

SAMPLE REPORT December 2023



Commodity Markets Intelligence

Consulting & Forecasts

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Events

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Argus Polypropylene Analytics Service

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Weights, currencies and percentages

Unless explicitly stated, all weights are given in metric tonnes and all references to dollars are to US dollars. Currency conversions have been made either at current or relevant historical exchange rates, as required by the context. Numbers may have been rounded. This means that table totals may differ from the sum of individual figures, and percentages may sometimes appear not to total exactly 100pc.



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Associated data and analysis

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- This presentation is the initial publication of the Argus Polypropylene Analytics 10-year supply/demand forecast. This annual study provides a comprehensive overview of global supply and demand fundamentals, trade patterns and balances on a regional basis.
- Argus consultants analyze the global market for polypropylene and its primary grades to derive supply/demand estimates
- It is a commercially orientated consulting service whose aim is to provide the most accurate and timely analysis of industry trends and events, including supply and demand, and cost drivers.
- Argus also offers a short-term rolling 24-months price forecast (Argus Polypropylene Outlook) backed by an analysis of future market trends.
- Detailed data downloads of the supply/demand, capacity files and company balances are available:
 - <u>Supply/Demand Balance</u>
 - <u>Capacity</u>



Executive Summary

Global capacities, production and demand

Regional summaries

North America

Latin America and Caribbean

Western Europe

Middle East

<u>Appendix</u>

Northeast Asia

Southeast Asia

South Asia



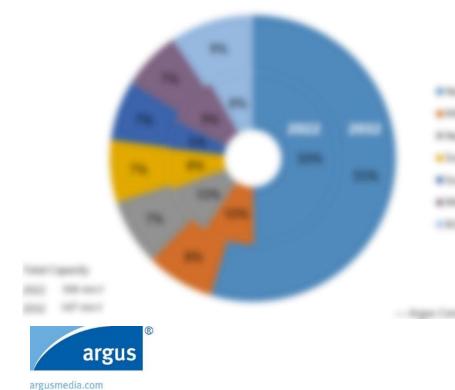
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Executive Summary

As China shifts to self-sufficiency, global trade patterns will need to shift.

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- Globally the PP capacity will grow pc by 2032 versus 2022
- NEA will increase global share of capacity
- Southeast Asia and south Asia global market share of capacity will hold steady





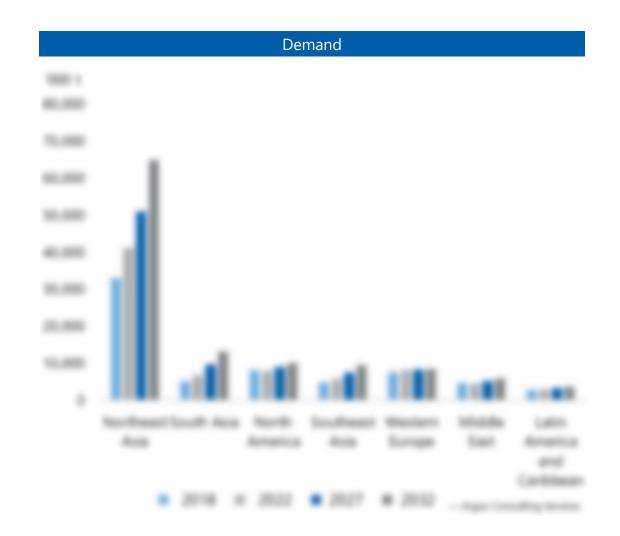
- A total of new PP plants are estimated to develop
- The majority of new capacity is being built in
 - new PP plants are forecast for the US
- Propylene from PDH continues to attract investment
- The volume of propylene from the refinery sector will shrink
- The next wave of investments

World demand polypropylene

Global demand will grow from 77,250 kta to 115,393 kta by 2023 (50pc increase).

- NE Asia demand will grow
- Much of this growth in NE Asia is expected to be in

- South Asia (India) while small in comparison to NE Asia in volume,
- No significant cost advantage exists in any of the major regions,
- Volatile prices related to PGP spikes will continue





World supply polypropylene

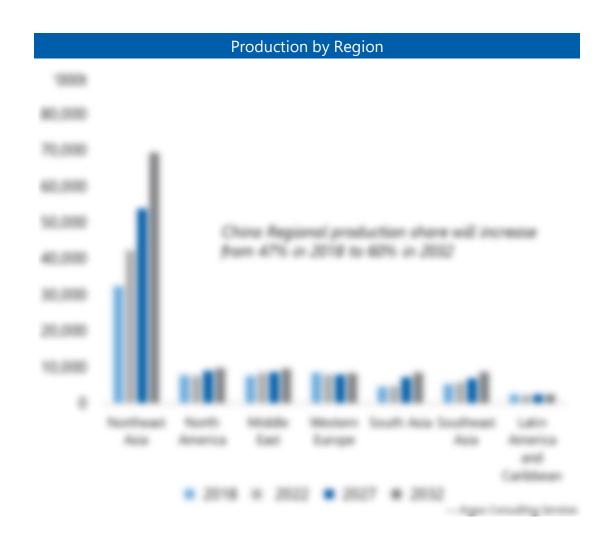
Global production will average 2 – 3pc above demand as producers control rates.

Global producers will operate plants

• China's growth will be key to recovery

• China's one advantage over other regions is

China forecasted production growth of





Argus forecasts global PP operating rates will fall to 74.3pc with a trough in 2025.

