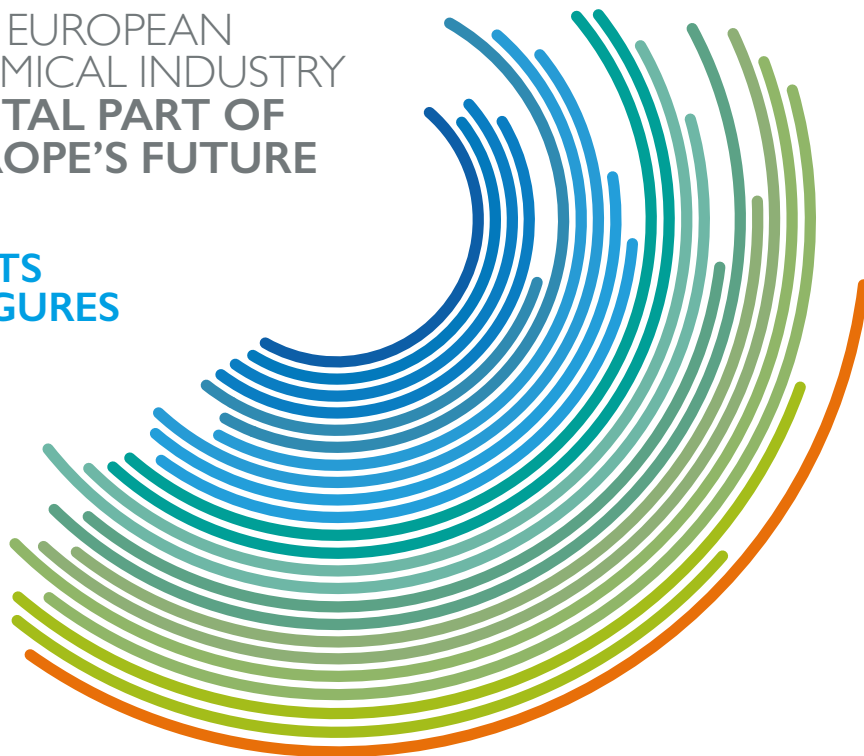


THE EUROPEAN  
CHEMICAL INDUSTRY  
**A VITAL PART OF  
EUROPE'S FUTURE**

**FACTS  
& FIGURES  
2022**





# Foreword

With most of all manufactured goods relying on chemicals, Europe's chemical industry is a crucial element of almost all value chains and a vital part of Europe's economy.

During the last two years marked by the pandemic and the subsequent economic crisis, our sector proved in practice its strategic role for Europe producing the necessary health care materials and equipment. Tomorrow's world will become even more so a world created by chemistry, as many future climate-neutral and circular solutions rely on Chemistry, from wind turbines to electric vehicles. Consequently, the European Commission has recognised the chemical industry for its "indispensable" role to help society achieve the new [European Green Deal](#) objectives.

Our European chemical industry has the ambition to become climate neutral by 2050, and the sector is uniquely positioned at the heart of European manufacturing to contribute to realizing a climate-neutral society.

At the same time, the chemical industry must remain competitive while undergoing a green and digital "twin" transition in order to become climate-neutral, circular and digital, all while navigating the Chemicals Strategy for Sustainability (CSS), which will not only affect the sector economically for the years and decades to come, but it will also create a significant "ripple effect" across many value chains relying on chemicals.

For this transition to be successful, a clear pathway that includes concrete timelines, milestones, and measures should be put forward by EU policymakers in close collaboration with Industry. This Transition Pathway for the chemical industry should ensure the availability of competitively priced renewable and low-carbon energy, promote innovation and the deployment of breakthrough technologies, support the development of relevant infrastructure and facilitate access to public and private finance.

