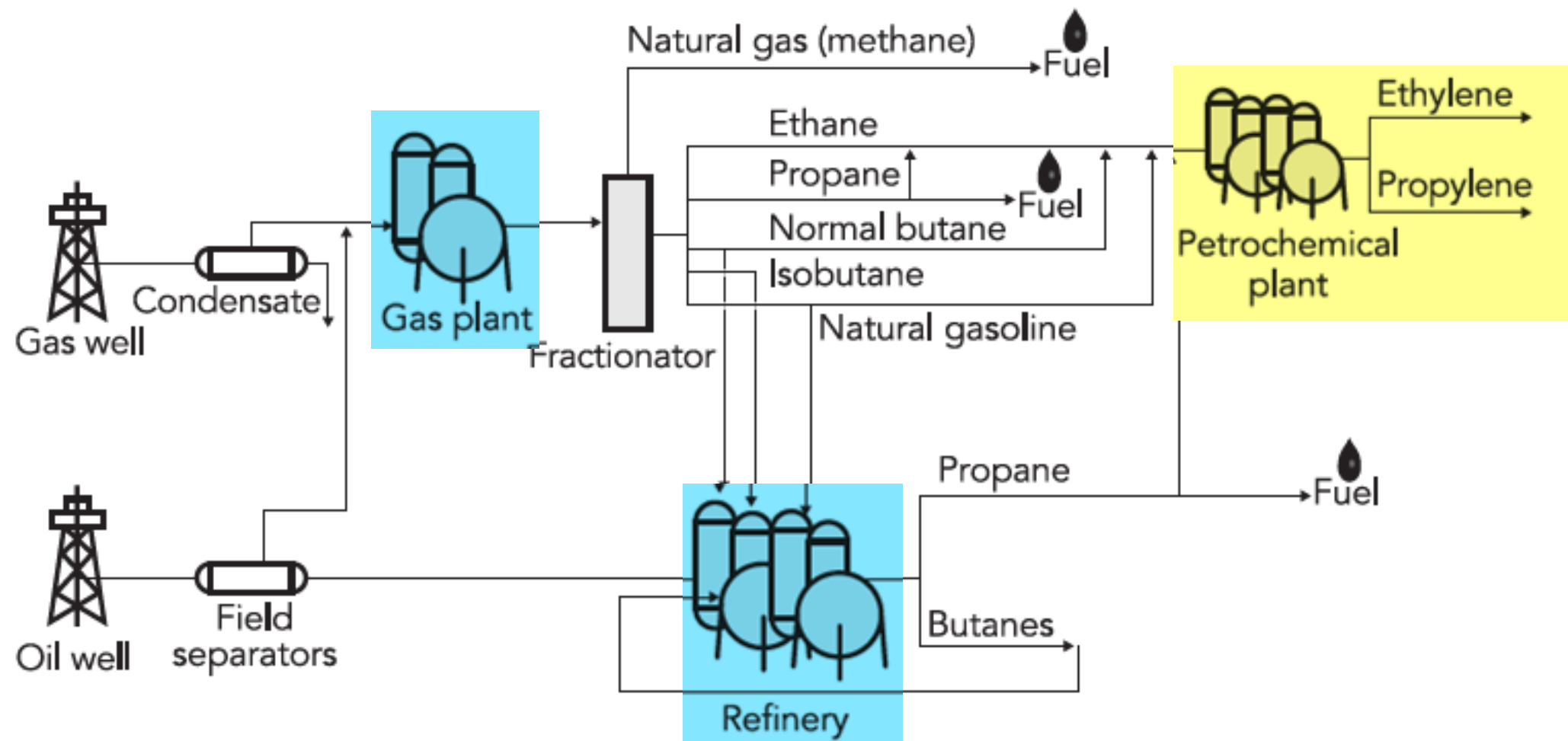


LPG: Top global trade routes (November 2023)



NGL – Market Fundamentals

NGL supply and Demand...




Source: Natural Gas Liquids: A Nontechnical Guide, William Leffler

NGLs are a byproduct.



Supply does not respond to demand, but demand does respond to supply




The price is set by the last consumer



Different consumer sectors grow and consume the product in different ways



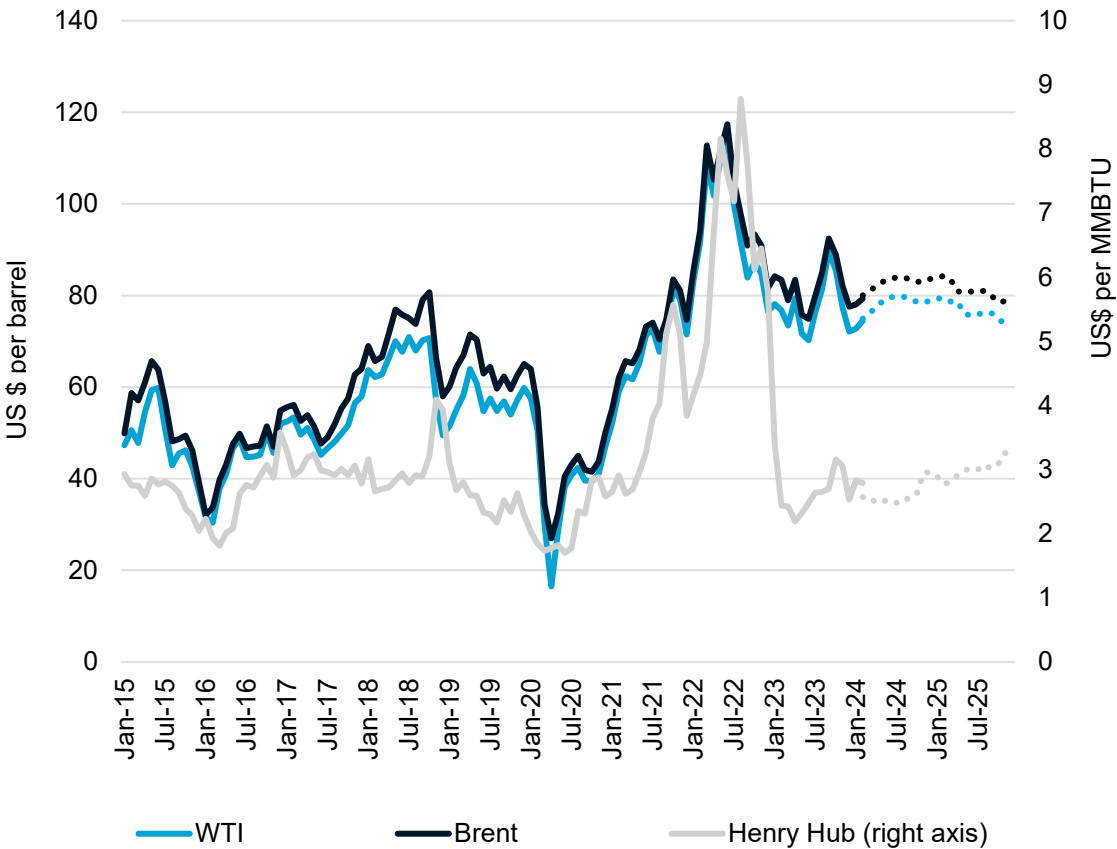
Certain consumer sectors do have substitutes and can jump from one to another easily, other sectors do not.



The consequences on price and supply are felt by all.

Market Drivers: Crude, natural gas, & the economy

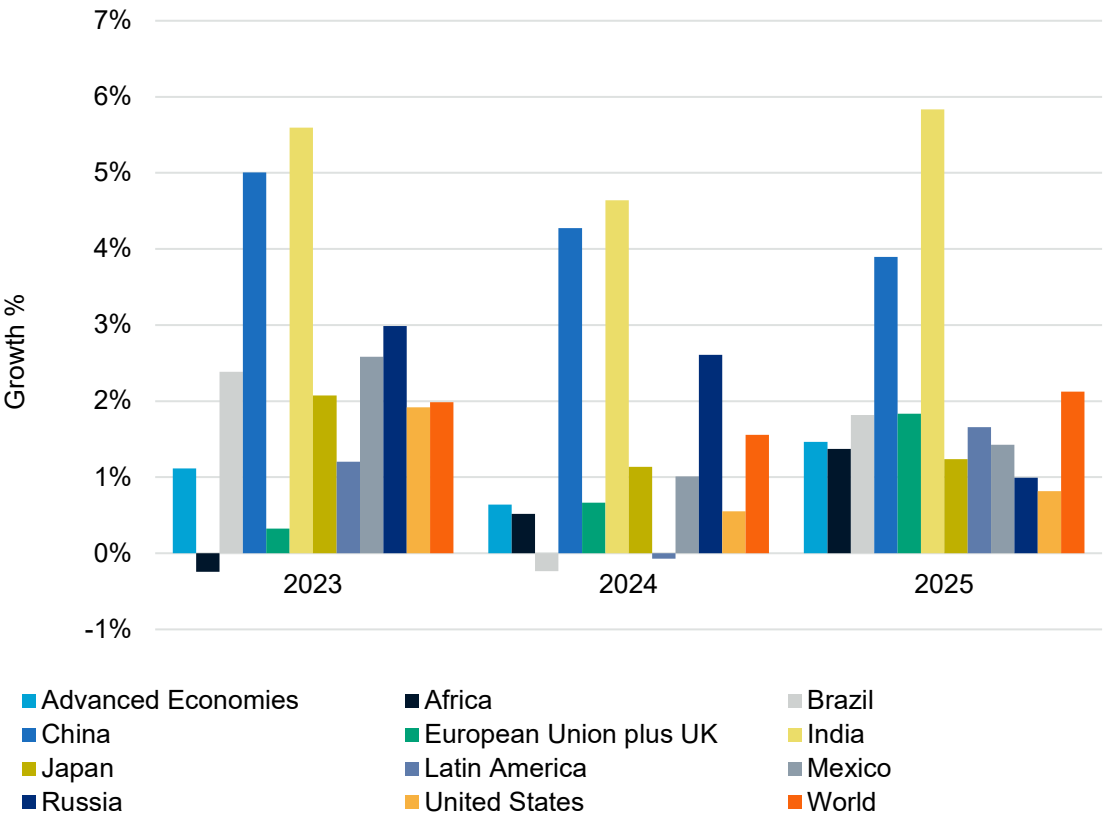
NGL price drivers: crude oil and natural gas



Source: Chemical Market Analytics by OPIS

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GDP per capita growth



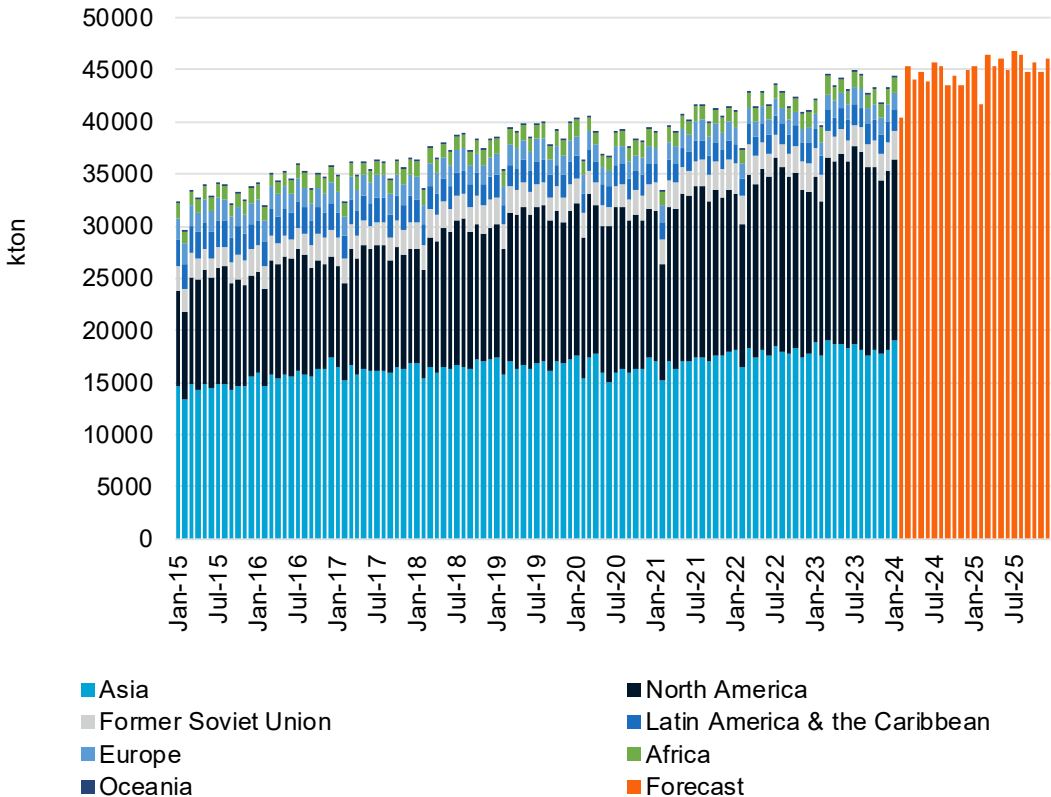
Source: Chemical Market Analytics by OPIS, Oxford Economics

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Global Balance

Global NGL production

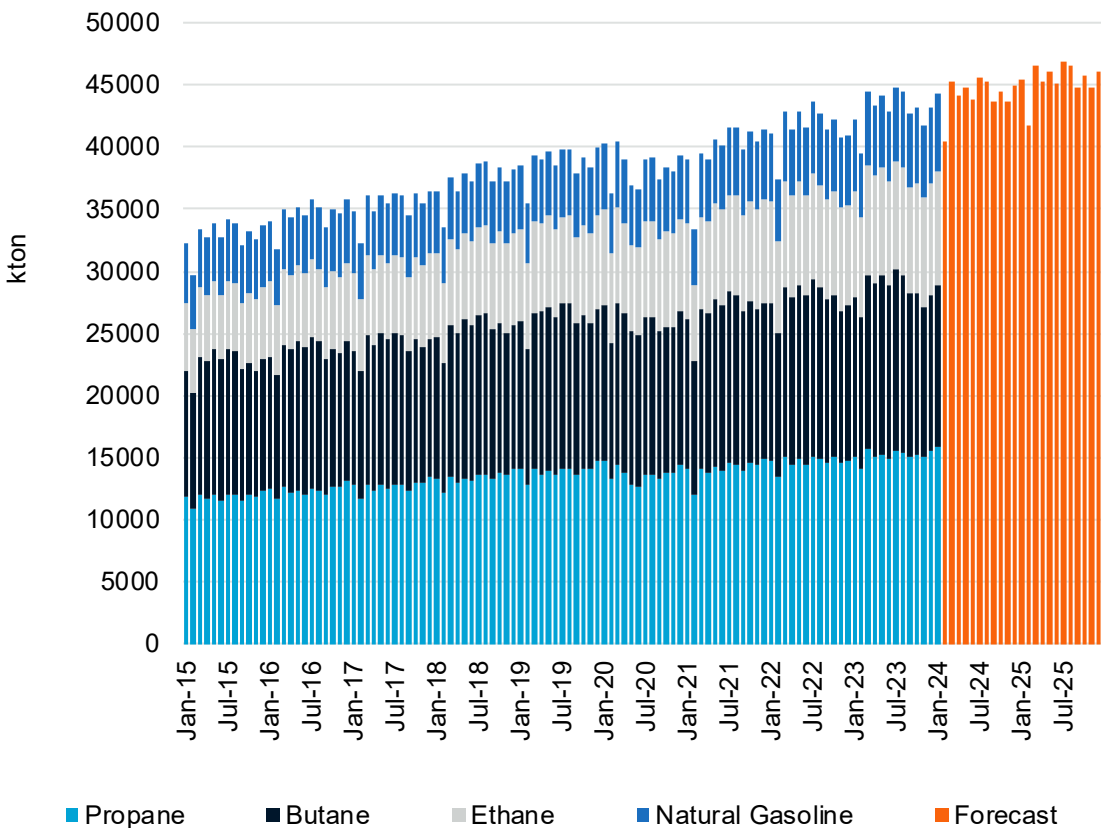
Global NGL production by region



Source: Chemical Market Analytics by OPIS, Rystad Energy

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Global NGL production by product

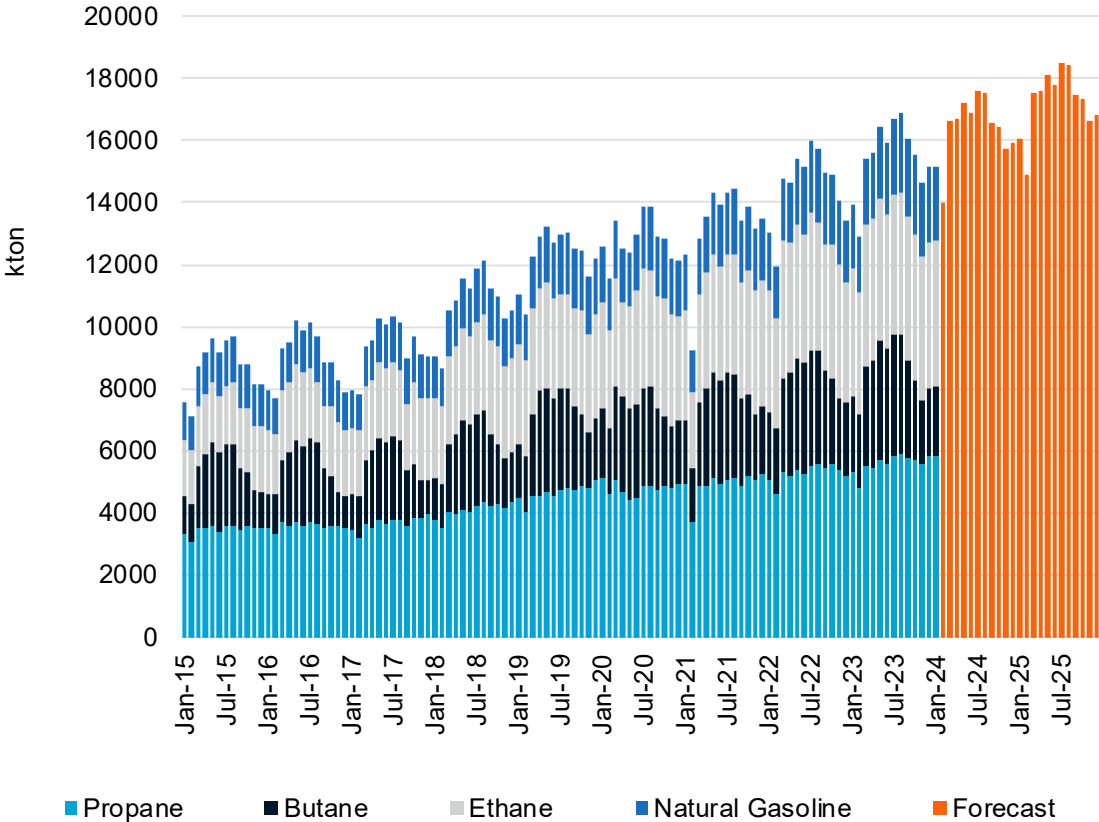


Source: Chemical Market Analytics by OPIS, Rystad Energy

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United States & Middle East are the main regions for supply growth

