

Chemicals Practice

Securing the competitiveness of the European chemical industry

Companies can build on Europe's intrinsic strengths and play offense in sustainability, while pursuing consolidation and functional excellence.

by Eren Çetinkaya, Alexander Klei, Andreas Seitz, and Georg Winkler



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The global chemical industry is going through difficult times. Geopolitical tensions, inflation, sustainability pressures, supply-chain interruptions, and demographic challenges have greatly complicated its operations. On top of these issues, the European chemical industry is facing an existential threat. Prices of natural gas—the primary feedstock for the industry—have risen 420 percent compared with average prices in Europe in 2010 to 2020. Meanwhile, Asian and North American markets have faced significantly lower increases of about 105 percent and up to 50 percent, respectively. The higher global prices are primarily the result of the industry moving away from lower-cost Russian gas.

The current level of gas prices is putting the competitiveness of the European chemical industry at risk. The cost of materials and labor is increasing throughout the industry and EBITDA margins are declining, though diversified companies are less exposed to this effect. Several commodity chemicals companies have already started to

reduce or shut down production capacity in Europe. Further, gas shortages are likely to persist until 2025. While gas prices are expected to fall from current levels, they could remain above pre-crisis levels with continuing high volatility.

As a result, many are wondering if chemical companies will be able to continue operating in Europe. McKinsey analysis shows that many, if not most, will. However, the industry's future on the continent may need a fundamentally different strategy and level of execution. In this article, we examine four intrinsic strengths on which European chemical companies can build, and outline the short-, medium-, and long-term measures they can take to maintain their competitiveness.

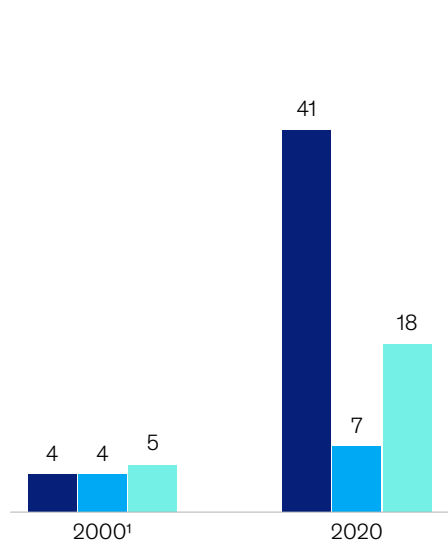
Sources of competitiveness for the European chemical industry

While Europe has been disadvantaged historically in terms of feedstock, labor cost, and capital, its chemical industry has done remarkably well (Exhibit 1).

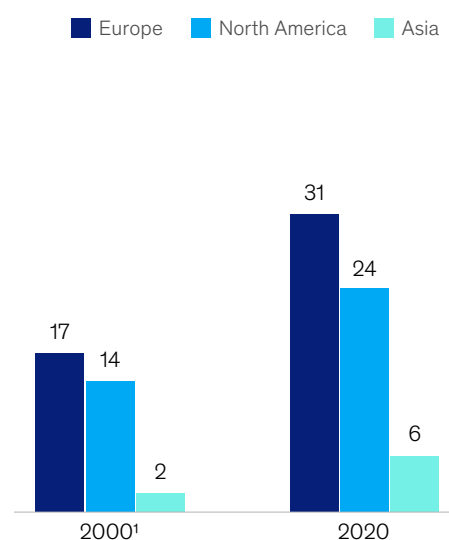
Exhibit 1

Historically, Europe has been disadvantaged in feedstock, labor cost, and capital.

Average natural gas prices,² \$/mmbtu



Average labor costs per hour, \$



¹Asia: China, Japan, and Korea; Europe: EU-28; North America: Canada and United States.

²Liquefied natural gas for Japan as a proxy for Asia.

