



TEXAS OIL & GAS ASSOCIATION

2024 – Refining & Petrochemical Outlook

For HCAD

TXOGA Antitrust Statement

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As a general rule, competitors may not restrain competition among themselves through understanding or agreements about the price, the production, or the distribution of their products, or through other agreements which unnecessarily restrict competition. They may not act in concert to restrict the competitive capabilities or opportunities for their competitors, their suppliers, or their customers.

Trade associations, like TXOGA, are subject to strict scrutiny under the antitrust laws because they are venues where competitors gather and discuss information about the way they conduct their business. Therefore, trade associations must act carefully and cautiously in the way that they conduct their activities to ensure that they do not create conditions that could be construed as violations of the antitrust laws.

Your participation in this meeting is acknowledgment of your agreement with the above and your promise to participate in this meeting in a professional and courteous manner.

Key Refining Industry Considerations

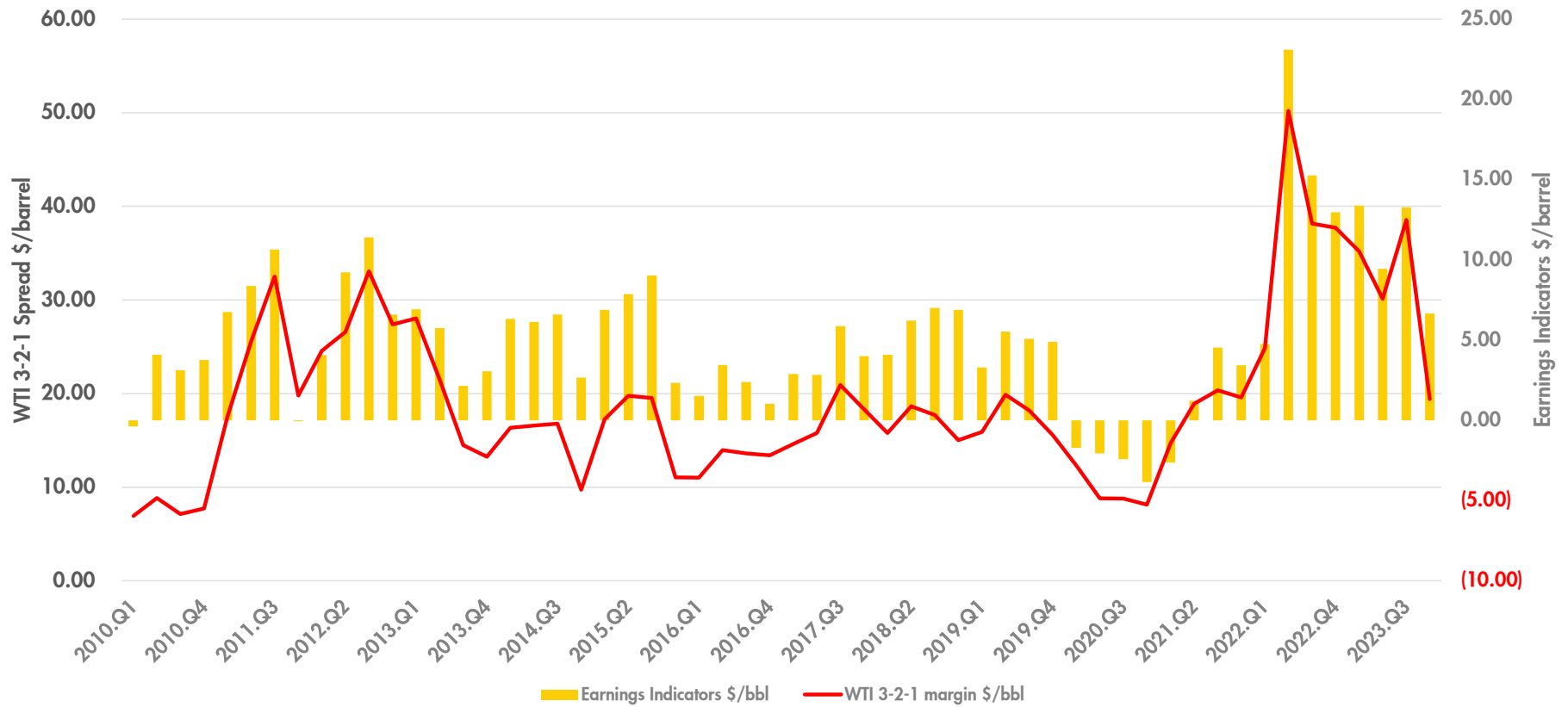


Refining market drivers in 2023

The start of the year continued 2022 margins, that fell off in the fourth quarter

- Ukraine war not causing as big an impact on supply and demand, margins
- Rate of inflation still higher than Fed target, prices still substantially higher than 2020
- White House and EPA continue to push forward on EV mandate, new regulations
- Most important, buyers aren't buying refineries

Preliminary 2023 Refining Earnings Indicators



Sources: Investor websites, EIA, Platts, author analysis

Transactions & Market Indicators

- No new refinery transaction since Houston Refining announcement in 2023