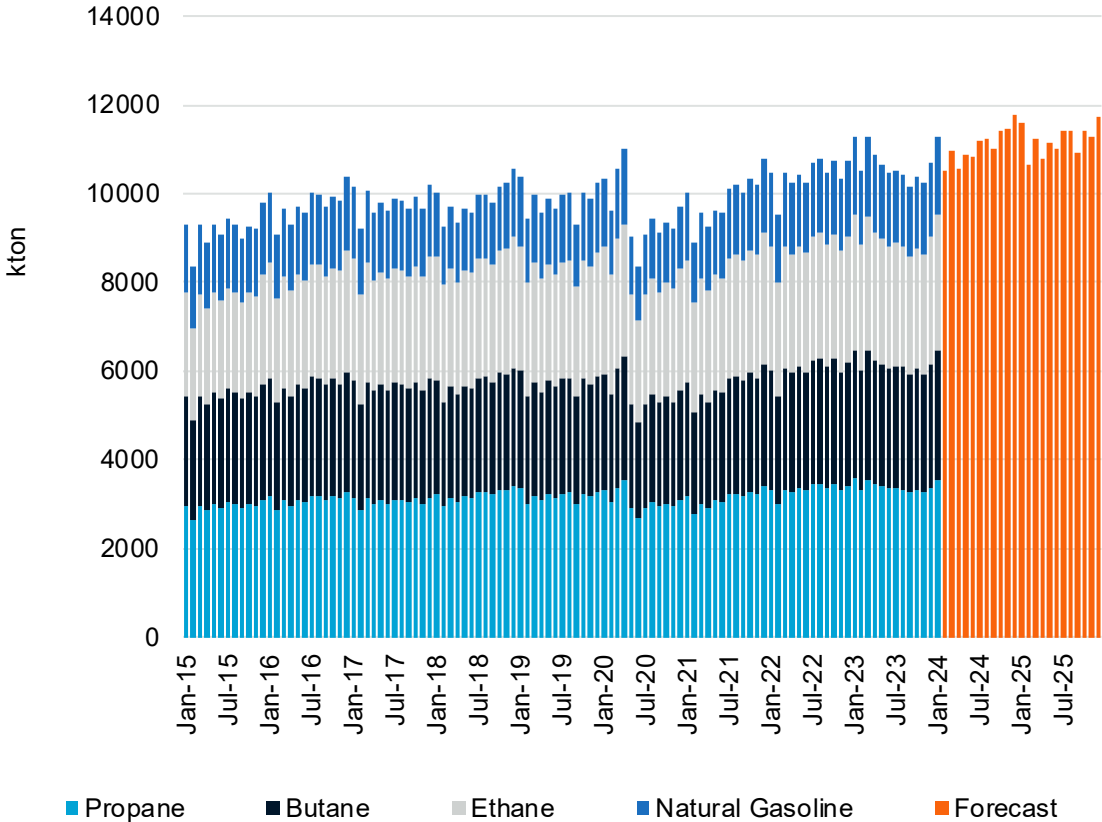
United States NGL production by product



Source: Chemical Market Analytics by OPIS, Rystad Energy

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Middle East NGL production by product



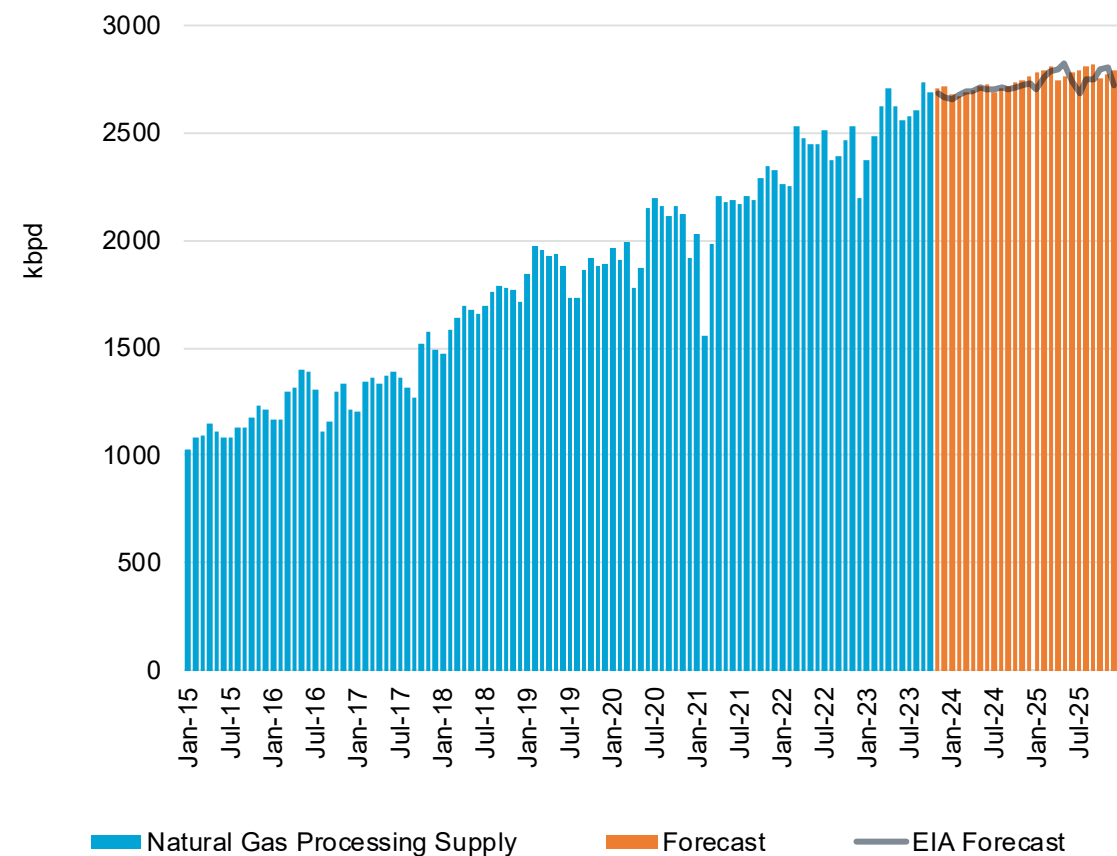
Source: Chemical Market Analytics by OPIS, Rystad Energy

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Ethane

Natural gas production continues to support growth in Ethane supply

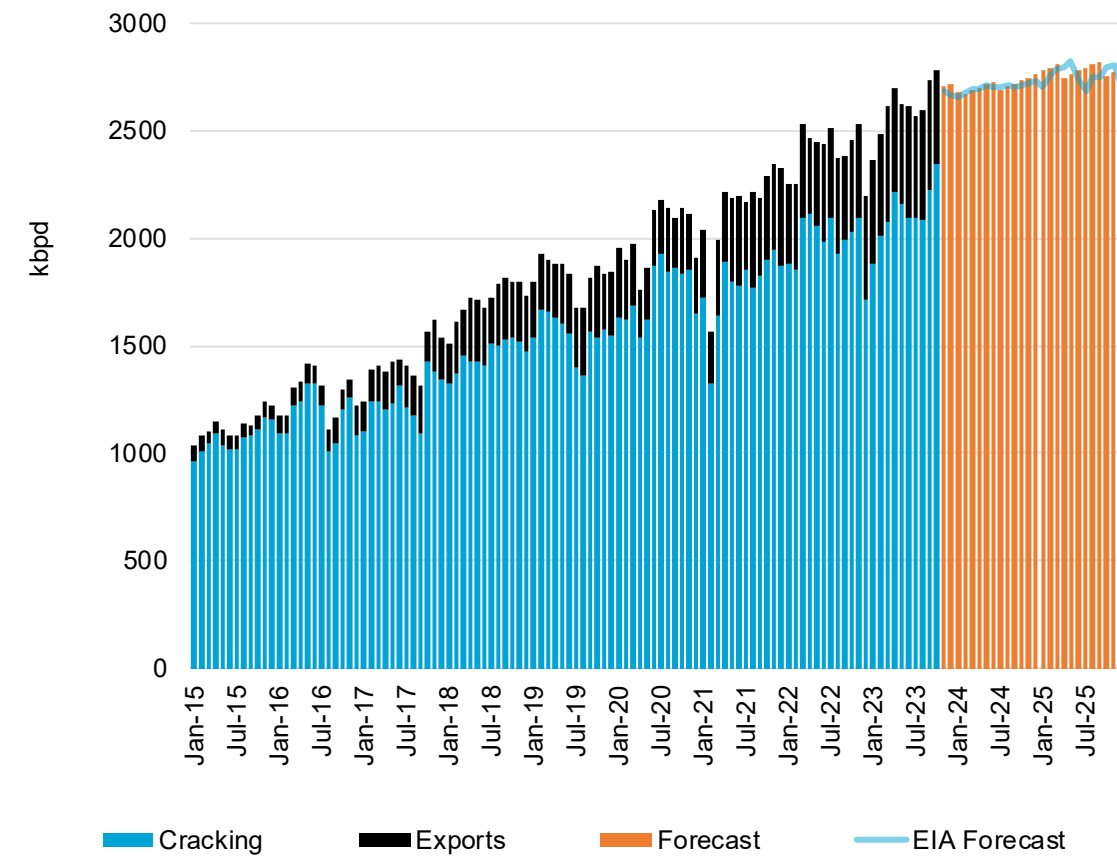
United States ethane supply with forecast



Source: Chemical Market Analytics by OPIS

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United States ethane demand with forecast

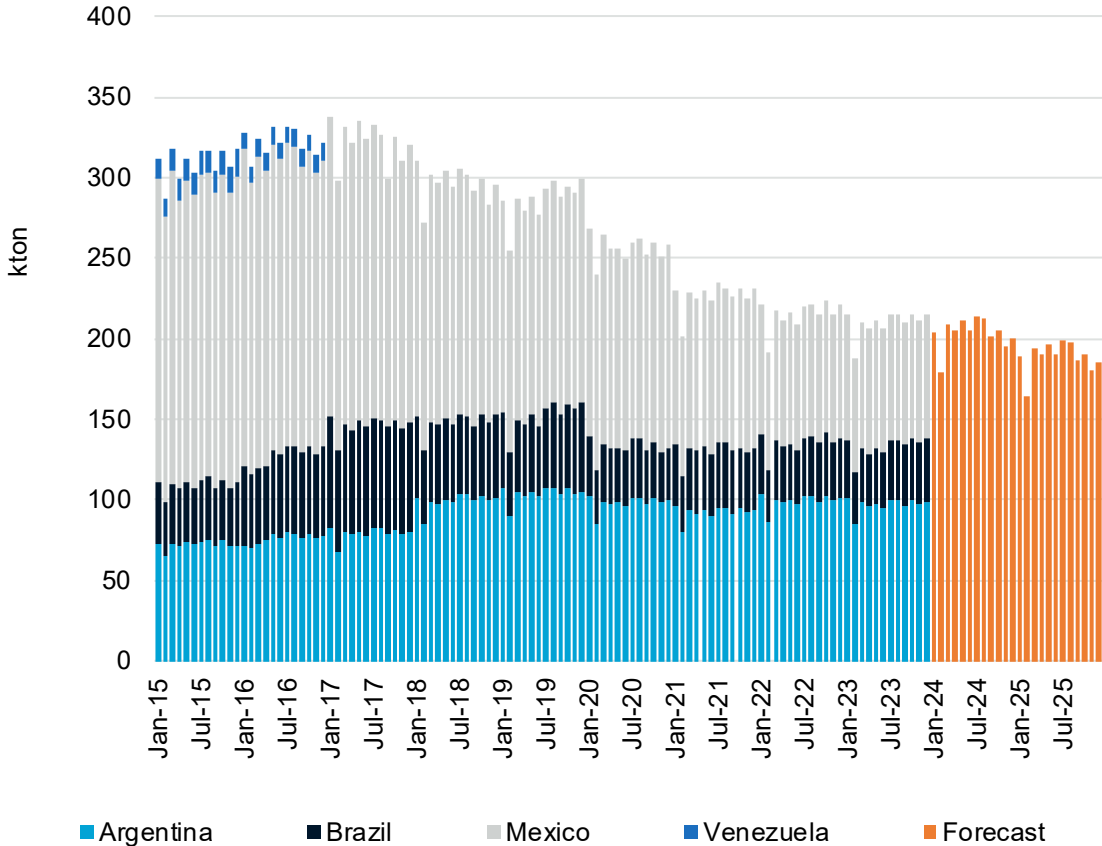


Source: Chemical Market Analytics by OPIS

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Ethane: United States inventories and exports

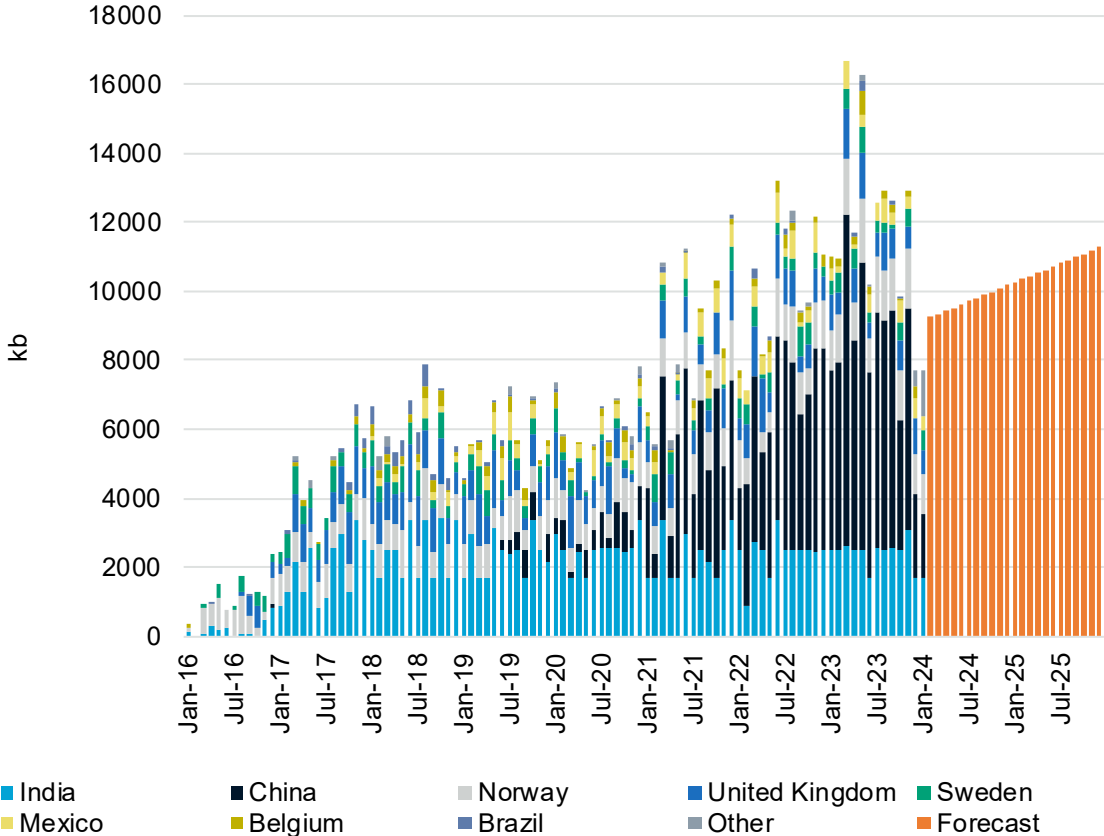
Latin America ethane production by country



Source: Chemical Market Analytics by OPIS

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Unites States ethane exports by destination country