Source: Capital IQ, Economist Intelligence Unit; Ministry of Labour and Social Security, China; MSCI; S&P; UNECE; Datastream & Corporate Performance Analytics™, McKinsey

In the 20 years from 2000 to 2020, the European chemical industry has delivered the same total return to shareholders (TRS) as its North American counterparts, and a higher TRS than its Asian ones (Exhibit 2). The lower capital cost in Asia has been driven by overall higher subventions. The European chemical industry has only fallen behind since 2020, when natural gas prices began rising even before the Russian invasion of Ukraine.

So, if the European chemical industry has lacked a structural advantage, why has it been doing so well? And can the sources of this strength be leveraged in the future? Europe offers chemical and other companies four intrinsic strengths that are difficult to replicate: ingenuity, size and stability, diversity, and sustainability.

Ingenuity

Europe's innovative power is at least on par with Asia and North America. European chemical companies invest similar amounts in R&D and

register equal numbers of patents. The European business environment also fosters an active home for chemical start-ups. A reason for the innovation advantage is that European companies typically do business in much smaller home markets than their North American peers. As a result, the European players have developed a better understanding of local end consumers' needs and have learned to tailor products to them, generating competitive advantage.

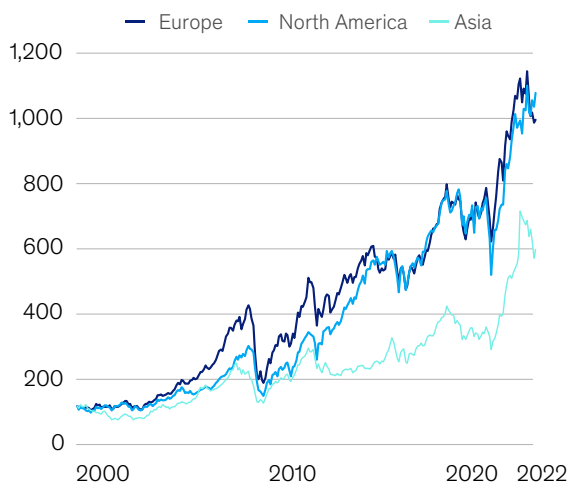
Size and stability

Europe is the second-largest single market in the world by GDP, after the United States.¹ It is an interconnected market with a GDP of more than \$18 trillion, a population of almost 500 million, and a per capita GDP of \$40,000—three times that of China and 20 times that of India. Its chemical industry has revenue of about \$500 billion and benefits from seamless intra-European trade and a stable political environment.²

Exhibit 2

Europe's chemical industry has done well in the past despite disadvantages and has only recently started seeing falling returns.

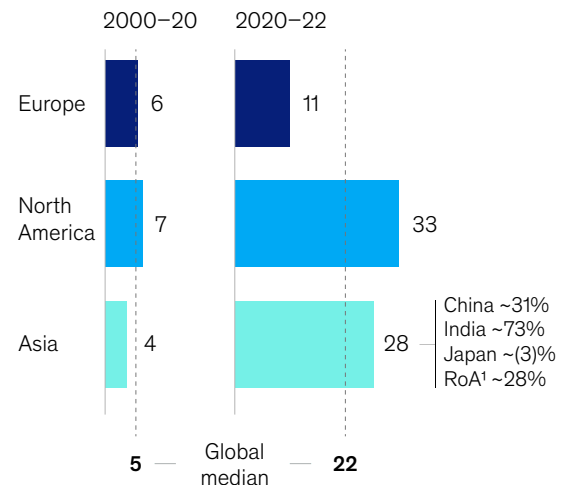
Chemicals total return to shareholders (TRS), \$, indexed to 100 as of Jan 2000



¹Rest of Asia.

Source: Capital IQ; MSCI; S&P; Datastream & Corporate Performance Analytics™, McKinsey

Median company TRS CAGR for different time frames by region, %



¹EU-27 plus Norway and Switzerland; World Bank national accounts data and OECD national accounts data files, World Bank, 2021.