- Houston Refining shut down delayed until first quarter 2025; plan still is to convert to hydrogen hub

Shale Patch M&A Might Be Booming, But Refineries Are Left Behind

By Greg Kramel - 4:46 PM EST 7/29/2024

OPERATING INDUSTRY

There are a growing number of refineries in the industry. Shell Plc. (NYSE:RDSA) has been forced to close its 240,000-bpd Convent, Louisiana, refinery, after failing to find a buyer. Exxon Mobil has been forced to close its 140-year-old, 160,000-bpd Tula, Pennsylvania, refinery despite seeking it in the market six years ago. LyondellBasell Industries' (NYSE:LBI) 240,000-bpd Houston refinery is scheduled to close in 2025 after two failed attempts to sell. "By aggressive refiners, Texas companies are now struggling with high costs of maintenance for their aging plants leading to increasing investments. Last year, 9,000 barrels Valero Energy Corp. (NYSE:VLO), Marathon Petroleum (NYSE:MP) and Phillips 66 (NYSE:PSX) together had the equivalent of 250,000 bpd of capacity still to be planned and completed outages, versus about 20% just from 2018. According to company filings, Phillips 66 spent \$795 million on maintenance in 2023 alone. Meanwhile, LyondellBasell estimates its plant requires at least \$1 billion in upgrades to continue operations.



ANALYSIS-US refinery M&A stalls as buyers shun aging assets, uncertain future

- Refiner evaluations are down ~1/3 since the financial crisis of 2008
- Several refiners have had assets on the market for years but no sales
 - Delta Trainer on/off market since 2018
 - New Philips 66 divestiture program may include small refineries
 - LyondellBasell on market two separate times before deciding to convert to hydrogen hub
- Maintenance costs to keep older plants online have also deterred refinery buyers
 - Price tag to upgrade Houston Refining was estimated to be greater than \$1 billion

What should we consider in near-term?

