

Background

The EU and German chemicals industry

Source: Cefic and the German Chemical Industry association (2018)

	EU chemicals industry	German chemicals industry
Turnover	EUR 565 bn	EUR 149 bn (only chemicals) EUR 203 bn (chemicals & pharma)
Direct jobs	1.2 million	343 018 (only chemicals) 462 553 (chemicals & pharma)
Number of companies	26 600	3 100 (only chemicals) 2 050 (chemicals & pharma)
Capital spending	EUR 21 bn	EUR 7.8 billion (chemicals & pharma)
R&D investment	EUR 10 bn	EUR 4.2 bn (only chemicals) EUR 11.8 billion (chemicals & pharma)

Chemicals and pharmaceuticals are the third-largest industry in Germany, behind only automotive and machinery and equipment. Germany is the biggest chemical producer in the EU.

The German chemical industry is strong across all segments (basic inorganics, petrochemicals, polymers, agrochemicals, specialties, cosmetics and pharmaceuticals) and is also well spread across the country.

Among the most important trends affecting chemical and pharmaceutical industry are sustainability, climate change, protection of natural resources, and circular economy.

Strengths	Weaknesses
<ul style="list-style-type: none"> • Highly-integrated, globally competitive clusters and chemical parks • Highly-innovative chemical sector • Highly-specialised small and medium-sized enterprises • Powerful protagonist in international value chains with activities in all centres of growth • High resource efficiency • Well-educated labour force (academic, non-academic, e.g. via dual education) • Close supplier-customer relations • Network of strong research and university infrastructure • Capable physical infrastructure, positioned at the centre of Europe • Good cooperation between companies and unions (Social partnership) • Long experience and focus on safety and protection of the environment • Able to meet sophisticated consumer demands • A leader in establishing processes of digitalisation of the chemical industry • Positive public image 	<ul style="list-style-type: none"> • Energy prices are high and rising • Strong reliance on imported raw materials • Dependence on the automotive industry as important customer • Links to international suppliers and markets become vulnerable due to rising protectionism and global tensions • Rather vulnerable to external shocks (scarcity in many raw materials) • Demographic change will pose an increasing threat in the future, especially in rural areas • Lack of skills for digitalisation • Slow upgrade of IT infrastructure including high-speed internet • Slow progress on new electricity grids to enable the “Energiewende” towards renewable energy • Lengthy approval procedures with legal uncertainties • A sceptical view on change and new technologies in some parts of society

Chemicals strategy for sustainability:

The von der Leyen Commission's European Green Deal Communication of 11 December 2019 announces a Chemicals strategy for sustainability, to be delivered by the summer of 2020, as follows:

"To ensure a toxic-free environment, the Commission will present a chemicals strategy for sustainability. This will both help to protect citizens and the environment better against hazardous chemicals and encourage innovation for the development of safe and sustainable alternatives. All parties including industry should work together to combine better health and environmental protection and increased global competitiveness. This can be achieved by simplifying and strengthening the legal framework. The Commission will review how to use better the EU's agencies and scientific bodies to move towards a process of 'one substance – one assessment' and to provide greater transparency when prioritising action to deal with chemicals. In parallel, the regulatory framework will need to rapidly reflect scientific evidence on the risk posed by endocrine disruptors, hazardous chemicals in products including imports, combination effects of different chemicals and very persistent chemicals."

The chemicals strategy is currently under preparation, led by DG ENV. Its adoption by the Commission is planned for Q3 2020 (14 October).

Impacts of COVID-19 on the EU chemicals industry:

All industrial ecosystems are closely interconnected and evolve in the same reality: we have an internal market with research, production and consumption that is spread across different European countries. What affects one company, sector, value chain or Member State creates ramifications for many others. We saw it at the very beginning of the outbreak of COVID-19 when the free movement of goods on the internal market was put on hold. This almost led to a situation where necessary chemicals for essential goods and activities would not reach European companies, at all or not in time, with potential significant impacts on the health of Europeans and the EU's crisis response.

The impacts of the COVID-19 crisis on the EU industry producing and using chemicals vary depending on their economic focus. Companies that are supplying food, healthcare, plastic packaging, medical equipment and active pharmaceutical ingredients had to increase their production capacity to respond to the increase in demand. Other chemical companies – e.g. those supplying the construction sector - had to reduce or even stop their production because of the decrease in demand from manufacturing or retailers.

The EU chemicals industry anticipates 20-30% losses of 2020 revenue in the first half due to COVID-19. 50% of the losses could be recoverable in the 2nd half of 2020. The recovery however depends on the restart of activities in other sectors, in particular the automotive and construction sectors, the progressive lifting of the lockdown measures in the EU, impacts of a possible second wave and the outcome of Brexit negotiations.

The EU hydrogen strategy:

The EU Hydrogen Strategy presents a way forward in transforming the potential of hydrogen into concrete benefit for the society and industries. A broad range of topics need attention: facilitating large investments, attention to regulation, creation of lead markets and research and innovation. Hydrogen is recognized as a key priority to achieve the European Green Deal and Europe's clean energy transition.

The priority for the EU is to develop renewable hydrogen, produced using mainly wind and solar energy, even if other types of hydrogen will be used over a transition period. Renewable hydrogen is the most compatible option with the EU's climate neutrality and zero pollution goal in the long term and coherent with the concept of an integrated energy system.

