



## Market Analytics: Olefins - 2023

**Market Analytics: Olefins - 2023** is one in a series of reports published as part of NexantECA's Markets & Profitability program.

Market Analytics: Olefins - 2023 report provides an in-depth analysis of the olefins industry including:

- Ethylene
- Propylene
- Butadiene

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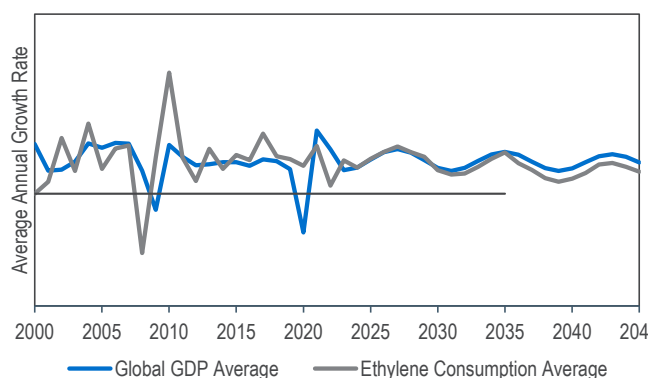
Along with the written report, NexantECA's Online Database includes supply, demand and trade analysis for 40 countries and global capacity listings updated on a monthly basis.

### Report Abstract:

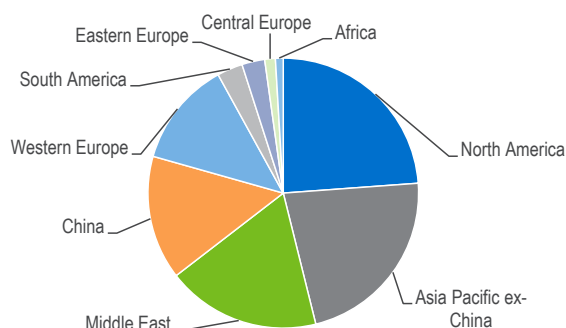
Olefins and aromatics are the basic building blocks for most of the petrochemical industry. The most commercially important olefins are ethylene, propylene and butadiene. Olefins are mainly produced by steam cracking hydrocarbon feedstocks, with additional production from oil refinery upgrading processes and by catalytic dehydrogenation of paraffins. Higher prices for conventional petrochemical feedstocks have driven technology development to exploit alternative feedstocks such as coal and methane.

The development of coal/methanol-based olefins production in China was a major influence on the local market in recent years but is now of reduced importance relative to steam cracker developments. Following the first plant start-up in China in 2011, 29 methanol-based plants were operating in China by the end of 2021, but there are only three more under development. The availability of low-priced gas created some interest in methanol-based olefins in the United States, but high construction costs now make this look unlikely. Projects are however under consideration in Iran and Central Asia due to the massive gas reserves in these regions.

**Global Ethylene Consumption Growth**  
million tons



**Global Ethylene Demand, 2023**



The proportion of ethylene, propylene and butadiene produced by a steam cracker depends on the feedstock used and the operating conditions. All feedstocks for steam cracking produce ethylene. Heavier feedstocks produce a greater proportion of propylene and butadiene, the heavier olefins, per unit of ethylene output while steam crackers using light feedstocks such as ethane produce almost exclusively ethylene. Feedstock price volatility has led to increased flexibility in feedstock selection by steam cracker operators.

Numerous steam cracker operators in Europe and Asia have invested in modifications to permit increased cracking of LPG as its pricing has become increasingly attractive relative to naphtha.

The United States remains the only current exporter of ethane, and for most new cracker projects outside the U.S. and the Middle East, naphtha remains the most attractive feedstock, and the current surge in new naphtha cracking capacity in Asia has become the dominant factor in global olefins supply.

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### Appendix

- A. Methodology
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Chapters 3 to 5 are segmented by key region:

- North America
- South America
- Western Europe
- Central Europe
- Eastern Europe
- Middle East
- Africa
- Asia Pacific

Each region/country is further segmented by:

- **Consumption:** Assesses historic and forecast consumption; forecasts are based on projections of end use and economic activity.
- **Supply:** Includes a list of all producers, their production capacity, location, etc., and discussion of the status of new projects.
- **Supply, Demand and Trade:** Provides historical analysis and forecasts to 2045 of consumption, production, imports/exports, inventory build-up/decline, capacity and capacity utilization.

This analysis will identify the issues shaping the industry, as well as provide an independent appraisal of the market.

For related analysis, please refer to:

[Profitability and Price Forecasts: Olefins](#)  
[Quarterly Business Analysis](#)

## Subscription Details:

Subscription to **Market Analytics: Olefins - 2023** includes:

- 12 month access via the NexantECA website, to:
  - Unlimited downloads of PDF reports
  - Downloadable data in Excel from the Online Database
- Webinar
- Consultation time with the project team

Customized subscriptions are also available.

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The **Markets and Profitability** program comprises of the well-known Petroleum and Petrochemical Economics (PPE), PolyOlefins Planning Service (POPS), Strategic Business Analysis (SBA) and World Gas Analytics (WGAS).

Markets and Profitability tracks over 60 feedstocks, petrochemicals, polymers, chemical intermediates and fertilizers on an ongoing basis and provides regularly updated reports covering all commercial aspects of these global industries. The accompanying database, provides global analysis and forecasts in two major inter-related areas: **Markets and Profitability**.

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