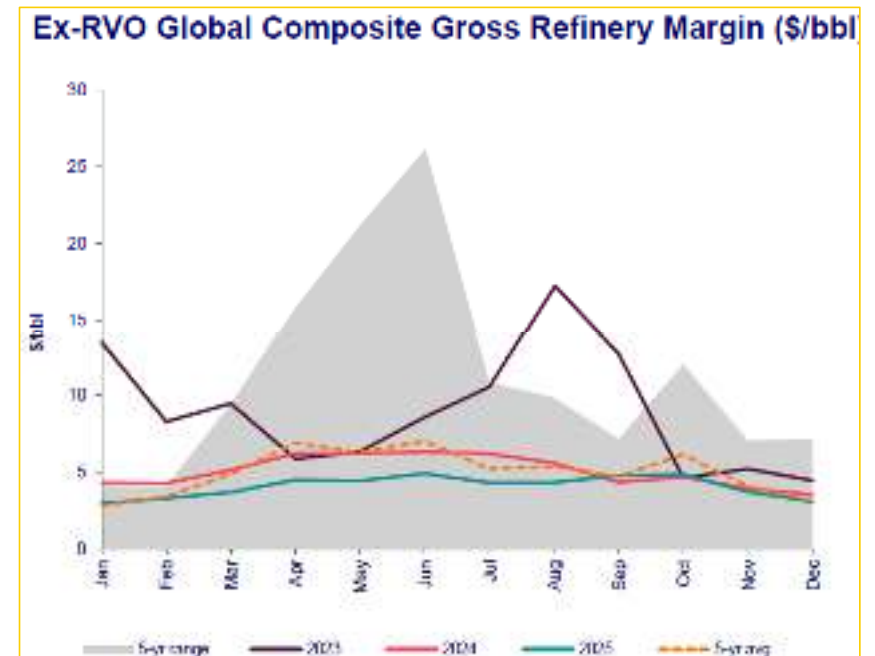
Significant new refining capacity outside the U. S. affects margins

- Margin outlook collapses back to historical five-year average with new capacity in Nigeria, Kuwait, Mexico
- New supply offsets demand increase
 - Global jet fuel demand remains below 2019 level

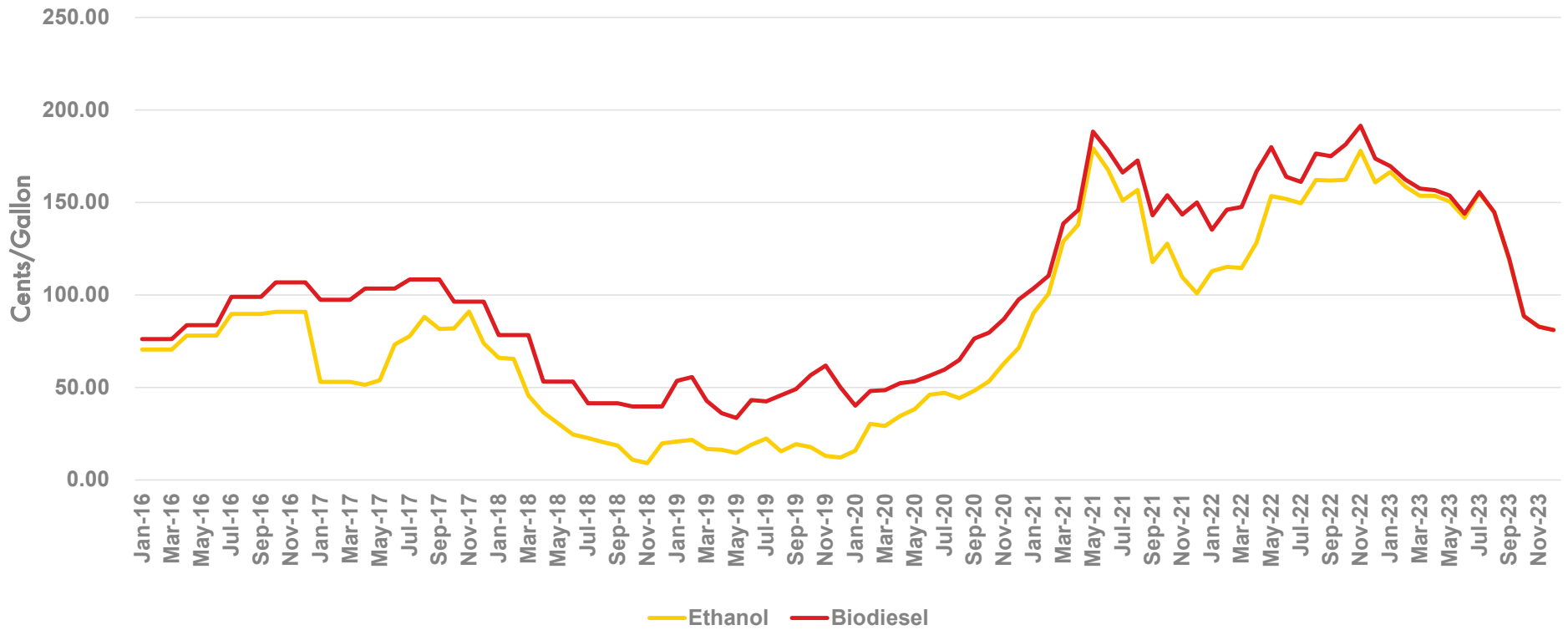
Global Refining Industry Braces for Tough 2024