There are no major shifts in regional trade activities, although high energy costs in Europe will increase imports.

- The vast majority (over 70pc) of the new propylene capacity is linked to polypropylene projects.
- Argus forecasts that PP operating rates will continue to fall
- There are no major shifts in regional trade activities, although



Propylene Demand by Derivative



- We anticipate operating rates in all regions will be reduced
- Europe has been an importer of propylene and exporter of derivatives for many years but
- Northeast Asia will become a more structural exporter,



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North America: Economy

Economic growth to reach a bottom in 2024 before returning to a growth rate of 2pc by 2025.



- North America GDP is dominated by US demand
- Growth in the US for the past 10 years has hovered around an average of 2pc with 2021 and 2022 being an exception. Covid-19 drove the GDP down to -2.8pc in 2020 but bounced back with a strong growth recovery in 2021. Growth in 2022 returned to its 10year historical average. GDP growth in 2024 is forecast to have almost minimal growth at
- Canada and Mexico's growth rates have moved in the same general trend as the
- The regional inflation is falling but still remains high.
- The July 2023 rate hike will be the last in this cycle,



North America: Key updates

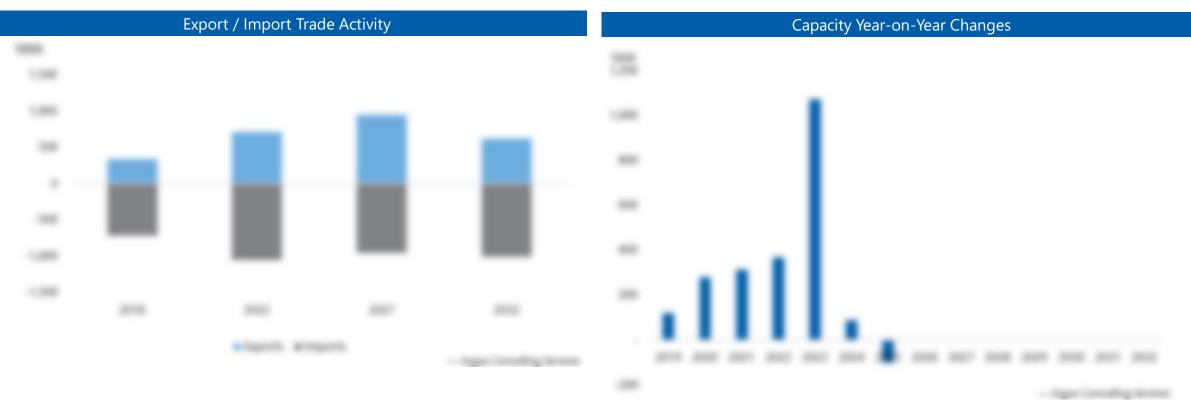
Demand will hold steady with a slow recovery in operating rates through the end of the decade.



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North America: Supply and trade

Some small rationalization of assets expected but little impact on operating rates.



- Oversupply will limit the market growth as suppliers struggle with lower margins of the next several years.
- PGP supply from PDH production will have a major impact
- Price volatility related to PGP / PDH price movements will



Appendix: Argus Polypropylene experts



Terry Glass

Vice President, Polymers Terry is responsible for the expansion of Polymer Report services in strategic regions. He has over 40 years' experience relating to the plastics industry, working with converters, brand owners, and resin producers. Terry delivers an integrated view across the polymer value chain and analyses on a global basis including European, Americas and Asian markets. He is currently supporting polymer related growth initiatives, including domestic and export markets, recycling and sustainability initiatives. Before joining Argus, Terry worked at Dow Chemical, Braskem, and Sasol. He holds a Chemistry degree from the University of Houston and 26 patents across a variety of market applications.

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Cassidy Staggers Polymers Analyst Cassidy is the lead analyst for Argus polymers portfolio, including launching the new Polypropylene Outlook. She also works with the Methanol team on Outlook publications, data maintenance and projects. Prior to joining the Chemicals team, she held various administration and operation roles at Argus and McKinsey. Cassidy holds a degree from the University of Michigan and an MBA from University of Houston.



Josie Jang Business Analyst

Josie is a business analyst in the chemicals sector. She works closely with Asia olefins and polyolefins experts, providing Asia price outlooks and insights. Josie has also worked for a gas ship owner as a market analyst in, focusing on ethane, LPG, LNG, and financial markets. She is a chartered financial analyst and holds a master's degree in Finance and Investment from the University of Bristol plus a degree in Economics.

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Sarah Rae Vice President, Olefins &

Derivatives

Sarah has decades of industry experience, including 17 years in senior strategic purchasing management positions. She was responsible for a wide range of materials including olefins, fertilizers and commodity raw materials, as well as management and project roles covering chemicals business management, sales, planning and logistics. Sarah began her career working for BP in oil exploration and has worked for DeWitt, Ineos, Tessenderlo Chemie (LVM) and Rhodia. She has a degree in geology from Leicester University.



Craig Fisher Lead Consultant, Propylene Craig is a member of the Argus olefins team focusing on propylene and associated derivatives. He contributes to the monthly Olefins Outlook report and the biannual Propylene Analytics report and provides support to both internal stakeholders and external clients. Craig has more than 20 years' experience in the petrochemical industry including roles with producers and consultants. The variety of products covered in his career include polymers, olefins, aromatics, asphalt, methanol, inorganics, OXO Alcohols, and electricity. Craig's goal is to provide Argus clients with clear and actionable market intelligence that cements the foundation for long-term relationships.

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