The Strategy sets a timetable for the expected progress. In the first phase, from 2020 up to 2024, the strategic objective is to install at least 6 GW of renewable hydrogen electrolyzers in the EU and the production of up to 1 million tons of renewable hydrogen. This will be used to decarbonise existing hydrogen production, e.g. in the chemical sector and facilitating take up of hydrogen in new end-use applications, like other industrial processes and heavy-duty transport. The increasing availability of renewable hydrogen makes investments in new hydrogen solutions more feasible.

Renewable hydrogen will gradually become cost competitive with other forms of hydrogen production somewhere between 2025 and 2030 and industrial demand will gradually include new applications, including in chemicals industries, in steel-making and in the transport sector beyond trucks to shipping applications.

Infrastructure needs for transporting hydrogen will be increasing, and planning of medium range and backbone hydrogen transmission infrastructure should start. Infrastructure for carbon capture and use of CO₂ will be required to facilitate certain forms of low-carbon hydrogen.

The policy focus will be on laying down the regulatory framework for a liquid and well-functioning hydrogen market and on incentivising both supply and demand in lead markets. This include bridging the cost gap between conventional solutions and low-carbon hydrogen, potentially also with Important Projects of Common European Interest. The objective is that enabling framework conditions will push concrete plans for large wind and solar plants dedicated to gigawatt-scale renewable hydrogen production before 2030.

The European Clean Hydrogen Alliance was launched the same day as Commission communicated on the Hydrogen Strategy. The Alliance will implement the strategy and help build up a robust pipeline of investments.

As part of the Commission's recovery plan, funding instruments of Next Generation EU, including the Strategic European Investment Window of the InvestEU programme and the ETS Innovation Fund, will enhance the funding support and help bridge the investment gap for renewables generated by the COVID-19 crisis.

Circular economy:

Circular Economy and Covid-19:

- The Covid-19 outbreak has exposed the fragility of the current economic model. It has affected global and complex supply chains, contributing to our vulnerability.
- The European Green Deal is the EU's sustainable strategy for growth. The Commission has recently adopted a Recovery Plan for Europe and has reinforced the EU Budget. The implementation of the European Green Deal will put the EU in the path of a sustainable recovery.
- The circular economy is at the core of this agenda. It introduces an economic model that maintains resources in the economy for longer and brings production and consumption to planetary boundaries, minimizing waste. It ensures a healthy environment while securing EU's businesses autonomy and the resilience of our societies.

New Circular Economy Action Plan:

- To achieve these objectives, the Commission has adopted a new Circular Economy Action Plan for a cleaner and more competitive Europe. It announces a series of actions to change how Europe produces and consumes.
- The action plan is at the core of the European Green Deal because it can lead towards a more resource efficient and clean economy that gives to the planet more than it takes. Also because it will contribute to achieving EU's climate neutrality ambition. With the action plan, the Commission wants to take the transition towards a circular economy a step forward.

Sustainable Product Policy Framework:

- The action plan starts by proposing to transform how we design products in Europe, relying on the potential of digital tools. We want to build upon the success of the Ecodesign Directive, applying it to all products. We want to establish a set of sustainability principles applicable to all products.
- The action plan also sets the conditions to transform consumption patterns so that citizens can contribute better to the circular economy. Consumers will be able to choose more easily green products and will be better protected against those products that are not so green.

Key product value chains:

- The action plan identifies 7 key product value chains with high potential for circularity. The goal is to translate the principles of a more sustainable product policy framework, so we change how we produce, use and recycle textiles, buildings, batteries, electronics, food waste, plastics and packaging.
- Plastics remain very high in the agenda. Not only to step up our efforts to tackle microplastics and develop a framework for biobased and biodegradable plastics but also to support the uptake of recycled plastics.
- As for packaging, the Commission is reviewing the rules applied to Packaging and Packaging Waste. It has put waste prevention in a central part. The review will also aim at creating the conditions to achieve the EGD objective of 'making packaging recyclable and reusable by 2030' for which, the role of frontrunner businesses is crucial.
- The Commission recently adopted one of the most ambitious regulatory framework to reduce the use of single use plastics items. The Commission will also support Member States to achieve the collection of 90% of plastics bottles by 2029.
- Finally, on recycled plastics, the Directive on the reduction of the impact of certain plastic products on the environment introduces obligations to incorporated into PET bottles 25% of recycled plastics by 2025 and 30% by 2030.

Less waste, more resources:

- The action plan also looks at waste and identifies actions to step up waste prevention. Each citizen still produces on average nearly half a tonne of municipal waste.
- Increasing quality recycling in the EU and supporting Member States in the implementation of the waste legislation will increase our capacity to deal at home with the waste we produce. For this to be effective, we also need to boost the demand of recycled materials. The action plan introduces measures, also regulatory, to increase the uptake of recycled content and support the emerging secondary raw material markets.
- This needs to be done hand in hand with our zero pollution ambitions. The forthcoming chemical strategy will further develop the actions included in the action plan to promote nontoxic cycles.

Cross-cutting:

- The Commission will harness the potential of EU financing instruments and funds to support the necessary investments; also in the context of the recovery.
- Finally, the action recognizes that EU cannot lead this transformation alone. It therefore includes actions to engage with international partners and boosting global momentum by promoting an International Agreement on Plastics and a Circular Economy Global Alliance.