By [Lisa Slay](#) - Nov 16, 2023, 9:03 PM CST

- ▶ Despite predictions of a peak in fuel demand, global demand for fuel has been rising, particularly in China and Europe.
- ▶ Significant new refining capacities are coming online in Mexico, Kuwait, and Nigeria, adding to the global supply.
- ▶ The energy transition's impact on fuel demand has been less than anticipated, with stable or growing gasoline demand and subdued diesel demand due to weaker industrial activity.



RINs continue to be a cost problem (at a lower level)



Continuing Government Actions

Biden admin reportedly doubling down on gas car crackdown

'Tinkering with the near-term speed of implementation doesn't change the end game, which is banning new gas-powered cars,' group tells Fox News Digital

Exclusive: Biden administration to approve E15 gasoline expansion starting in 2025, sources say

By [Suzette Benson](#) and [Stephanie Kelly](#)

February 20, 2024 1:46 PM CST - Updated 10 hours ago



New EPA rule could save 4,200 lives a year. Industry warns it could cost Biden his reelection.

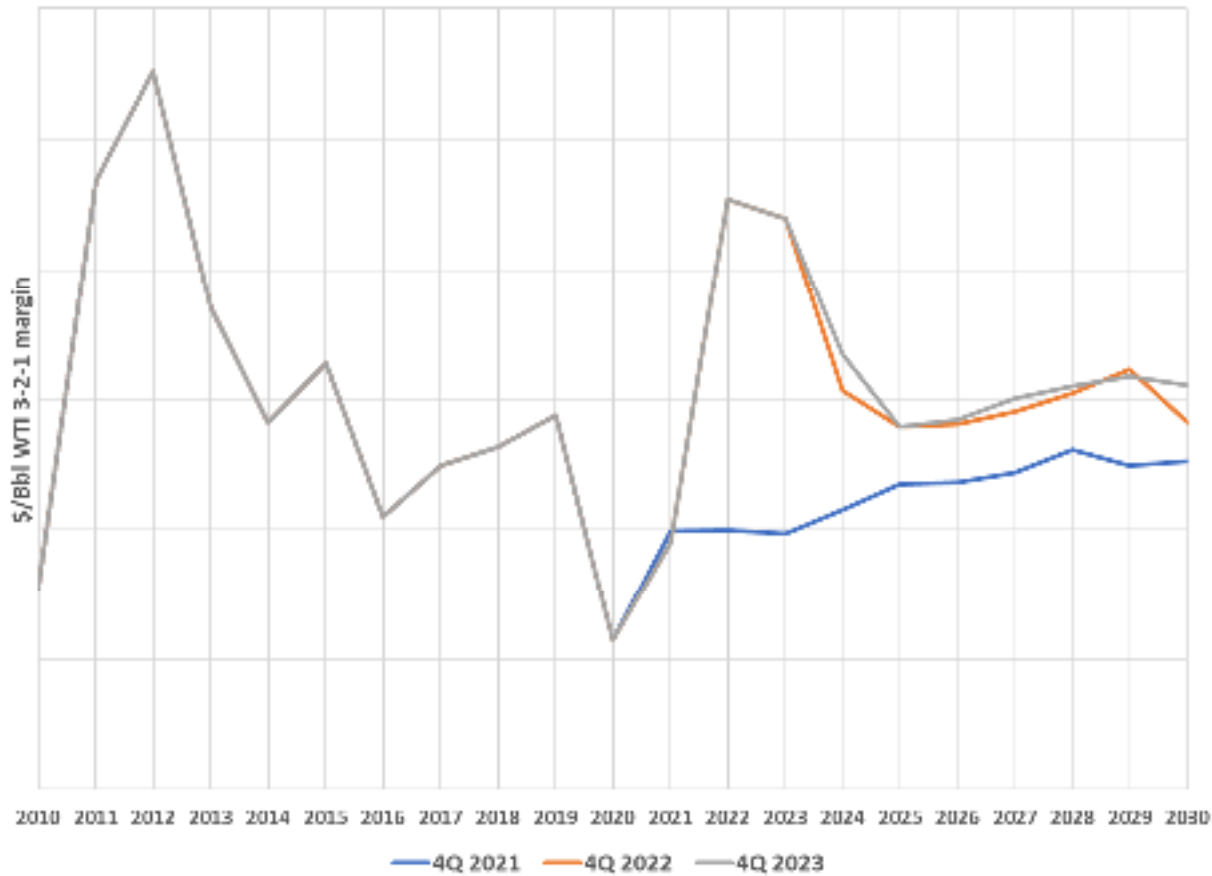
Business groups say the stricter standard on particulate pollution could hurt manufacturing jobs in states key to the president's reelection chances