² Data drawn from European Chemical Industrial Council, European Commission, OECD, and World Bank.

Diversity

McKinsey research shows that diverse and inclusive companies consistently outperform their peers. Europe's cultural diversity, with almost 30 countries, 24 languages, and a high employment share of women, provides its chemical industry with a natural advantage. If European companies want to grow, they should internationalize from day one. By the time they expand into America, Asia, or other regions, they can typically build on years of experience of operating across many countries, with a diverse management team and workforce.

Sustainability

The European Union (EU) is at the forefront of global sustainability efforts (Exhibit 3). Under its "Fit for 55" strategy, the EU Commission has presented a package of policy reforms, guidelines, and regulations to support the implementation of the European Green Deal. The Deal's goals include a 55 percent reduction in greenhouse gas emissions by 2030 compared to 1990, making Europe climate neutral by 2050. Included in the package is the "Chemicals Strategy for Sustainability." This forms part of the EU's goal of a toxic-free environment by 2050 and sets the long-term vision for the EU chemicals policy. These regulatory initiatives, along

with changing expectations from consumers, have prompted many of the top 20 to 30 players in key end-use sectors for the chemical industry to set ambitious science-based sustainability targets. These targets will make their way into the chemical value chain, creating opportunities for companies that can serve this demand with more sustainable chemical solutions.

How European chemical companies can remain competitive

Continuing to operate in the same way that they have for the past 20 years—that is, cutting costs to remain competitive—will not be enough for European chemical companies to secure their futures. It will require a transformation and redefinition of the industry, and fast execution and agility. We look at what European chemical companies can do to remain competitive through a short-, medium-, and long-term lens.

Short term

European chemical companies can take immediate steps to address efficiency and productivity, while preparing for the major shifts to come in the middle and long term.

Exhibit 3

Europe is at the forefront of global sustainability efforts.

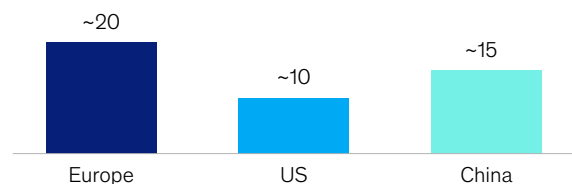
~€1 trillion

investment budget in new policy framework by the European Commission until 2030

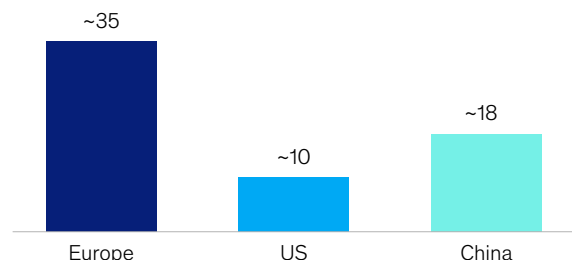
Net zero by 2050

already committed in 2019

Primary energy supply share from renewables, 2021, %



Overall plastic recycling rate, 2018–20, %



Source: Environmental Protection Agency; European Commission; European Environment Agency; MDPI; Statista; World Bank; McKinsey Global Energy Insights

Renew functional excellence. Natural gas prices are expected to fall by 2026, but, even then, they may remain above historical averages. Under these circumstances, European businesses would do well to be at the forefront of efficiency and effectiveness to achieve a solid and stable base on which to build other initiatives. Our experience shows that chemical companies can save up to 10 to 20 percent on energy spending and 10 to 40 percent on the energy they use, while achieving up to 10 to 20 percent in throughput improvements and 10 percent in yield increases. Achieving these targets would require a rigorous focus on improving performance and embracing the latest approaches in digitization, analytics, and enterprise agility.

Strengthen resilience in the physical supply chain. Safeguarding operations will be paramount. This includes securing access to energy through a combination of contractual and physical hedging, as well as gaining access to raw materials and identifying critical alternative feedstocks that might be, or become, scarce.

