A CORNERSTONE OF THE EUROPEAN ECONOMY

The European chemical industry is a solution provider for a competitive, low carbon and circular economy in Europe and beyond. It is a wealth generating sector of the economy, and a vital part of Europe’s economic infrastructure.

Industry is the biggest customer for EU chemicals
EU CHEMICAL INDUSTRY SNAPSHOT

The chemical industry generates 1.1% per cent of EU gross domestic product (GDP). With 1.71 million workers and sales of €565 billion (2018), it is one of the largest industrial sectors and a leading source of direct and indirect employment in many regions.

Today, industry contributes approximately 15% of GDP, but industrial investment is declining. As investment share in primary production falls, Europe is losing ground in technological capability, and European value chains are at risk.

Facing uncertainty

The European chemical industry is facing uncertainty, and leading indicators do not point to a recovery in the coming months.
Rising protectionism all over the world is negatively impacting industrial and economic activity. The regulatory uncertainty over Brexit and escalating trade wars between the US and its key partners are weakening investor confidence. Lack of growth in other manufacturing industries also contributes to weaker demand in chemicals. As a result, the EU chemical production slightly declined in the first half of 2019. Total sales (domestic sales and exports) also remained at the previous years’ level.

**EU chemical industry production**

![Graph showing EU chemical industry production from 2000 to 2019.](image)

Source: Cefic Chemdata International 2019

Unless specified, chemical industry excludes pharmaceuticals
Unless specified, EU refers to EU 28

**ASIA RISING**

World chemicals sales were €3,347 billion in 2018, up 2.5% from €3,266 billion in 2017. This is not spectacular growth. With €1,198 billion in 2018, China is still the largest chemicals producer in the world, contributing 35.8% of global chemicals sales in 2018.

**Asia forges ahead**
Europe still strong on sales

The EU chemical industry ranks second by sales, slightly ahead of the United States. Including non-EU countries, total European chemicals sales reached €694 billion in 2018, or 20.7% of world output. But China has passed Europe to top the global sales ranking.

In 2018, sales from the 30 largest chemical-producing countries totalled €3,131 billion. Twelve of the top 30 were in Asia. Their €1,886 billion of sales contributed to top 30 chemicals sales and captured 56.4% of world chemicals sales.

China dominates chemicals world rankings
China plans ahead

The world landscape of the chemical industry is changing rapidly. China is planning an ambitious industrial policy strategy to take its chemical industry into the next stage of development – a strategy outlined in the “13th Five-Year Plan” of the Chinese petroleum and chemical industry.

THOUGH SALES ARE UP, EU MARKET SHARE HAS HALVED

The EU chemical industry’s share of world markets has declined in the past two decades. In 1998 EU industry sales were €361 billion – 32.9% of world chemicals sales. EU chemicals sales have since grown by 51%.

Demand for chemicals is growing strongly in China, India and other emerging countries but slowly in Europe and North America, where Europe sells most of its chemicals.

A smaller share of a bigger cake
EU share of global chemicals market

Source: Cefic Chemdata International 2019
Unless specified, chemical industry excludes pharmaceuticals
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EUROPE LEADS IN SPECIALTY CHEMICALS

By 2030, world chemicals sales are expected to reach €6.6 trillion. The EU chemical industry is expected to fall into third place behind China, (with nearly 50% of the world market), and the US.

By contrast, and on a segment level, the chemical industry in Europe is still characterised by high market share in specialty chemicals and pharmaceutical ingredients, which is expected to continue to grow in the future.
Future growth will be driven by innovation and diversification in materials and components across the manufacturing and construction sectors, as well as consumer goods.

**An export opportunity**

Although competition in China’s chemical market is intensifying and demand is becoming weaker, China still offers a huge and attractive market for both chemical suppliers and their customer industries. In the medium-term, European chemical producers are expected to benefit through increased exports or via local investments. This is thanks to their technological capabilities and innovative products, notably in consumer chemicals, automotive, electronics, food and nutrition.

**THE EU REMAINS A NET EXPORTER OF CHEMICALS**

Trading chemicals around the world stimulates competition, provides an incentive to develop new markets through innovation, stimulates production efficiency and helps improve the quality of human life. Historically a large exporter, EU chemical industry achieved a significant extra-EU net trade surplus of €48.1 billion in 2018.
Trade agreements could open markets further

Trade agreements with key partners such as the US, Mercosur and Japan would enable our industry to enhance efficiency and better exploit our technical strengths.

Trading benefits

Extra-EU chemicals trade balance

The flow of chemicals between the EU and its trading partners, calculated as total exports plus imports, was valued at nearly €278.3 billion in 2018. The US was by far the EU’s biggest trading partner in chemicals in 2018, buying €31.8 billion of EU exports, and providing €24.4 billion of EU imports - 20 % of total EU chemicals trade in 2018.