By [Michael Cooper](#)

January 28, 2024 11:40 AM EST

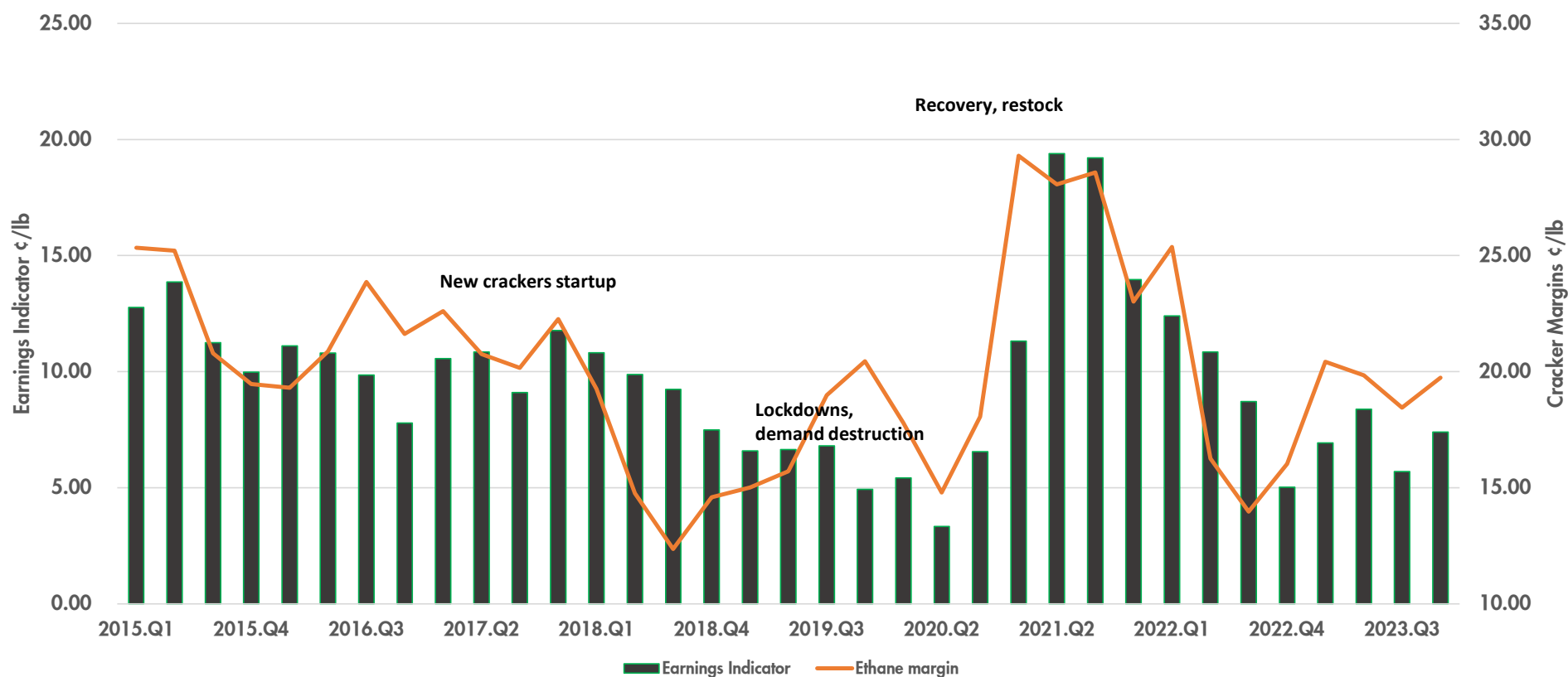
Comparing 3rd party price forecasts 2021-22 vs. 2023