Review the existing strategy considering current value-pool shifts. The changes in energy supply, sustainability regulations, global supply chains, and other factors could spur a major shift in value pools. Decarbonization of power, low-carbon mobility, circular products and packaging, and low-carbon agriculture and food supply are just a few of the new value pools. We estimate that each of these areas could generate market sizes of \$500 billion to \$1 trillion by 2025, and each one could require new chemical products. Companies can consider reassessing their product portfolios—what to keep, what to decarbonize, what to relocate, and what to sell—and reevaluate the strategic options linked to these new growth levers in Europe.

Identify new business-building opportunities. Developing new sustainable solutions will require not only decarbonizing existing assets but also building new businesses, for example, in circularity or green and blue businesses in bio- or hydrogen-based feedstocks. Scaling these businesses will take time and the full top- and bottom-line impact will only become apparent in the middle to long term. Therefore, it will be important to identify

opportunities, develop business blueprints, and design ambitious scale-up plans early on.

Medium term

In the medium term, European chemical companies can consider shifting their focus to decarbonization, building new businesses, developing functional capabilities, and bulking up through consolidation and M&A.

Decarbonize operations. European companies will have to decarbonize their own operations, both for compliance reasons and to satisfy their customers' needs. As noted above, many downstream companies, especially brand owners in consumer-focused industries, have announced ambitious targets and commitments to reducing Scope 3 carbon emissions. As these industries are all customers of chemical companies, it will be critical that chemical companies decarbonize their own operations.

Build and start to scale new businesses. Once companies have identified opportunities to pursue, they can start to build and scale them. Analysis shows that leaders in green business building share several key success factors, with the first being the most important:

- They lead with a game-changing ambition, balanced with speed and execution.
- They sign up captive demand before scaling. In many cases, there are long-term offtake agreements and even invitations to customers to invest in the business upfront to further align interests.
- They secure a cost advantage by identifying a scaling breakpoint to reach viability as quickly as possible.
- They assess technological pathways for maturity and performance at scale before committing bigger resources.
- They create business ecosystems by collaborating with players in the value chain (in particular when obtaining commitments from suppliers and customers).

Develop functional capabilities. European companies can consider upgrading their capabilities in pricing, branding, marketing, and go-to-market to capture premiums for sustainably made chemical products. Market indications are that temporary premiums will be available, given expected green chemical supply shortages due to high demand from consumer and automotive companies. But being a first mover will be critical as green resources, like renewable feedstock, may be scarce.

Capture synergies and economies of scale. Industry consolidation and M&A could improve competitiveness through synergies and economies of scale. Each management team will likely think differently about this situation—some will want to exit the market and sell, while others will seize the opportunity and seek to buy (consolidation). Players could also consider expanding horizontally or integrating businesses further upstream or downstream (M&A).

Long term

Europe's chemical companies should consider doubling down on green business building and partnerships to capture new value pools while strengthening positions in attractive value chains. Chemical players have a variety of investment options from which to choose to strengthen and maintain their competitiveness, especially in areas like decarbonization and circularity. A knowledge

advantage in decarbonization, toxic-free environments, and sustainability commercialization can become a moat protecting the home business and a competitive strategic advantage as regulations catch on in other geographic markets.

Businesses should not underestimate the severity of the challenge for the European chemical industry. The next few years will be difficult while alternative gas and other energy supplies are ramped up. Indeed, there will likely be product segments where pursuing all the measures described above will not suffice to continue operating profitably in Europe.

That said, a strong chemical industry is vital for Europe, and Europe is vital for the chemical industry and its transition to sustainability. So it is imperative that companies begin reflecting on short-, medium-, and long-term efforts to secure their competitiveness. The chemical industry can strive to build on Europe's intrinsic strengths, operate at the leading edge of efficiency, and explore new growth avenues. If the industry does so, European companies can remain competitive while leading the way toward a more sustainable chemical industry.

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