2023 Chemicals Outlook

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2023 Chemicals Outlook: Challenges galore

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After a tumultuous recovery in 2021, the global chemical industry was expecting a strong rebound in 2022. Feedstock supply constraints, high energy prices, and slowing economic conditions, however, dampened the industry's performance in 2022. A number of these challenges will persist and likely intensify in 2023 and continue to challenge the industry. Key trends with the chemical industry to look out for in 2023 are as follows:

Global GDP growth is expected to fall from 2.9% in 2022 to 2.1% in 2023 indicating a mild recession significantly impacting the chemical industry

U.S. base and specialty chemicals output to fall by 1.5% and 1.2% respectively in 2023

As the global economy slows down with high inflation and interest rates, vehicle sales are expected to see a growth of 5% to 6% from 2022 reaching about 85 million units in 2023 but still below the pre-COVID levels of 90 million units. Similarly, the global construction and manufacturing industries will also see modest growth plagued by muted demand and high costs.

Major economies such as Europe and the U.S. are also likely to struggle with recessionary conditions. Europe will continue to struggle with high energy prices that will continue to impact its economy. For example, the U.S. will likely witness a mild recession with its GDP growth in 2023 expected to be same as in 2022 at 1.8%. Consumer spending in the U.S. is expected to grow by a mere 0.6% in 2023 followed by a modest 2.6% growth in 2022.

Access ADI's multi-client study on [polyolefin elastomers and plastomers]

All of these factors will have a significant impact on the outlook for the chemical industry in 2023.

Even so, the U.S. chemical industry will stay advantaged due to cost-competitive gas and NGL supply

The U.S. chemical industry started off 2022 on a strong note but slowed down in the second half due to muted growth in end-use markets and a slowing economy. While the U.S. chemical industry output is estimated to have grown by 3.9% in 2022, it is expected to fall by 1.2% in 2023. Base chemicals output will fall by 1.5% in 2023 while specialty chemicals output will fall by 1.2%.

The U.S. natural gas liquids (NGL) supply will grow to 6.29 million barrels per day (MMBpd) in 2023 from 5.95 MMBpd in 2022 and Henry Hub gas prices are expected to stabilize to $4.90 per MMBtu in 2023, lower than $6.42 per MMBtu in 2022, supporting the U.S. chemicals industry.

European chemical industry will take a hit due to lower Russian gas imports and high LNG prices

PE and PP margins will take a hit during first half of 2023 and …

Going into 2022, several European chemical producers were already facing a gas supply crunch and high energy prices since the pandemic and the Russia-Ukraine war made matters worse by further reducing gas supplies. A number of chemical and petrochemical companies in Europe have announced partial curtailments in production that some are likely to make permanent. For instance, Trinseo is contemplating shutting down its 300,000 tons per year (tpy) styrene plant in Bohlen, Germany. Similarly, CF Industries stopped production at its ammonia plant in England in August 2022 and Yara International has cut its European ammonia operating rates to 35% of capacity with no definite plans of returning to full production in 2023. Overall, the European chemical industry's operating rates are expected to fall to 40% to 50% of capacity in 2023.

… Recycled resins will also see a weak outlook

Margins for PE and PP will remain under downward pressure due to increasing capacity in the U.S. and slower economic growth

While the U.S. PE and PP industry is at the tail end of its second wave of capacity expansions, new plants including Bayport Polymers' 625,000 tpy polyethylene (PE) plant in Texas and NOVA Chemicals' 500,000 tpy PE plant in Ontario are expected to start operations during 2023. Overall, North American PE and PP capacity is anticipated to grow by 17.3% and 22.4%, respectively, during 2020 through 2024. However, new supply growth and muted demand due to global economic slowdown will put downward pressure on PE and PP margins in 2023.

Despite regulatory pressures and consumer interest, recycled resin prices will see a weak outlook in the first half of 2023

Recycled resins will see limited growth in the first half of 2023 as there is little incentive for users to justify procuring expensive recycled resins. While the U.S. and European producers are driven by regulatory pressures, many users in Asia consider recycled resins only for branding purposes.

U.S. chemical industry spending growth is expected to slow down to 3.3% in 2023

Over the last two months of 2022, recycled high density polyethylene (rHDPE) prices fell between $45-90 per ton, recycled low density PE (rLDPE) prices fell between $25-55 per ton, and recycled polypropylene (rPP) prices fell by $55 per ton. Recycled PET (rPET) prices fell by $140 per ton for colored flake, $200 per ton for clear food grade pellets, and $300 per ton for clear flake. Prices are not expected to pick back up for the first six months of 2023 at the very least.

The U.S. chemical industry's capital spending rebounded in 2021 and retained its momentum in 2022 but we expect a slowdown in 2023

ESG pressures and goals will drive increased M&A activity in the chemical industry

Higher spend on capacity expansions, upgrades and maintenance projects that were pushed back during COVID, and sustainability projects retained the momentum of capital spending growth of 9.0% to reach $33.5 billion in 2022. A downturn is expected in 2023 resulting in capital spending growth to slow down to 3.3%.

Chemical companies will continue exploring pathways to cut Scope 1 and 2 emissions with electrification of operations being a major strategy

Chemical companies continued to revise their emissions reduction goals through 2022. For instance, ExxonMobil announced net-zero greenhouse gas (GHG) emissions by 2050, BASF plans to achieve 25% emissions reduction by 2030 compared to 2018, and LyondellBasell revised their emissions reduction target from 30% to 42% in 2030 relative to 2020 baseline.

In order to meet these targets, companies are exploring pathways to electrifying operations such as ethylene crackers. BASF, SABIC, and Linde's electric cracker demonstration unit in Ludwigshafen, Germany is expected to start-up in 2023. Shell and Dow are also expected to intensify their efforts on electrification of a gas-fired steam cracker at the Energy Transition Campus in Amsterdam this year.

Access ADI's multi-client study on [global polypropylene market]

ESG pressures on chemical industry are increasing and producers are optimizing their portfolios for the long term

ESG pressures continue to intensify and chemical producers are responding through a number of strategies, e.g., by shifting away from phthalate-based catalysts for PP production and PFAS and other toxic chemicals. For instance, 3M is planning to exit PFAS manufacturing business by 2025. More such announcements are expected to follow in 2023.

Further, mergers and acquisitions and business portfolio changes in which sustainability is stated as a driver have increased recently. For instance, LyondellBasell announced in 2022 that it will shut down its refinery in Houston thereby cutting 15% of the company's GHG emissions by the end of this year. The company aims to repurpose the equipment such as hydrotreaters from the refinery for a waste plastic pyrolysis oil plant.

In other examples, Solvay is planning to split into two companies, one to focus on commodities such as soda ash and peroxides and another to focus on specialty chemicals. The soda ash business is expected to take longer to decarbonize than their specialty chemicals business. Trinseo acquired Arkema's acrylics business citing recyclability of the polymer and divested its European synthetic rubber business, a unit that represented 10% of the company's sales but 25% of its GHG emissions. This trend is expected to continue through 2023.

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