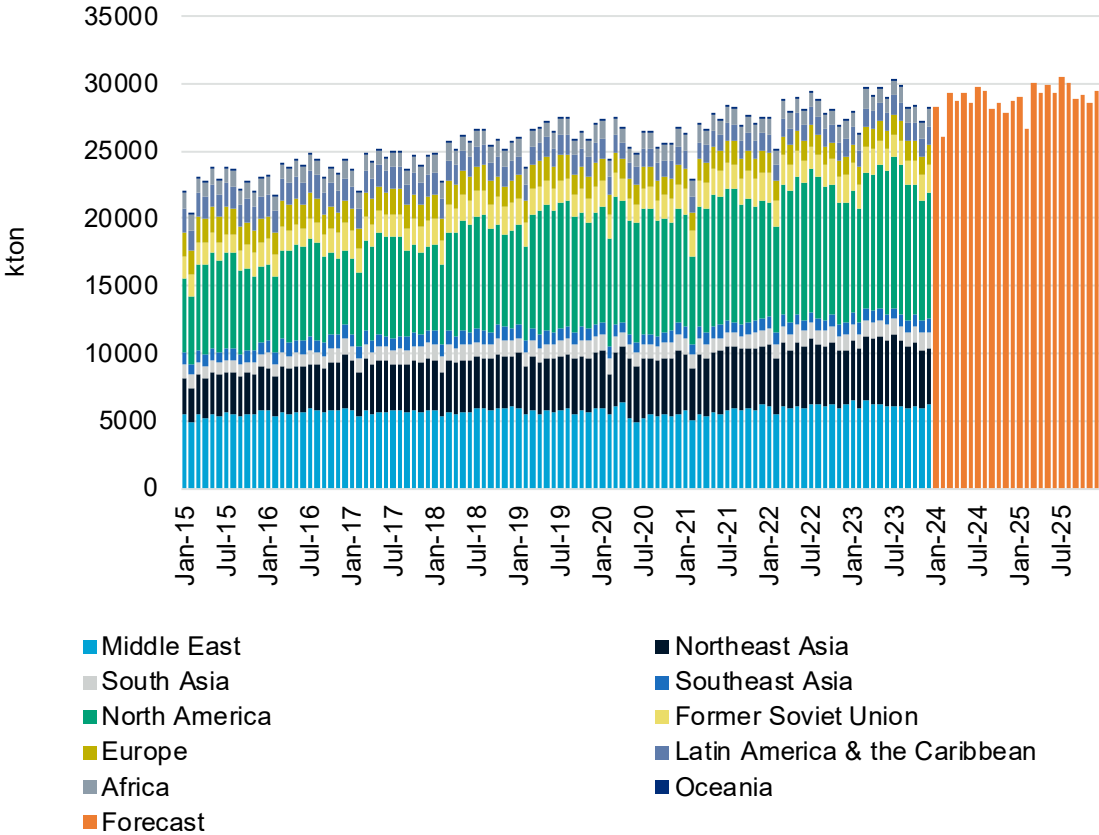
Source: Chemical Market Analytics by OPIS, Vortexa, EIA

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LPG: Propane & Butane

Global LPG supply and demand

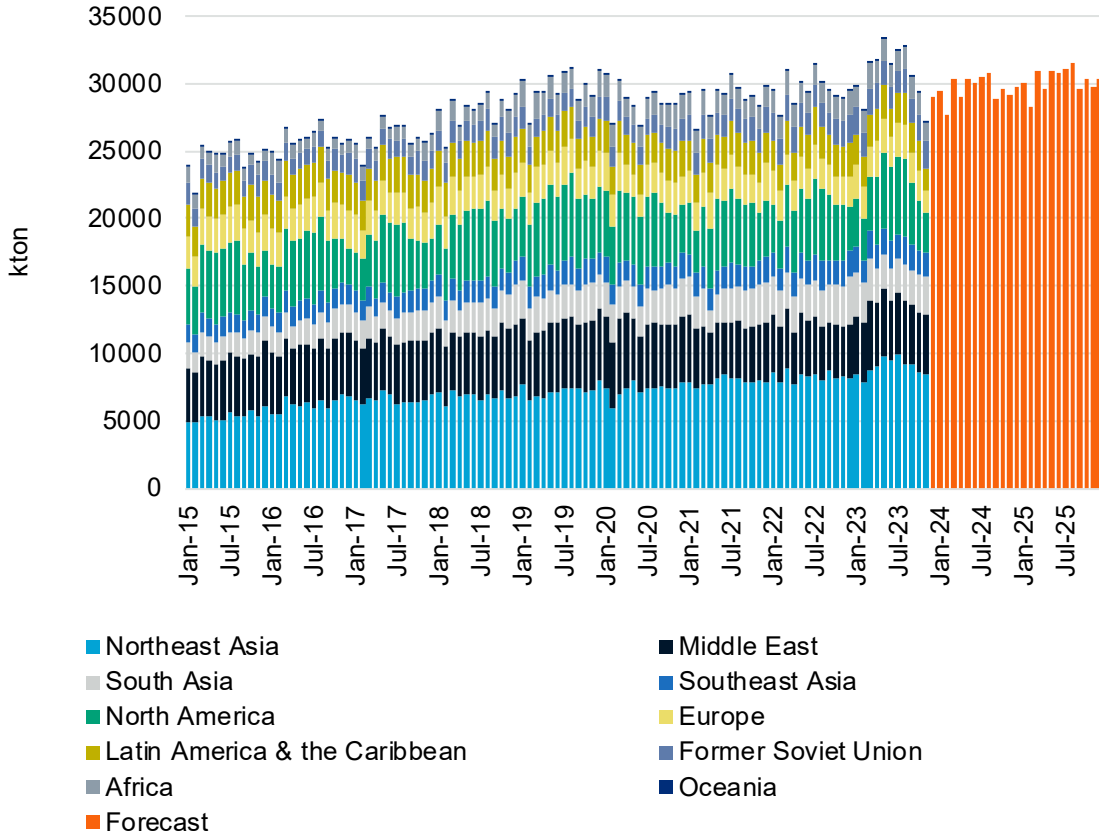
Global LPG production by region



Source: Chemical Market Analytics by OPIS

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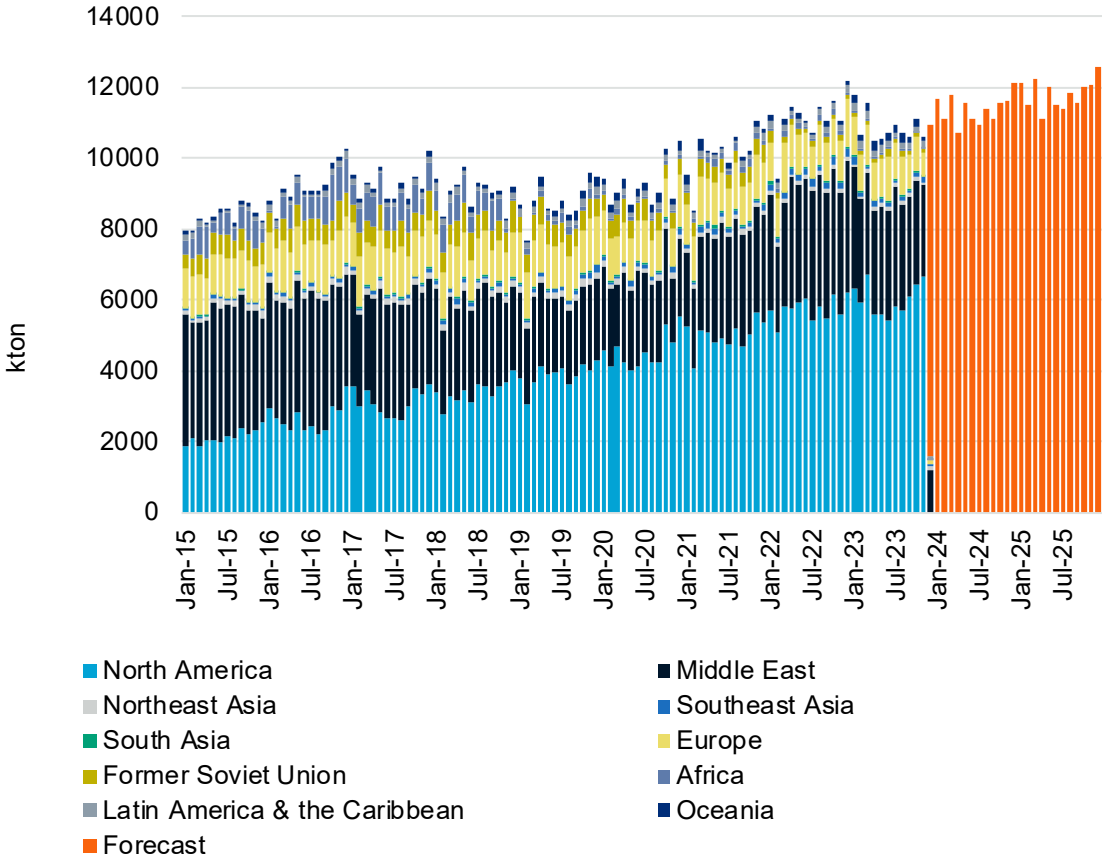
Global LPG demand by region



Source: Chemical Market Analytics by OPIS, Rystad Energy

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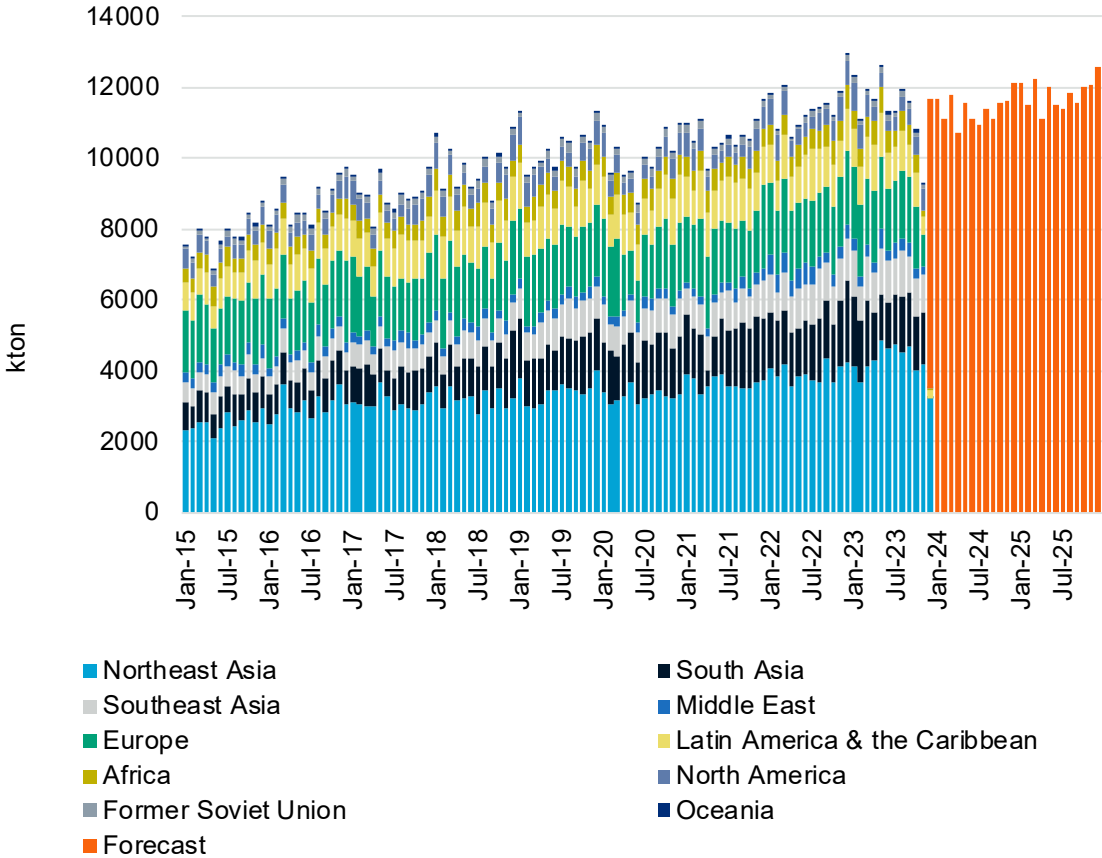
Global LPG exports by source



Source: Chemical Market Analytics by OPIS, GTT

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Global LPG imports by destination

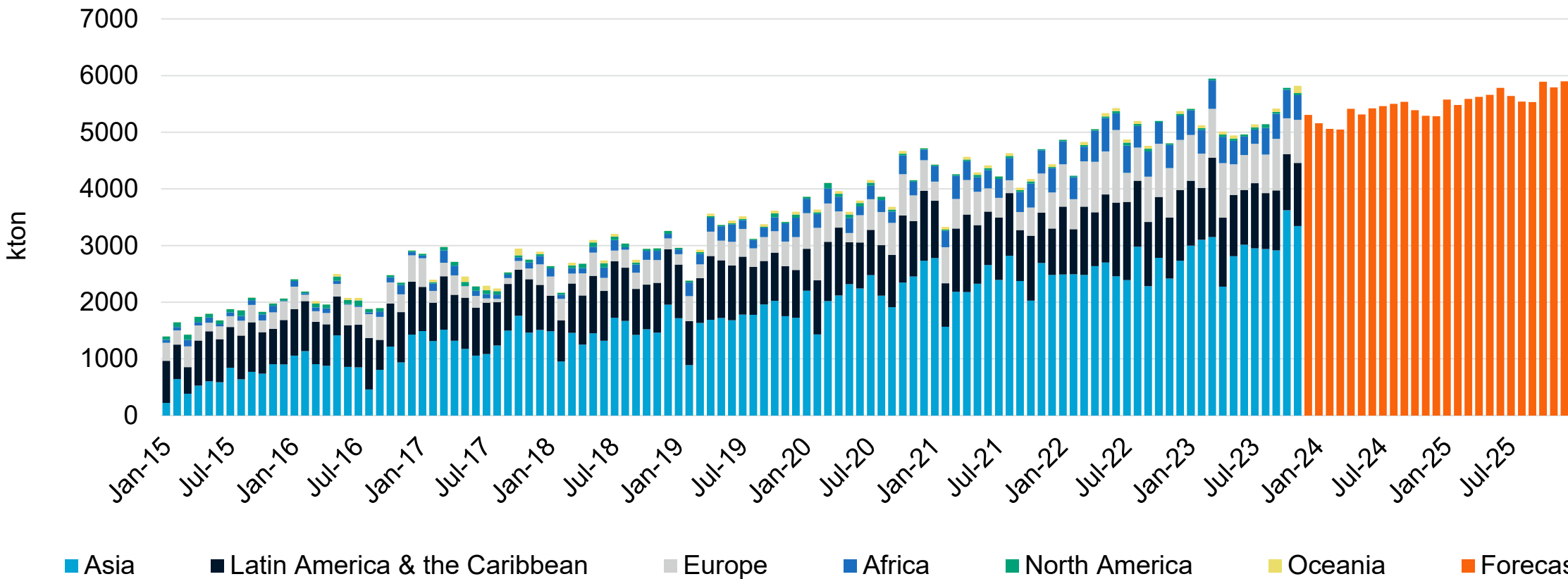


Source: Chemical Market Analytics by OPIS, GTT

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The United States is the largest exporter of LPG in the world.

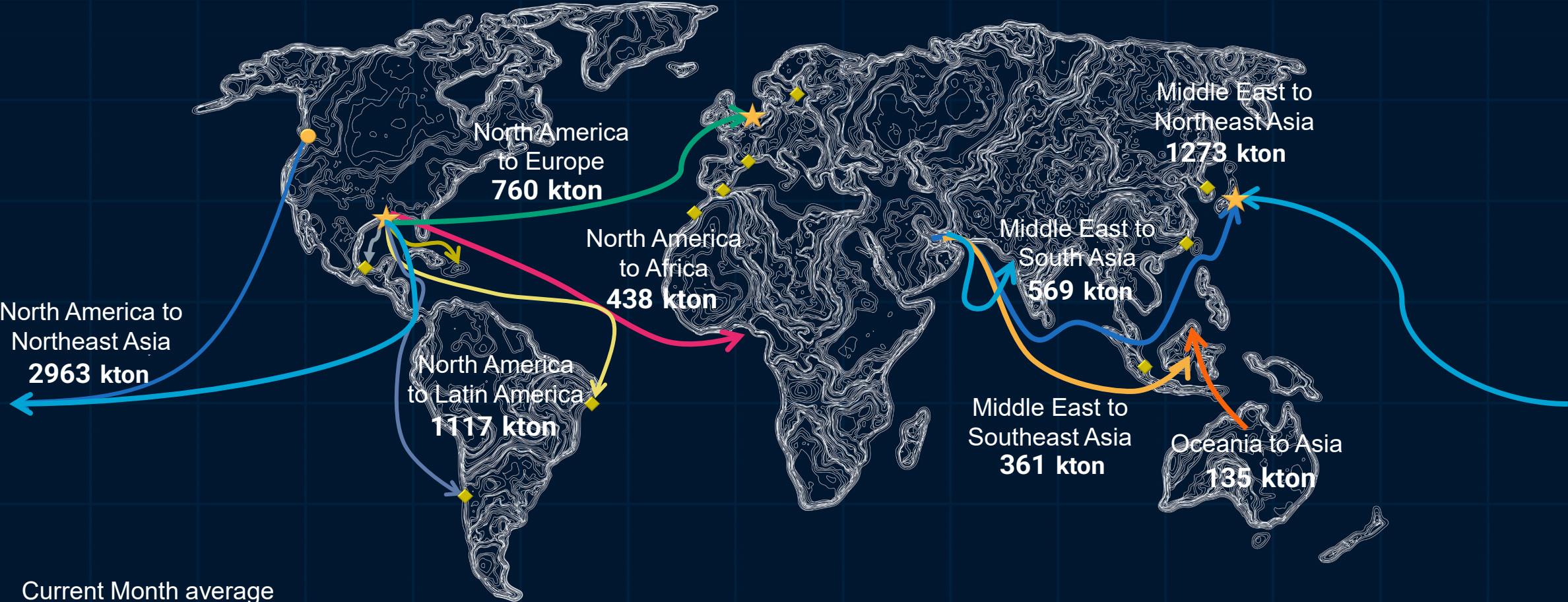
United States LPG exports by destination with forecast