Who buys what
An emerging US energy advantage

Transatlantic trade flows are expected to change considerably in the next five years as the US shale gas boom has triggered a massive build-up of new chemicals production capacity there. Any EU-US deal would therefore need to contain strong provisions regarding access for EU companies to US energy and feedstock.

Narrowing the gas price gap with the US is especially important for petrochemicals and polymers, which have lost global export competitiveness in the past decade because gas, used both as a feedstock and to provide energy for crackers, can account for as much as 60% of operating costs.

Grasping Chinese opportunities

China is the EU’s second-biggest chemicals trading partner, accounting for 11.0% of EU exports. China has become the most important growth market for global chemical companies and a major investment location. Though Chinese chemical companies are increasing their focus on specialty chemicals, the country will remain a major importer of commodity chemicals for some time to come.
HIGH ENERGY COSTS IMPACT EUROPEAN CHEMICAL INDUSTRY

The chemical industry is energy-intensive and competes globally. Anything that increases energy costs in Europe relative to our competitors has a major impact on competitiveness. Rivals in the oil and gas-rich Middle East, and more recently the United States benefit from advantageous energy and feedstock prices. The shale gas boom in the US has greatly reduced the cost of producing ethylene, a vital chemical industry building-block.

Ethylene is the foundation for the production of plastics, detergents and coatings. In 2013, making ethylene in Europe was three times more expensive than in the US or the Middle East. This is boosting profits abroad and attracting billions of dollars in investment, including from European chemical companies. Falling oil prices have reduced EU costs, but EU producers remain at a cost disadvantage for producing base chemicals. Recent analysis from 2018 showed that Europe generated the highest ethylene cash cost in the world.

REGULATORY COSTS REMAIN HIGH

Under the REFIT Programme, the European Commission has evaluated cumulative costs arising from existing EU
legislation, to better understand how legislation affects the sector’s international competitiveness and help shape policy-making.

The Cumulative Cost Assessment (CCA) (July 2016) found that legislation cost companies in six subsectors €10 billion a year on average during 2004-2014. Regulatory costs were 12% of value added, and 30%, of Gross Operating Surplus (GOS), a proxy for profit.

The main drivers of regulatory cost are industrial emissions (33%), chemicals (30%) and worker safety (24%), together 87% of total regulatory costs. Costs ranged from 23.2% of value added in agrochemicals to 2.7% in plastics. In specialty chemicals, regulatory costs were 16.7% of value added, for inorganic basic chemicals 12.1%, for organic basic chemicals 11.3% and for soaps and detergents 11.4%.

**CAPITAL SPENDING INTENSITY REACHED THE HIGHEST LEVEL SINCE 2000**
Investment (in absolute figures) in the EU has been increasing. EU chemicals investment reached a value of €22.8 billion in 2018 – the highest level of capital spending since 2000.

In relative terms, the ratio of capital spending to added value, or capital intensity, of the chemical industry in the EU has been increasing gradually since 2010, reaching a value of 16.2% in 2018. This is slightly below the long-term average intensity over the years 2000-2017 (17.7%).

**Shifting investment abroad**

In 2018 chemical companies invested €193.1 billion worldwide, up from €108.6 billion in 2008. On a global basis, the level of investment in the chemicals sector was nearly 1.8 times higher in 2018 compared to ten years ago.

China is significantly outpacing the other economies in the world. China contributed 45% of global investment, up
EU CHEMICALS ENERGY EFFICIENCY DOUBLES

EU chemical producers, including pharmaceuticals, have sharply reduced fuel and power energy consumption per unit of production. By 2017, energy intensity – energy consumption per unit of production – in the chemical industry, including pharmaceuticals, was nearly 55 per cent lower than in 1991.

During the 27 years from 1991 to 2017 the industry increased output without raising energy inputs, lowering its energy intensity by an average of 3% per year.

Energy efficient has also improved significantly since 1991.
ENHANCING ENVIRONMENTAL PERFORMANCE

Over the last two decades, the chemical industry, including pharmaceuticals, has made an enormous effort to minimise the environmental impact of its production. Greenhouse gas (GHG) emissions per unit of energy used fell 48% between 1991 and 2017. GHG intensity – the GHG emissions per unit of production – was cut 76% from 1991 to 2017.
Please note that no figures are available for Cyprus, Luxembourg and Malta.

Source: European Environment Agency (EEA) and Cefic analysis
* Energy (Fuel and Power CO₂) included
** Including pharmaceuticals
Unless specified, chemical industry excludes pharmaceuticals
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Landscape of the European Chemical Industry Website:
http://www.chemlandscape.cefic.org/country/eu/