Key Petrochemical Industry Considerations

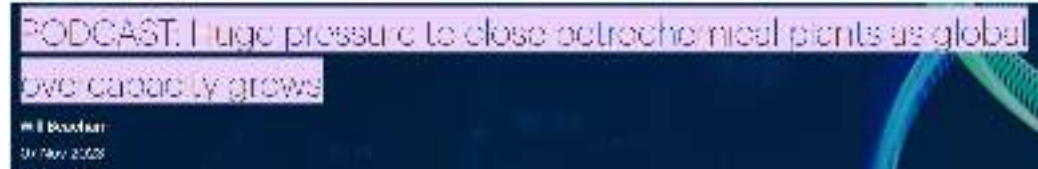
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Petchems peaked early 2021, still facing overcapacity challenges



Sources: Investor websites, author analysis, Platts, ICIS

Ethylene, chemicals outlooks



Chemical industry profits reappear in Europe

Oil and gas prices fell, major new production is not yet on stream and global supply is tight

Source: ICIS Petrochemicals Intelligence, 01 Nov 2023

FRANCE

Chemical earnings nose-dive in 2023

Company executives warn of a difficult start to 2024

by Alexander K. Tuller

January 29, 2024 | A version of this story appeared in Volume 102, Issue 3

Olefins value chain

China's expansion of monomer and polymer capacity links set to dull recovery of global operating rates in 2024

Feedstock	2024 Outlook	Downstream derivative	2024 Outlook
NGLs	East Africa is developing several unconventional shale gas fields rich in non-H ₂ content. Crude primary and secondary production is expected to rise, and as more shale EOGs. The shale gas fields will be integrated with equivalent downstream polyolefin capacities which will be aimed at local markets.	Overview	The pace of recovery in global polyolefin demand is expected to slow in 2024. Notably, a significant portion of the demand growth is attributed to strong growth rates in Africa and Asia, where growth is projected at 7.2% and 8.2%, respectively.
Ethylene	As downstream recovery will be muted against an ongoing wave of new investments in China, which is expected to deliver an additional 4.4 Mt of ethylene capacity by the end of next year. The scale and volume of these new investments will force the market to rationalize a portion of its supply base, with the burden falling mainly on the high-cost regions of Europe and Asia. The situation in Europe is of particular concern given its deepening economic slump, lagging production and stagnating downstream demand growth.	Polypropylene	Due to widespread investment in China, the expectation is overall operating rates are expected to decline to 76%, the lowest level since 2012. Our projections indicate a significant reduction in polypropylene imports by China in 2024, with a trajectory towards transforming the country into a net exporter by the year 2027.
		Polyethylenes	In India, the implementation of new quality standards in imports are anticipated to result in post-inflation, leading to potentially higher CFR India and domestic prices. Concurrently, there is a parallel proposal by Indian authorities to introduce BIS standards for PE.