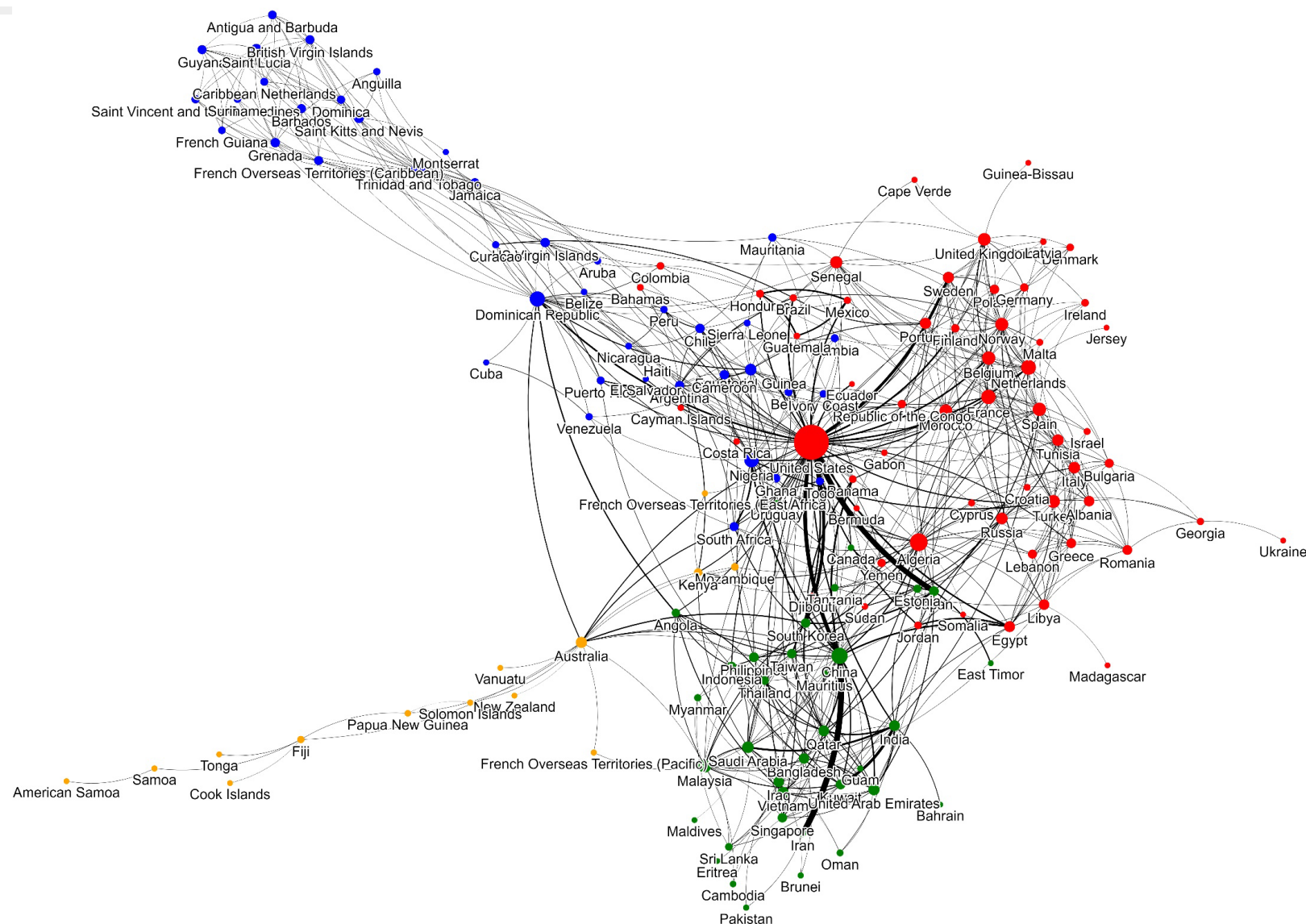
Source: Chemical Market Analytics by OPIS, GTT

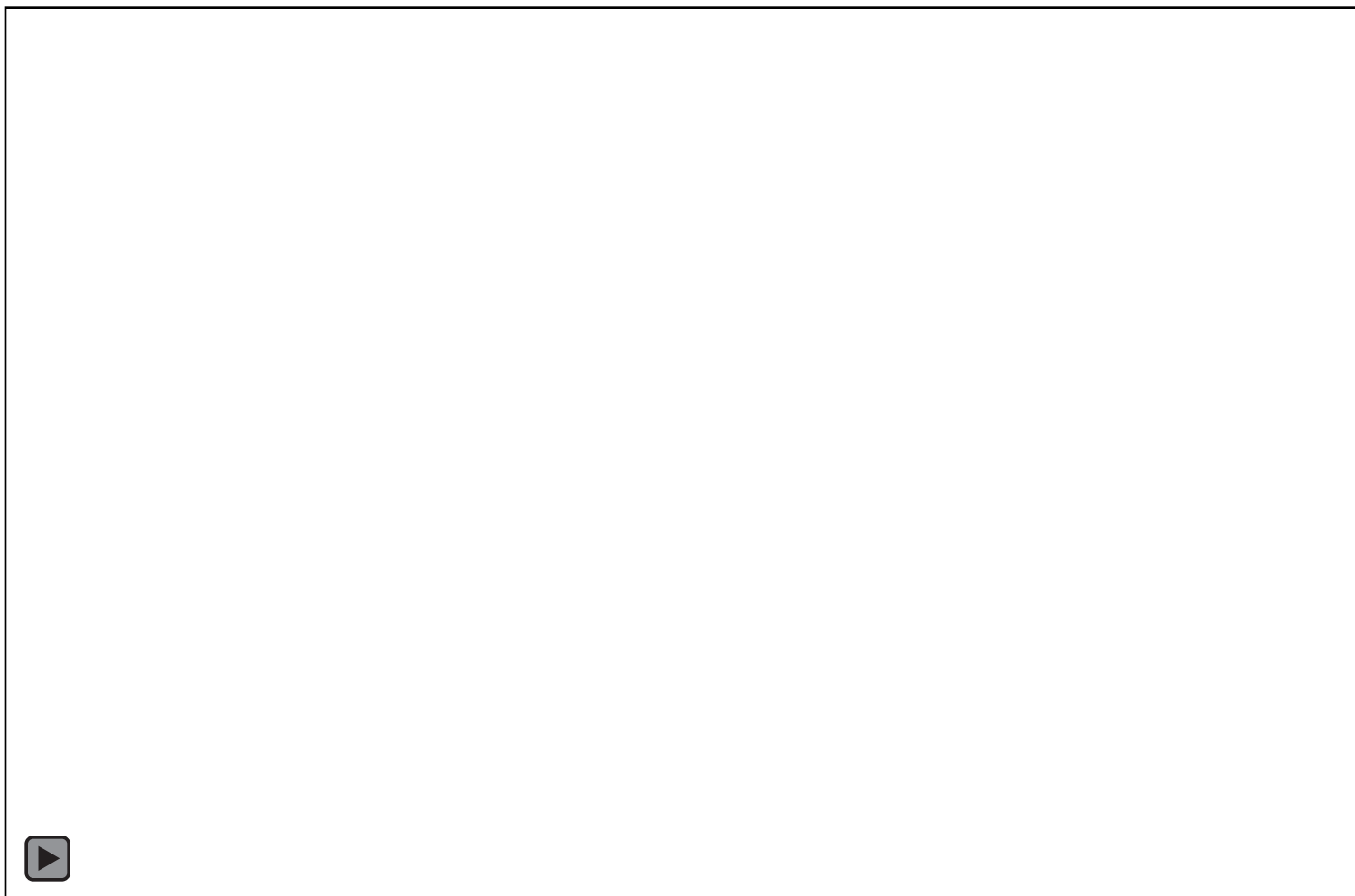
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LPG: Top global trade routes (November 2023)



Comercio Global de Gas LP





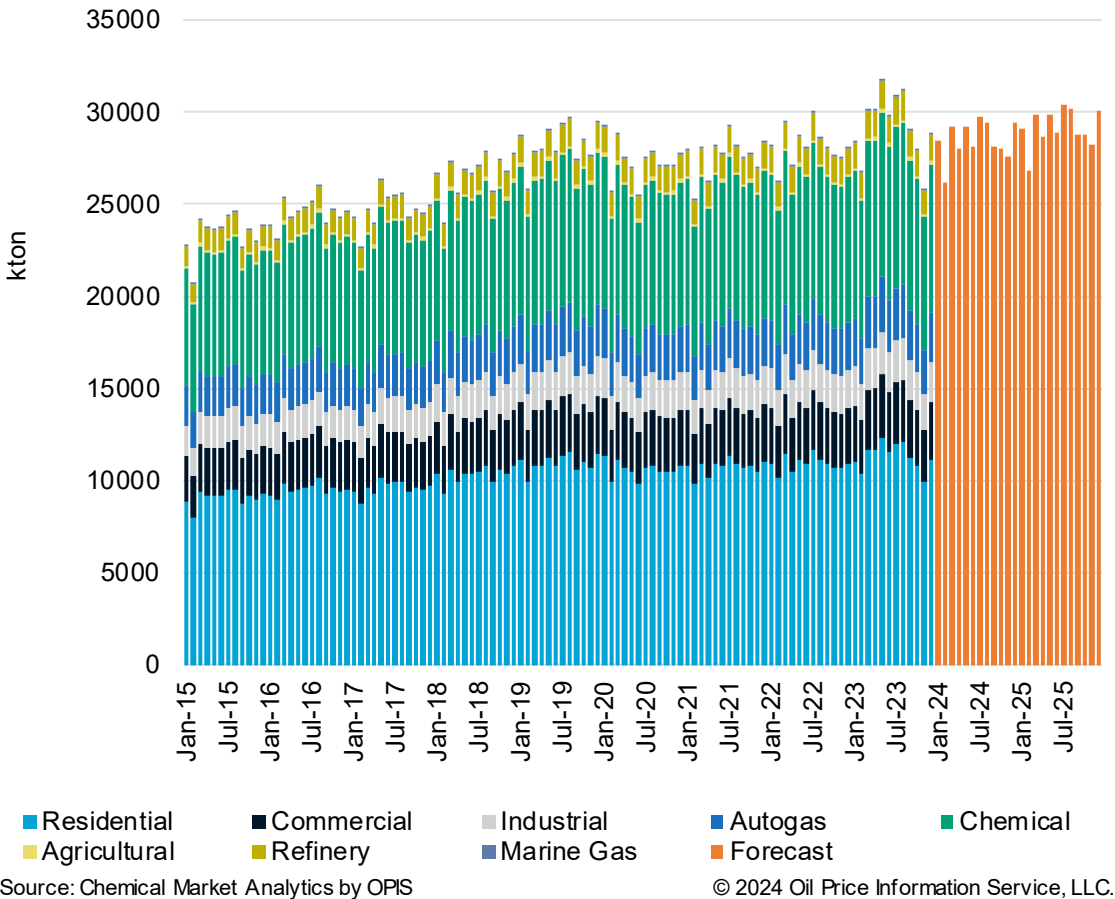
Chemical Demand

Residential vs petrochemical.

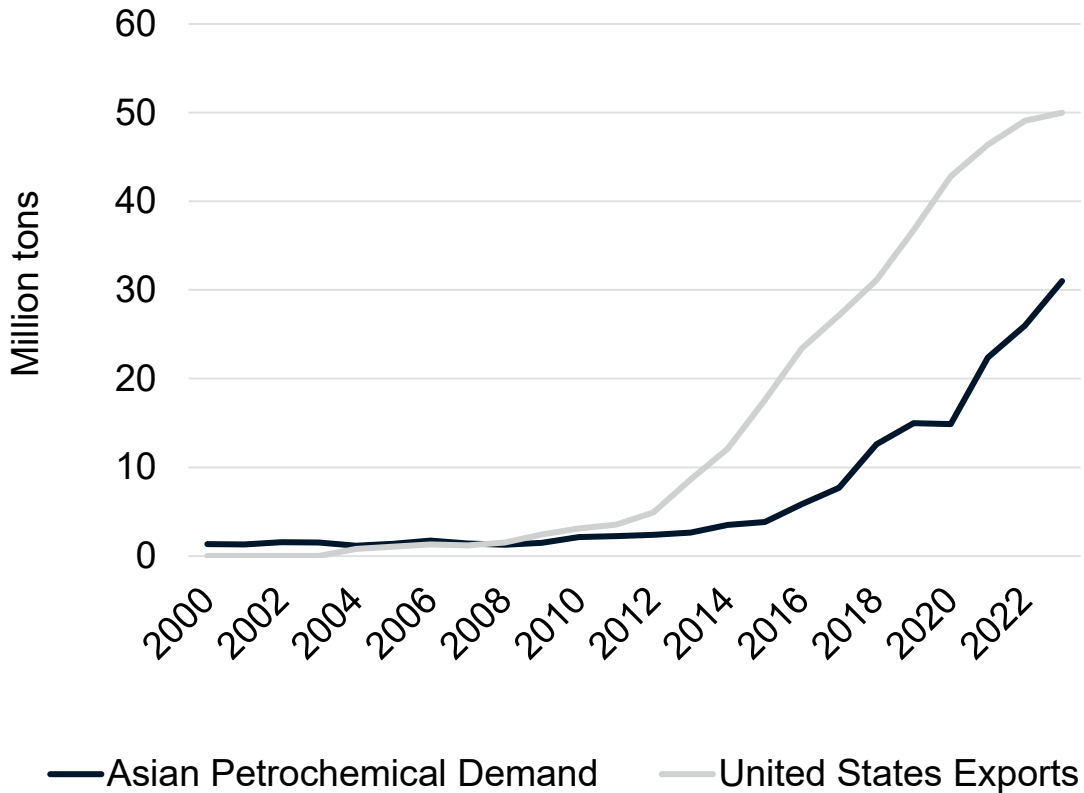


Chemical demand is critical for the propane price formulation

Global LPG demand by sector



The rise of the Asian LPG Petrochemical Demand



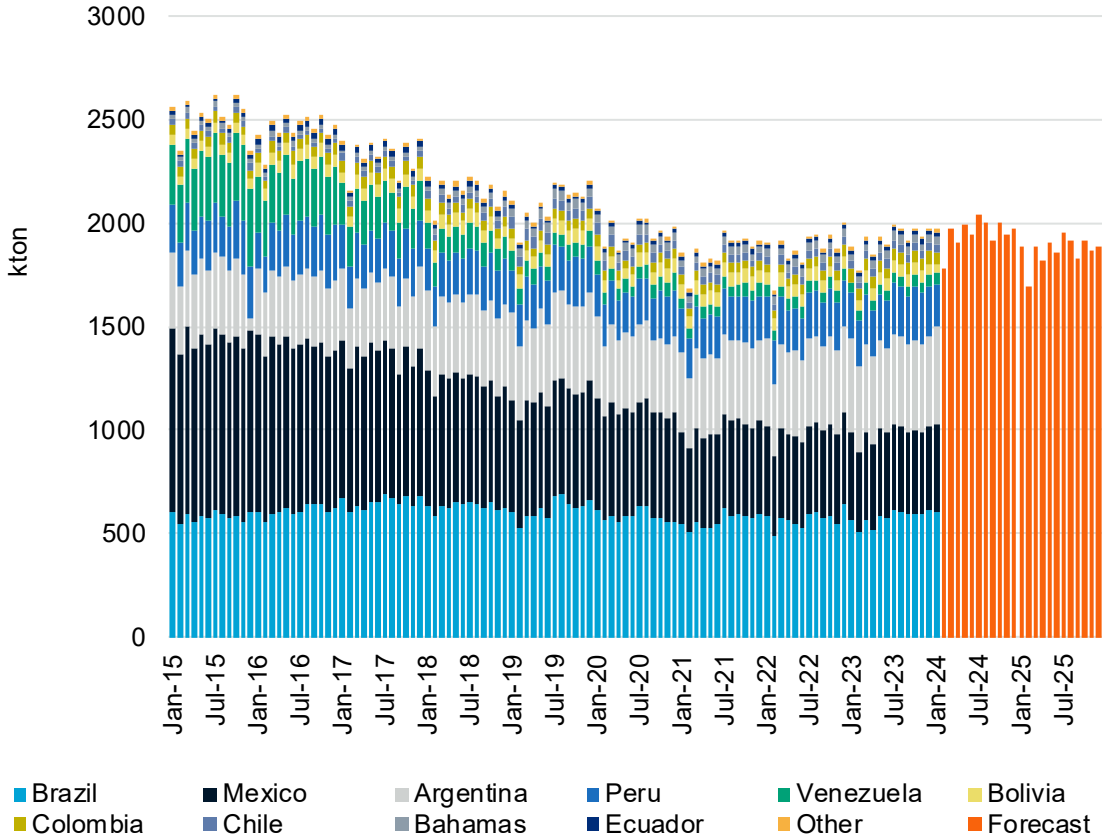
Asian chemical demand vs Latin American total demand



Latin America

Latin America NGL production

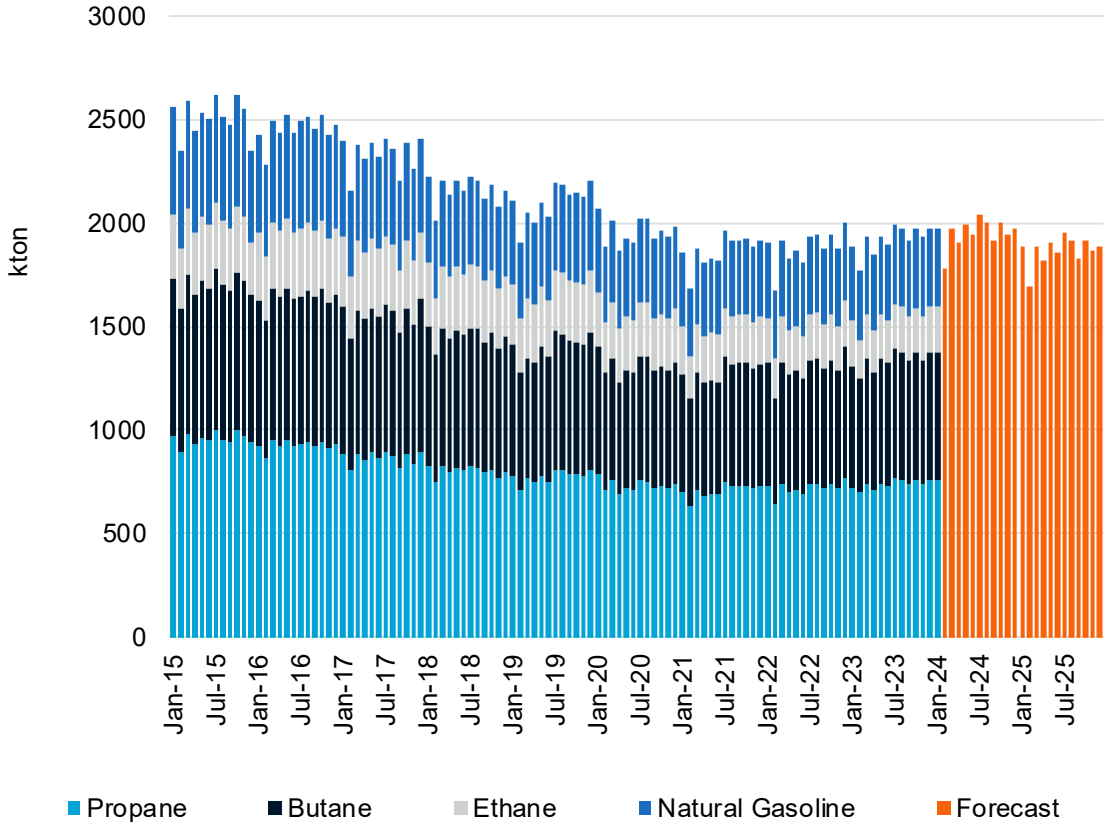
Latin America NGL production by country



Source: Chemical Market Analytics by OPIS

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Latin America NGL production by product

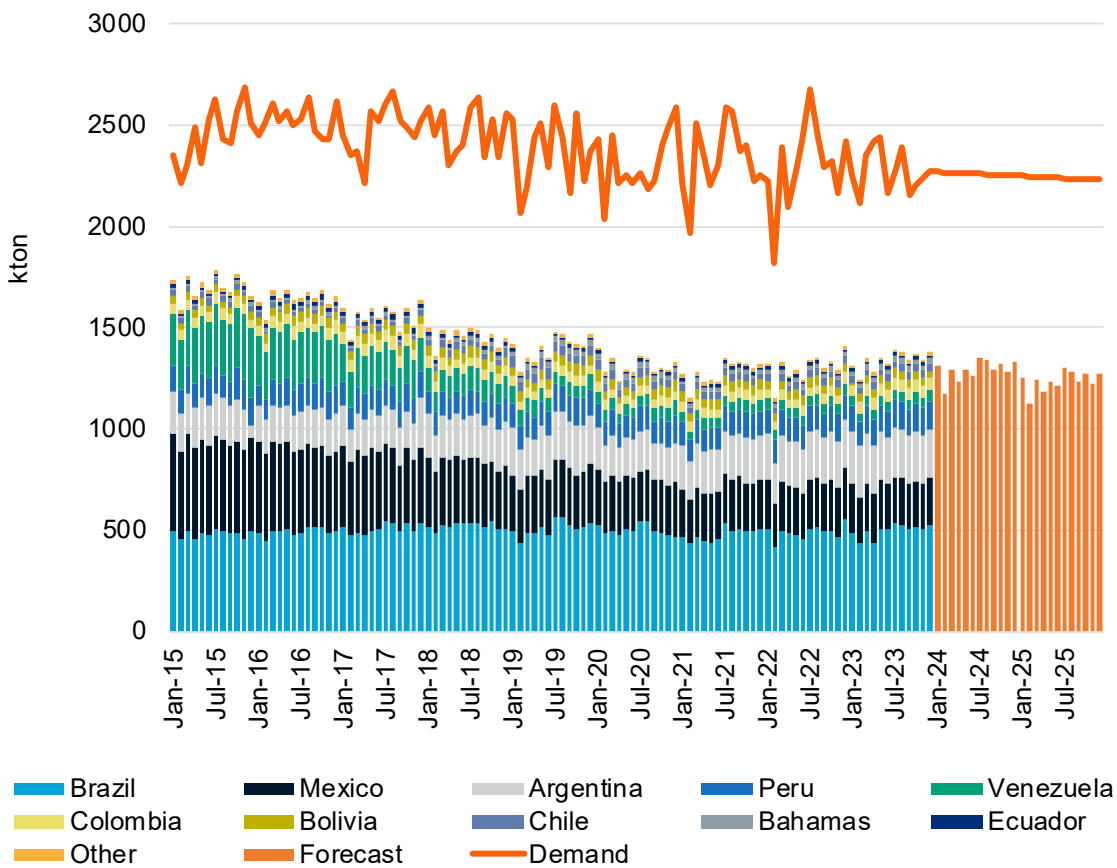


Source: Chemical Market Analytics by OPIS, Rystad Energy

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Latin American LPG demand

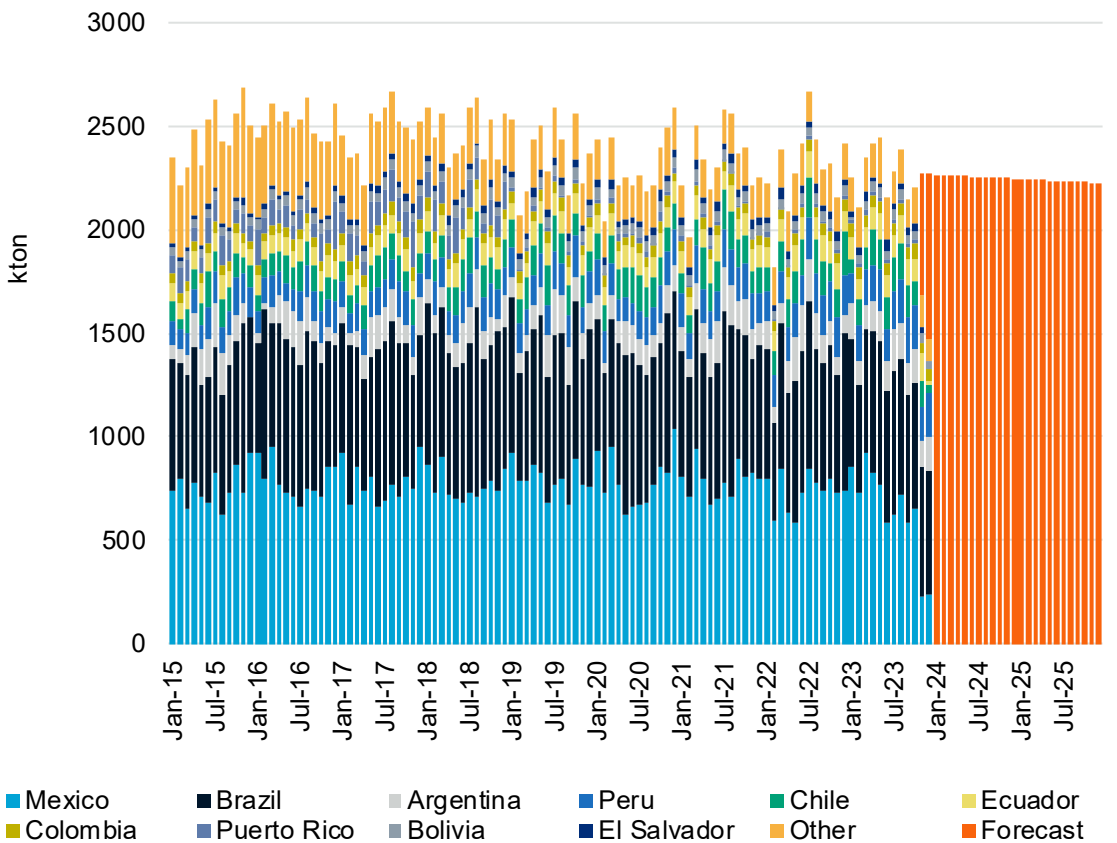
Latin America LPG supply by country



Source: Chemical Market Analytics by OPIS

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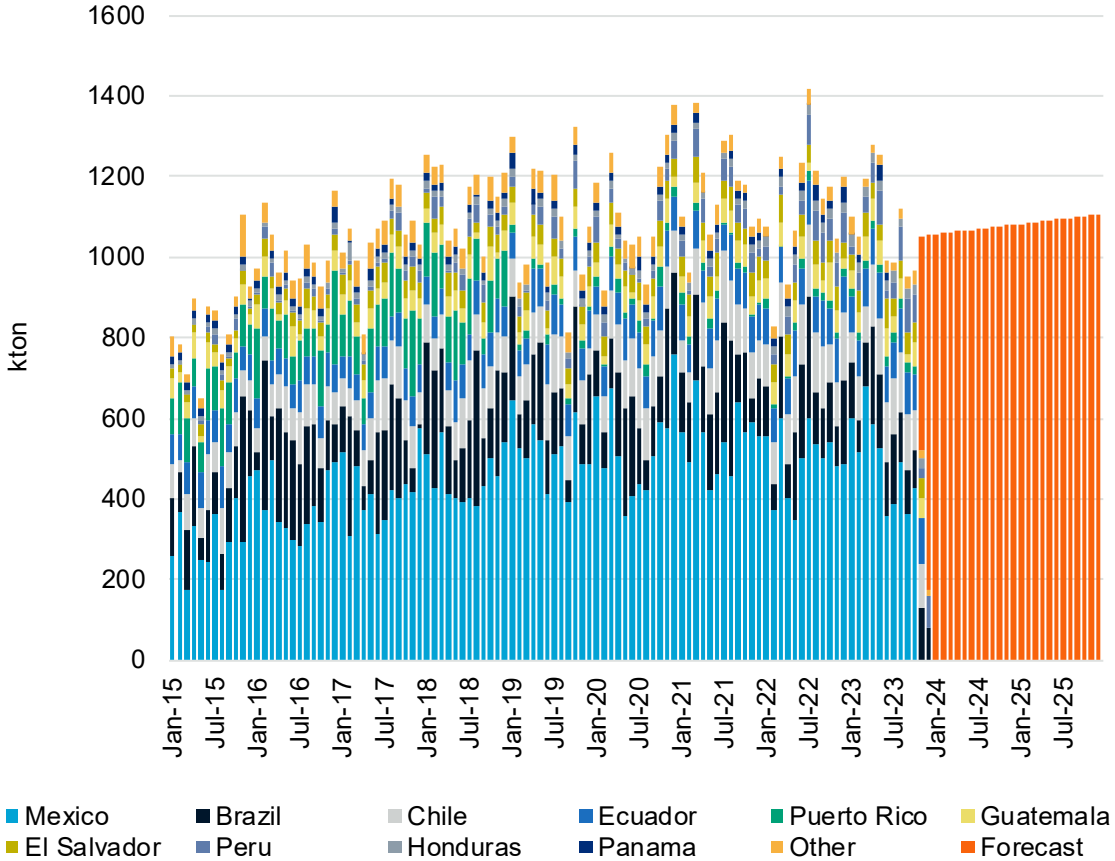
Latin America & the Caribbean LPG demand by country



Source: Chemical Market Analytics by OPIS, Rystad Energy

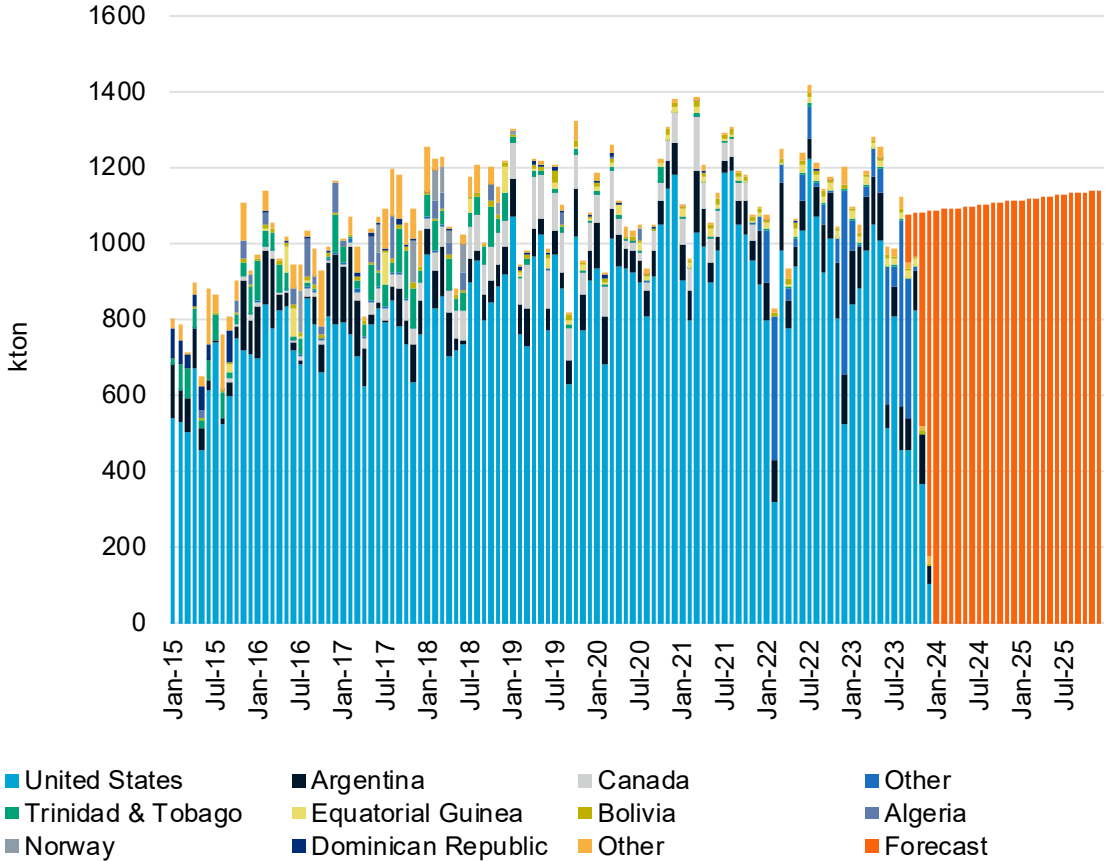
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Global LPG imports to Latin America by destination



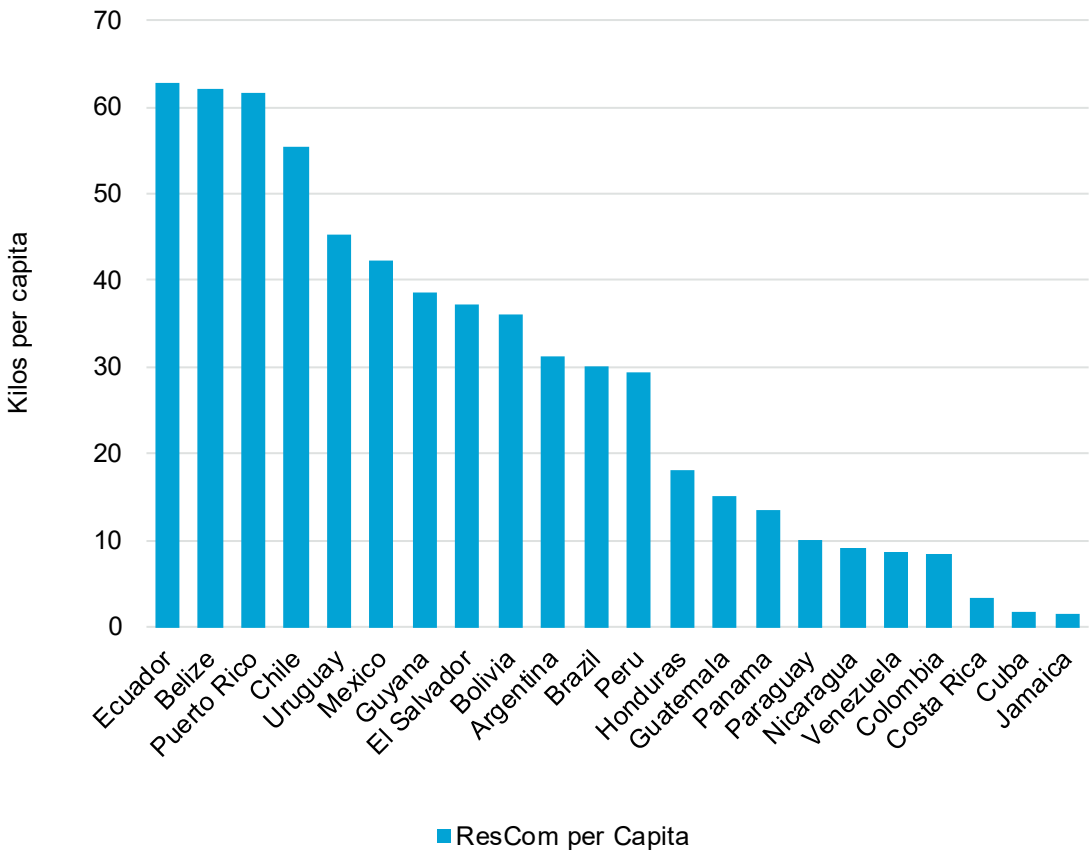
Source: Chemical Market Analytics by OPIS, GTT © 2024 Oil Price Information Service, LLC.