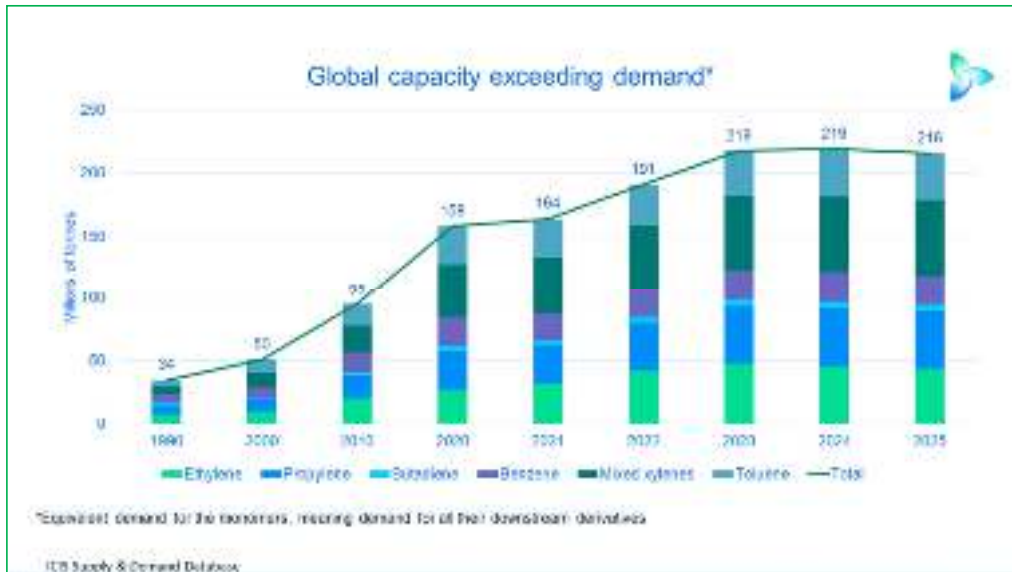


Photo: Reuters/Chris Wedel

KEY TAKEAWAYS

- DuPont warned that a dip in volumes will drag down fourth quarter results and affect the current quarter.
- The chemical giant expects a fourth quarter 2023 loss, and 2024 first quarter profit and overall stable as analysts' forecasts.
- The company blamed inventory decreasing and weak demand in China for the slump.

Uncharted waters in excess capacity and utilization rates



Environmental issues continue to pressure industry

Houston Ship Channel deemed 'sacrifice zone' in new pollution report by Amnesty International

The international human rights organization found that people in communities near the ship channel, which are predominantly low income communities of color, have life expectancies up to 20 years shorter than largely white and affluent areas about 15 miles away. Amnesty International pinned the problem on the petrochemical industry as well as state and federal environmental regulators.

Adam Zuvanich | January 26, 2024, 3:18 PM (Last Updated: January 26, 2024, 5:20 PM)



New EPA rules could improve air quality along the polluted Houston Ship Channel

The change would require stricter monitoring at the perimeter of petrochemical plants.



New EPA rules could improve air quality along the polluted Houston Ship Channel

May 25, 2023

Lives "devastated" by petrochemical industry pollution in Texas: Report

New analysis illustrates the climate, environmental, and human rights tolls linked to petrochemical production surrounding the Houston Ship Channel region.

By Harbin Zhang | May 25, 2023 | 5 min read

EPA moves to crack down on toxic zones like Houston Ship Channel

By **James Osborne**, Washington bureau
Updated May 22, 2023 6:24 p.m.





Recap on Petrochemical Industry

- Petrochemicals continue to face very challenging markets
- Still working down new capacity additions (global)
- Margins/earnings continue to drop toward breakeven or worse
- EPA and NGOs continued to tighten focus on petrochemical plant emissions

Questions and Answers

Q&A