Global LPG imports to Latin America by source



Source: Chemical Market Analytics by OPIS, GTT © 2024 Oil Price Information Service, LLC.

Latin America residential/commercial consumption per capita



Source: Chemical Market Analytics by OPIS

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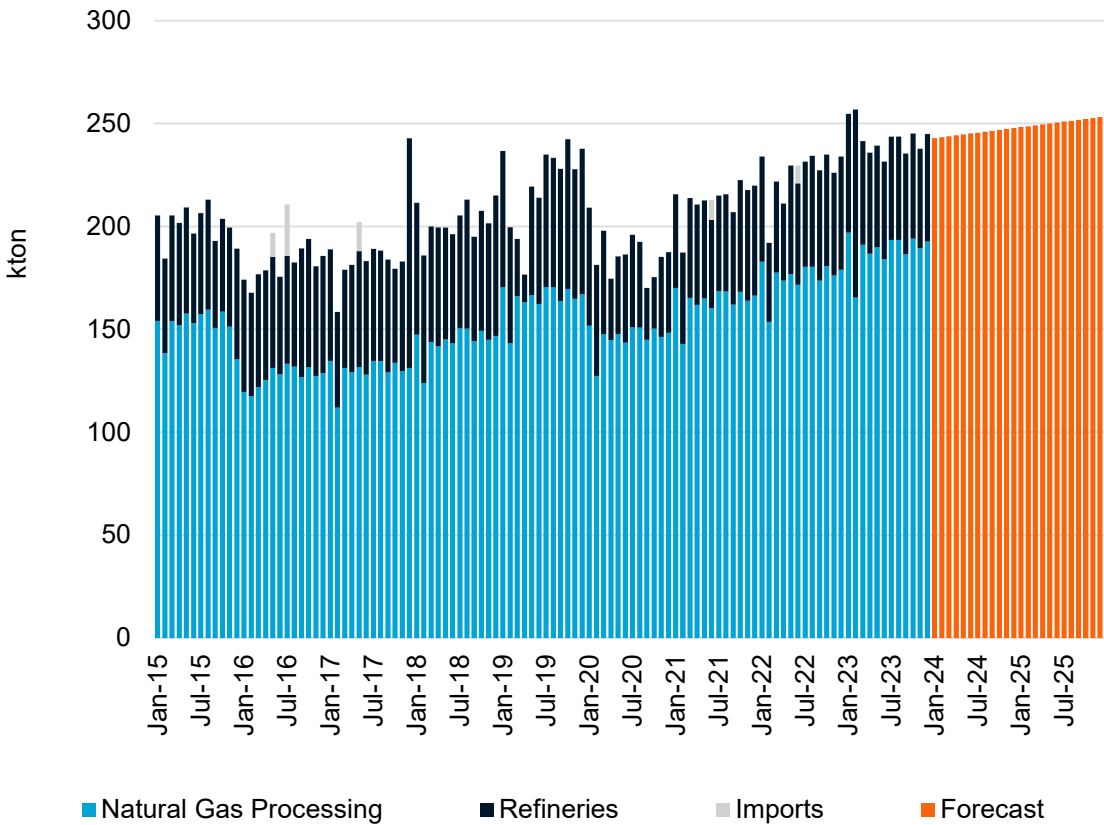
EMPRESAS

Lectura 3:00 min

Gabriel Boric propone desintegración vertical de empresas de gas LP

The big three

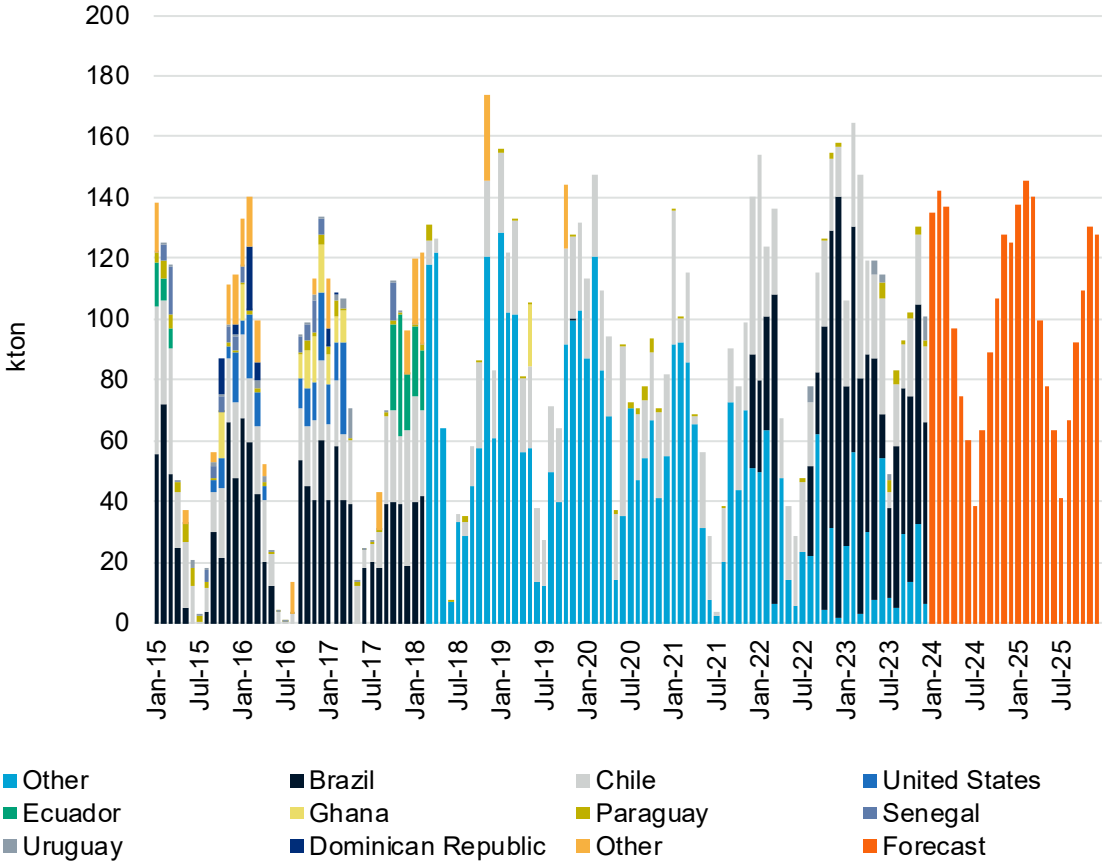
Argentina LPG supply by source



Source: Chemical Market Analytics by OPIS, Rystad Energy

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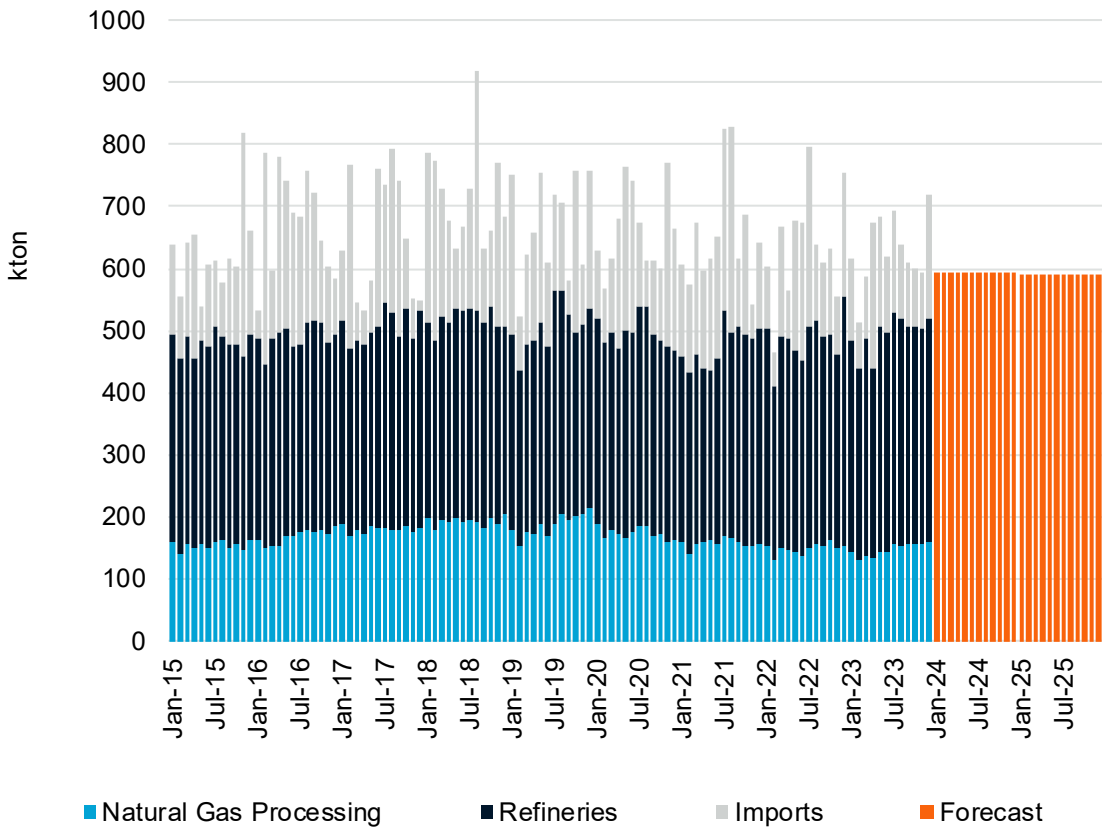
Global LPG exports from Argentina by destination



Source: Chemical Market Analytics by OPIS, GTT

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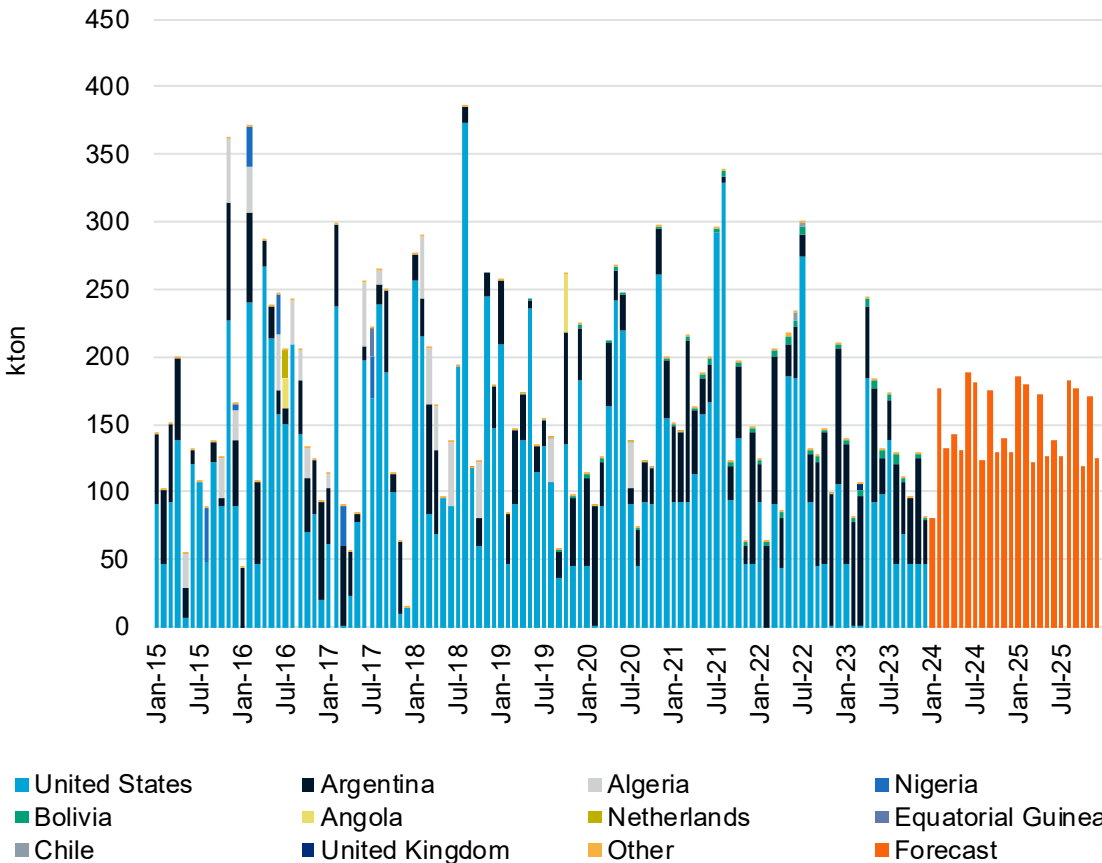
Brazil LPG supply by source



Source: Chemical Market Analytics by OPIS, Rystad Energy

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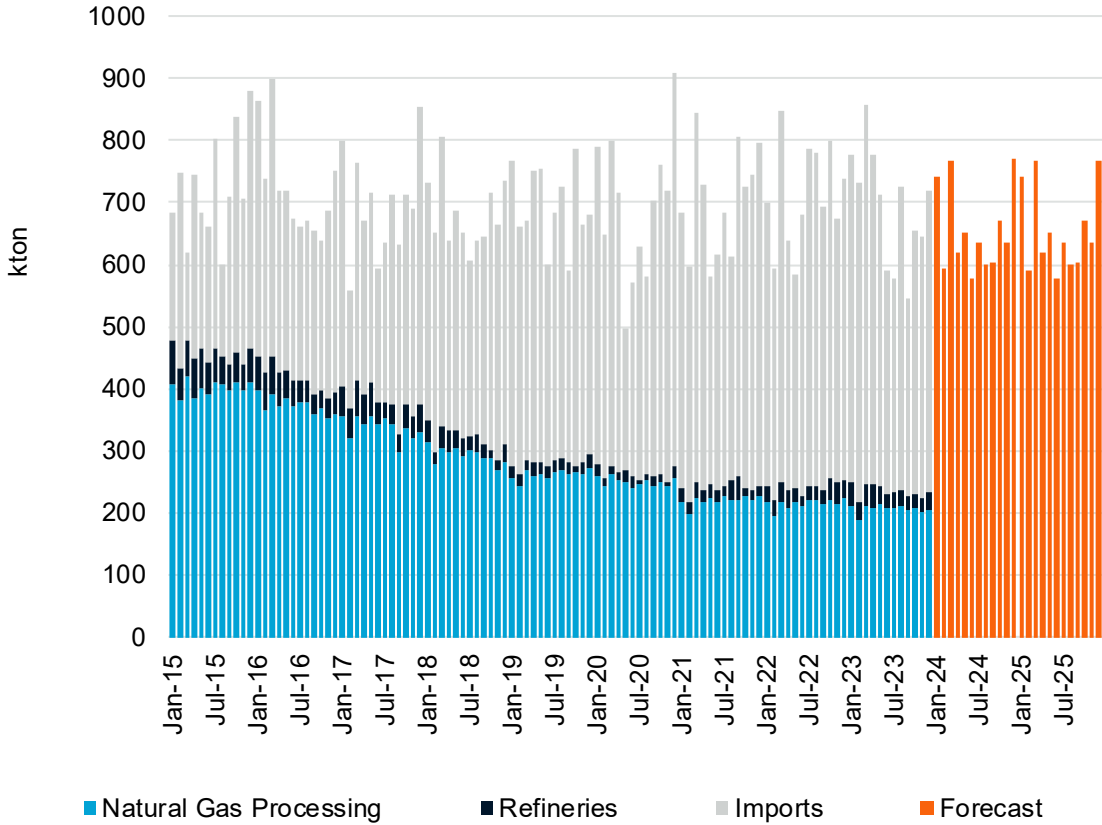
Global LPG imports to Brazil by source



Source: Chemical Market Analytics by OPIS, GTT

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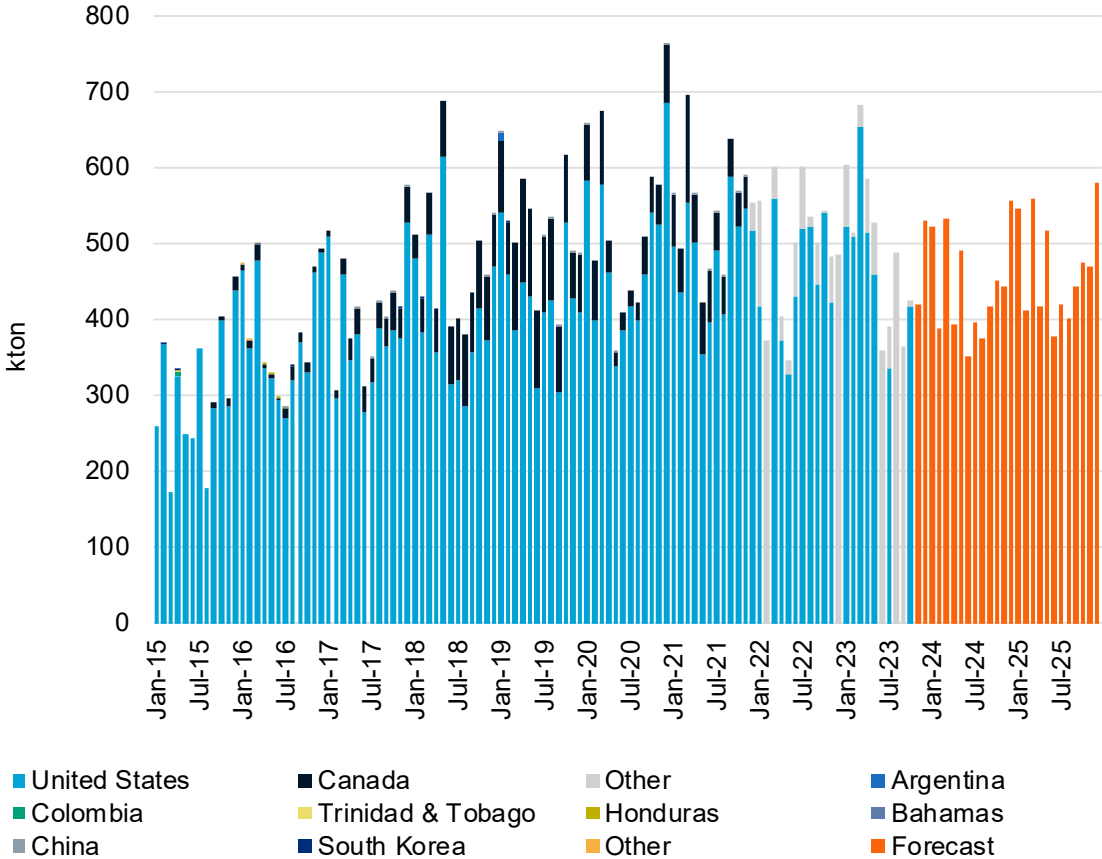
Mexico LPG supply by source



Source: Chemical Market Analytics by OPIS, Rystad Energy

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Global LPG imports to Mexico by source

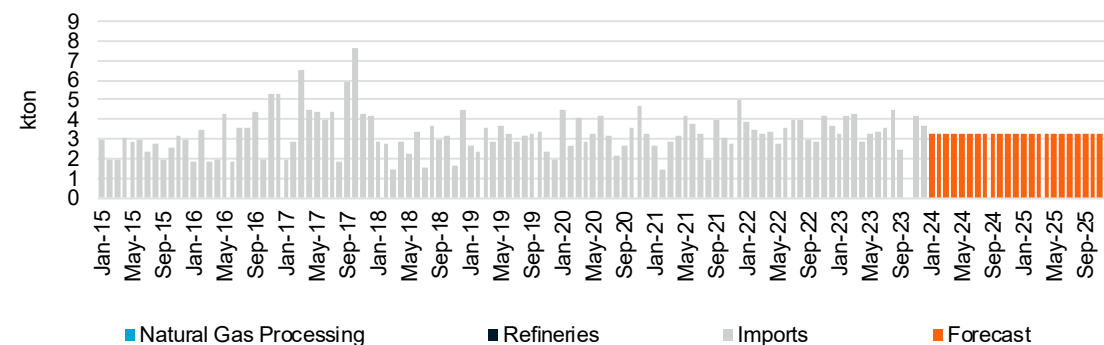


Source: Chemical Market Analytics by OPIS, GTT

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And some others...

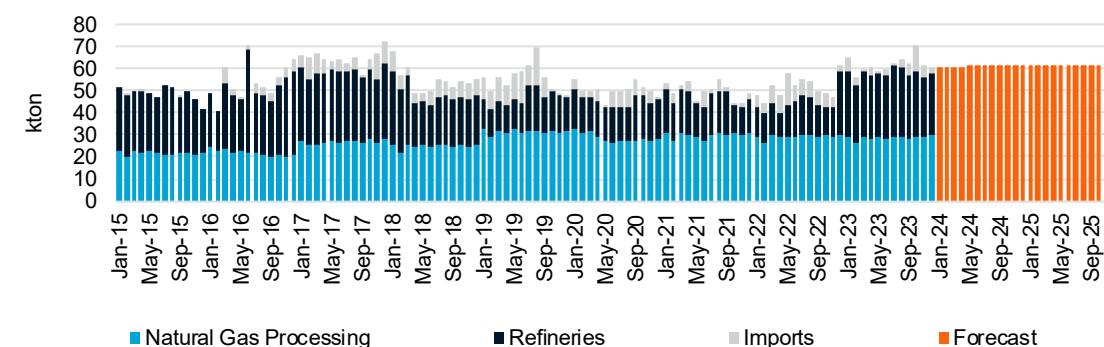
Guyana LPG supply by source



Source: Chemical Market Analytics by OPIS, Rystad Energy

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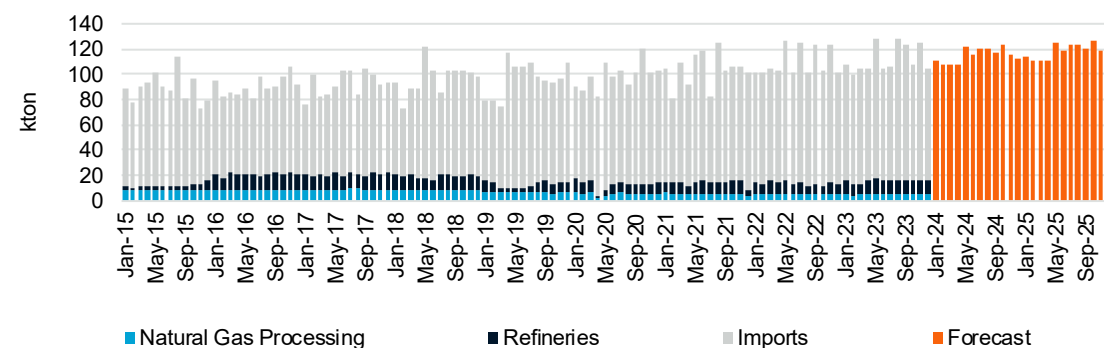
Colombia LPG supply by source



Source: Chemical Market Analytics by OPIS, Rystad Energy

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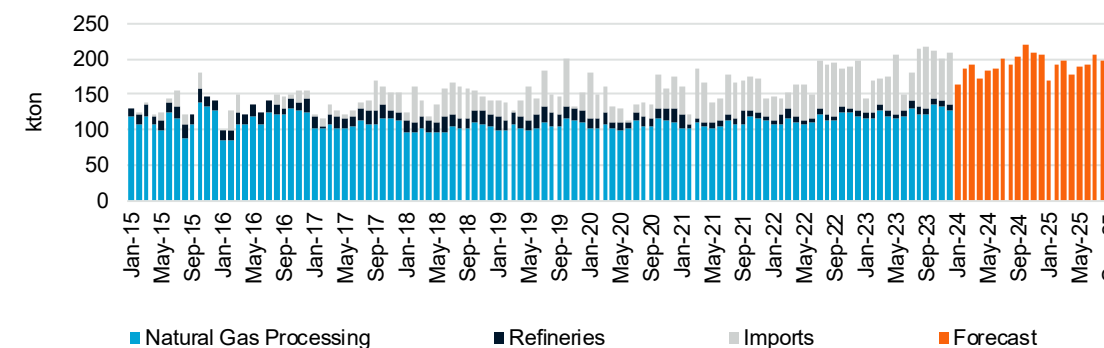
Ecuador LPG supply by source



Source: Chemical Market Analytics by OPIS, Rystad Energy

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Peru LPG supply by source

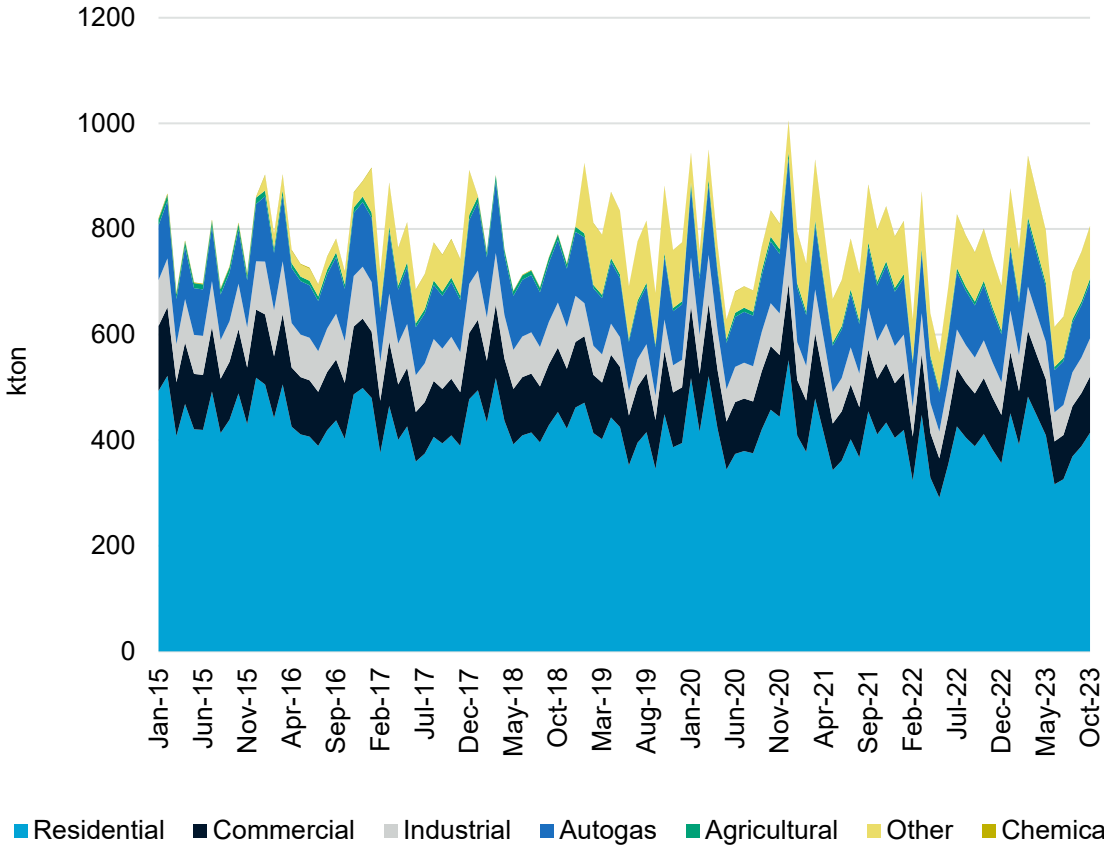


Source: Chemical Market Analytics by OPIS, Rystad Energy

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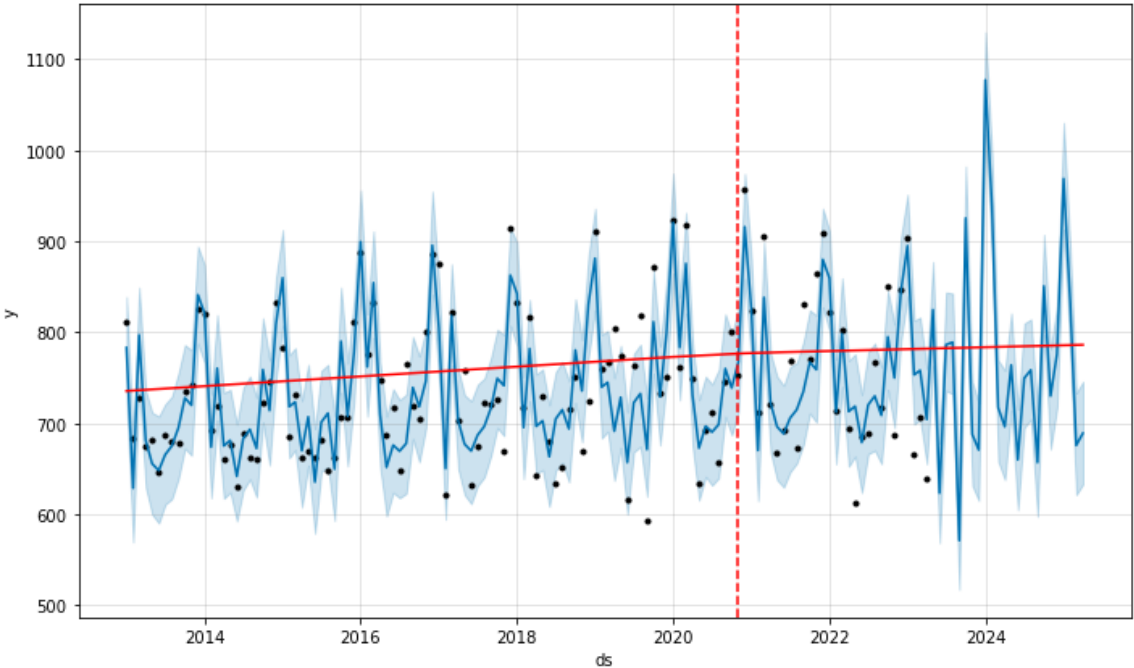
Demand forecast: leveraging new tools

Mexico LPG Demand



Source: Chemical Market Analytics by OPIS

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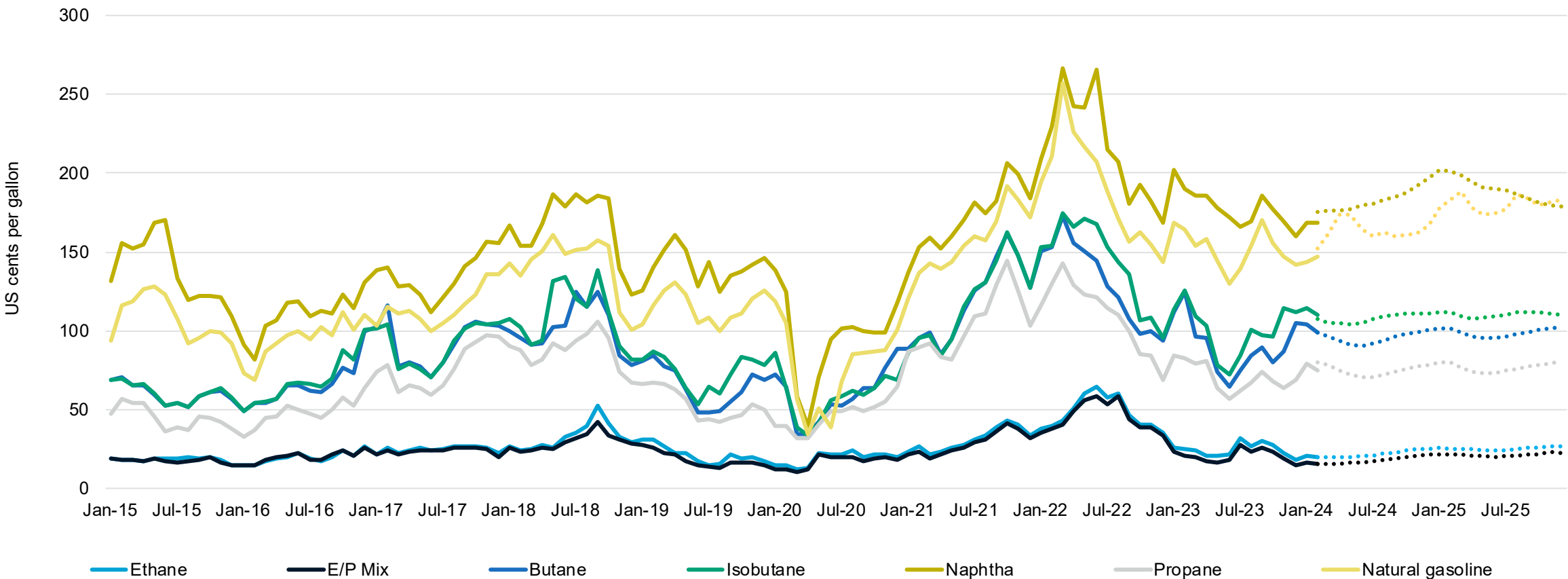


Price Forecast

NGL prices at Mont Belvieu with forecast

The price forecast for the following months calls for relative stability.

Mont Belvieu NGL prices



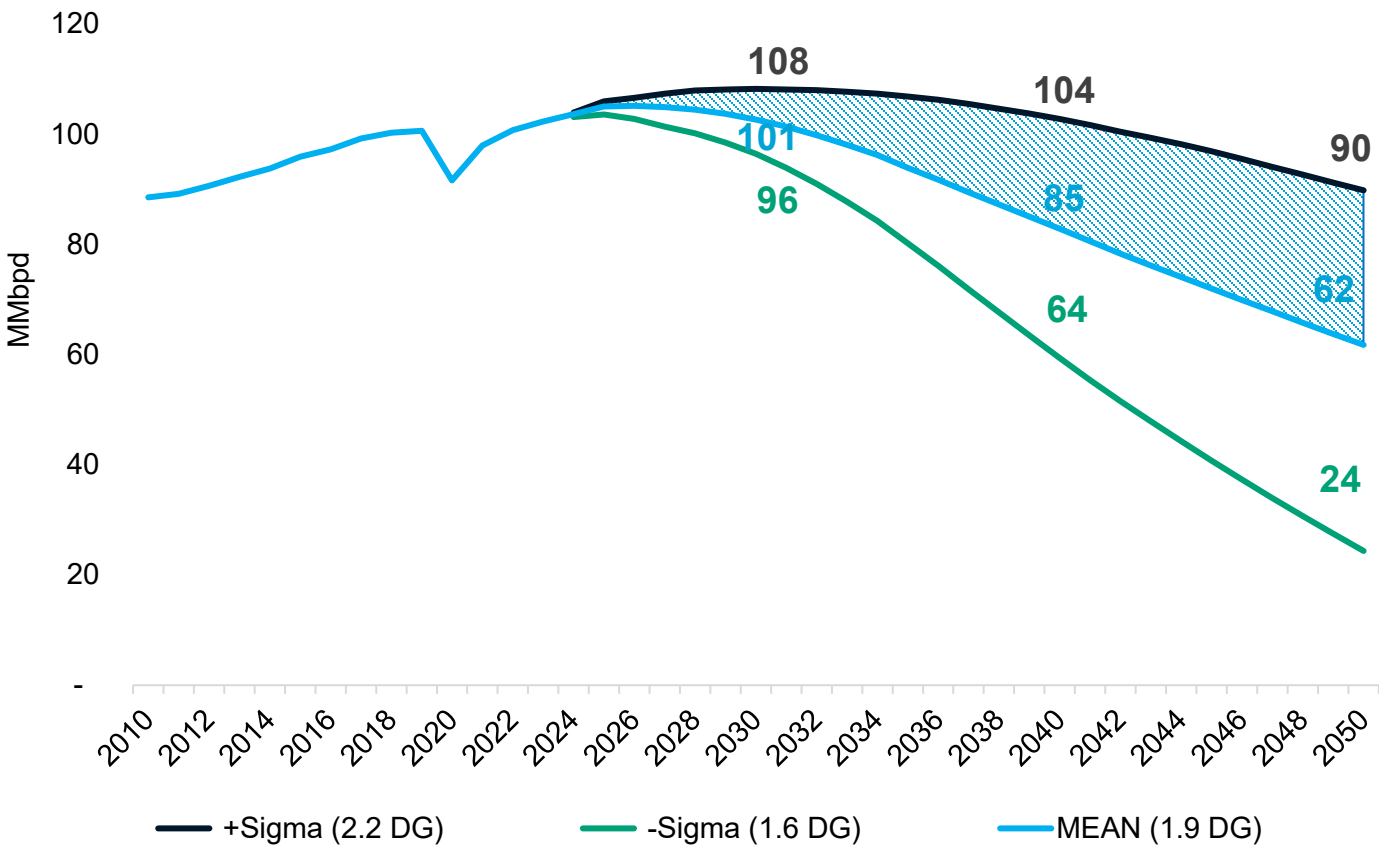
Source: Chemical Market Analytics by OPIS

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LPG & the energy transition

Decarbonization will create challenges for the LPG industry

Global Oil Products (Liquids) Demand



Source: Rystad Energy

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+ Sigma (2.2 DG)

- ~12% loss liquids supply
- Minor dislocations in feedstock supply & pricing
- Modest refining reconfiguration

Mean (1.9 DG)

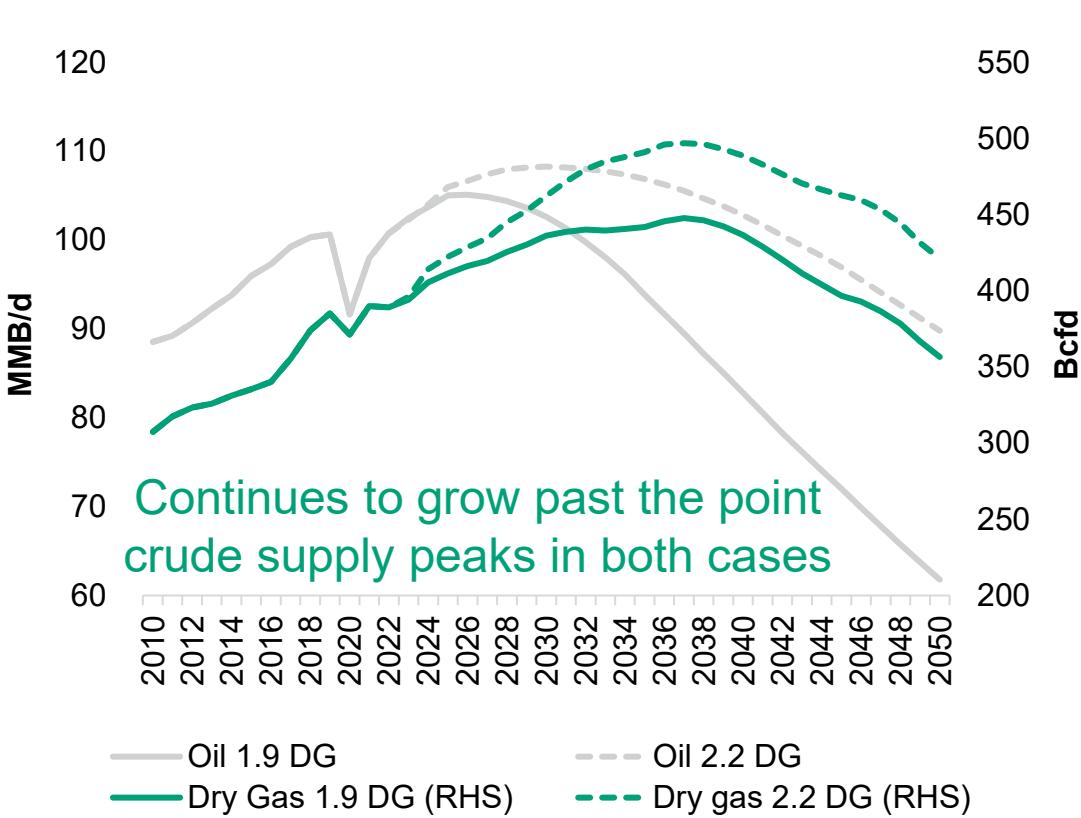
- ~39% loss liquids supply
- Major supply & pricing impacts
- Refining rationalization & significant reconfiguration

- Sigma (1.6 DG)

- ~76% loss liquids supply
- Rethinking of chemical demand
- Circularity innovations required

The availability of the product depends on both the extraction of crude oil and natural gas.

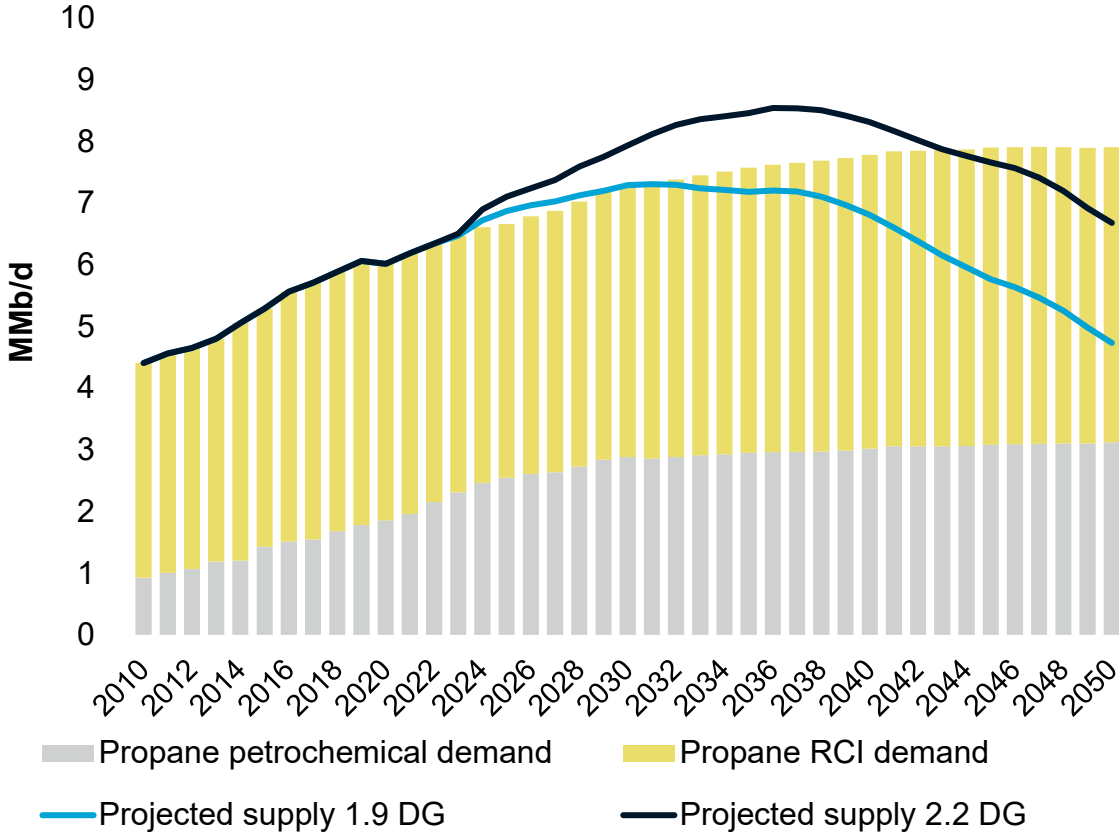
Global Oil & Gas Production Outlook



Source: Rystad Energy

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Global Propane Projected Supply vs Demand



Source: Chemical Market Analytics by OPIS, Rystad Energy

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HARRY POTTER AND:

Investigating a link between Liquefied Petroleum Gas (LPG)
Pricing and Deforestation in Africa

A Harvard University Capstone Project

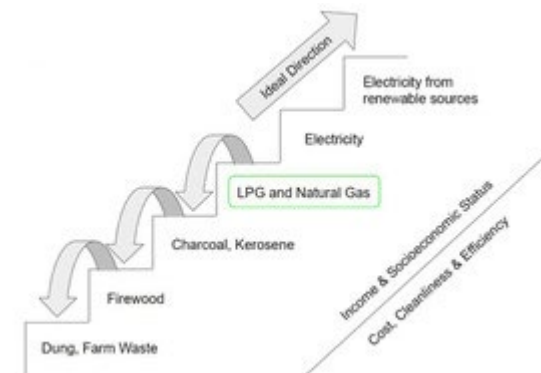
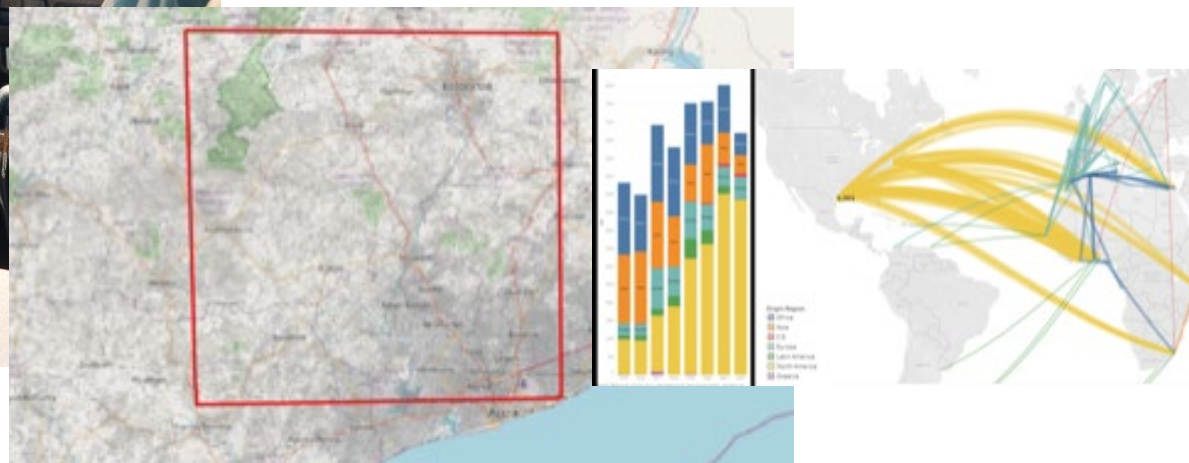
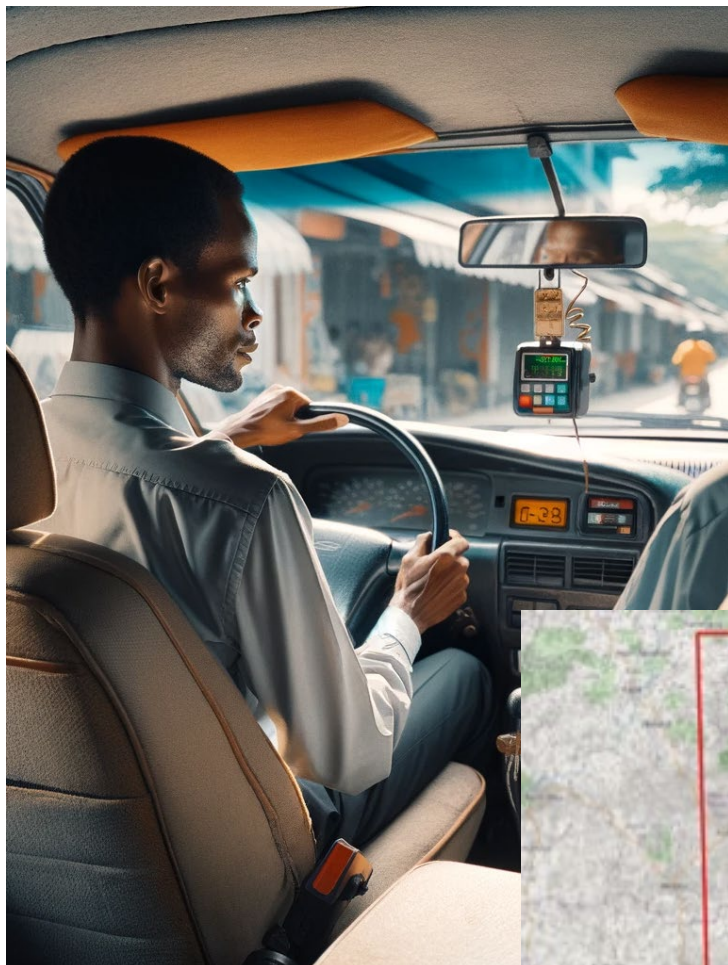
E. Adrian Calcano¹, Brendan Doner¹, and Stephen Knapp¹

¹Harvard University

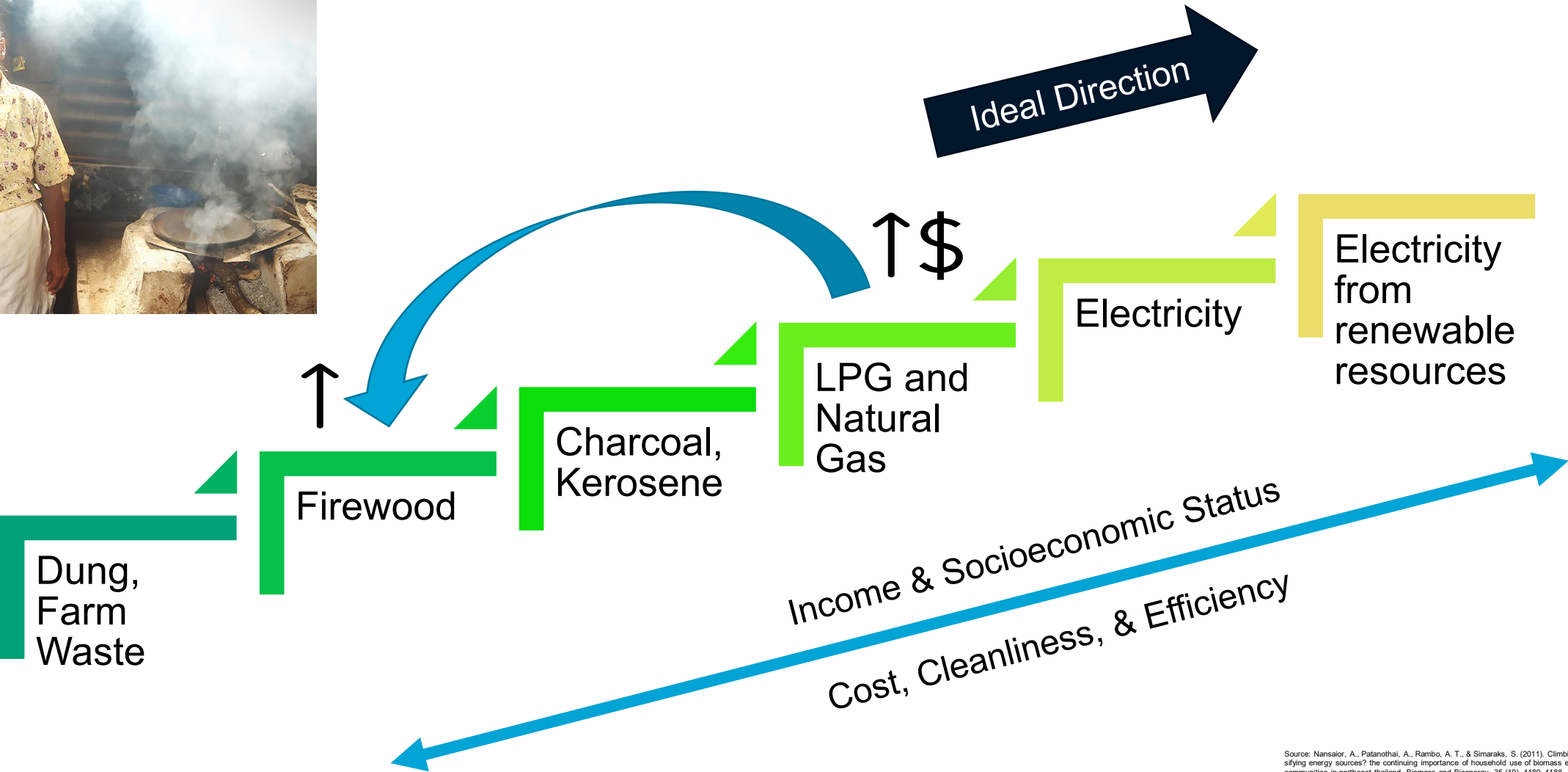
December 6th, 2022

Introduction

Deforestation can be the result of activities such as farming and mining which have the potential to improve local or national economies however, its more significant negative impacts range from decreases in biodiversity, disruption of local weather patterns, to changes in global climate patterns (Li et al., 2016). The large scale deforestation that we are seeing today is a significant contributor to climate change (Li et



The starting point of the Energy Transition depends on the context



Source: Nansaior, A., Patanothai, A., Rambo, A. T., & Simarak, S. (2011). Climbing the energy ladder or diversifying energy sources? the continuing importance of household use of biomass energy in urbanizing communities in northeast thailand. Biomass and Bioenergy, 35 (10), 4180-4188.

A difficult year ahead...

- Elections in Mexico & Venezuela



- New governments in Brazil & Argentina



- The Energy Transition



Parting thoughts



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