Unless specified, chemical industry excludes pharmaceuticals

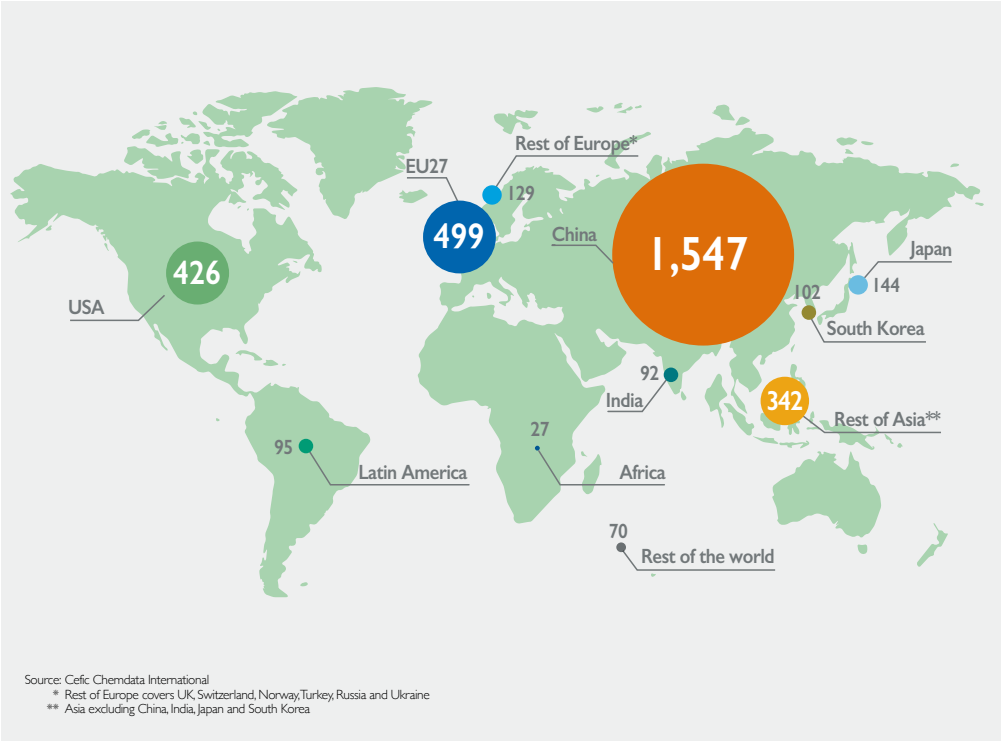
**Disclaimer:**

For the sake of data integrity, figures within Cefic's Facts & Figures publications are compiled and updated on a regular basis from public statistical sources (Eurostat, EU Commission, EEA, ...). These sources regularly review their previous years' data and at times retroactively amend it. As a result of these updates, the comparison of annual Cefic Facts & Figures editions is not necessarily consistent over time.



# Europe is the second largest chemicals producer in the world

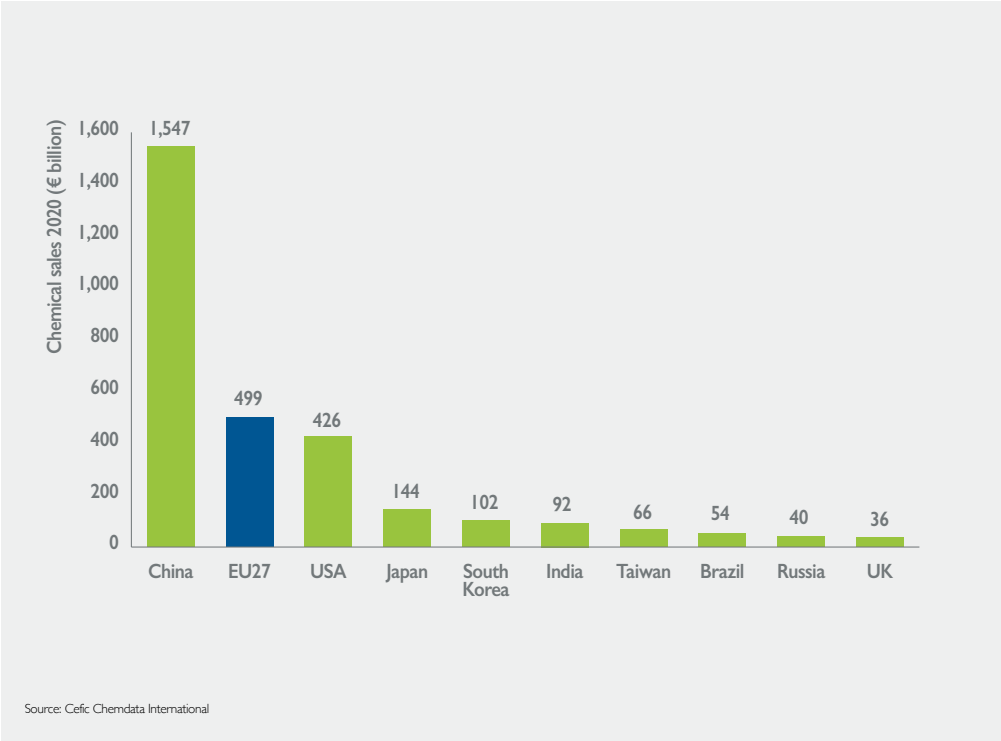
World chemical sales (2020, €3,471 billion)





# China dominates chemical sales globally

World chemical sales by country: top 10





# World market share of EU27 chemical sales drops substantially

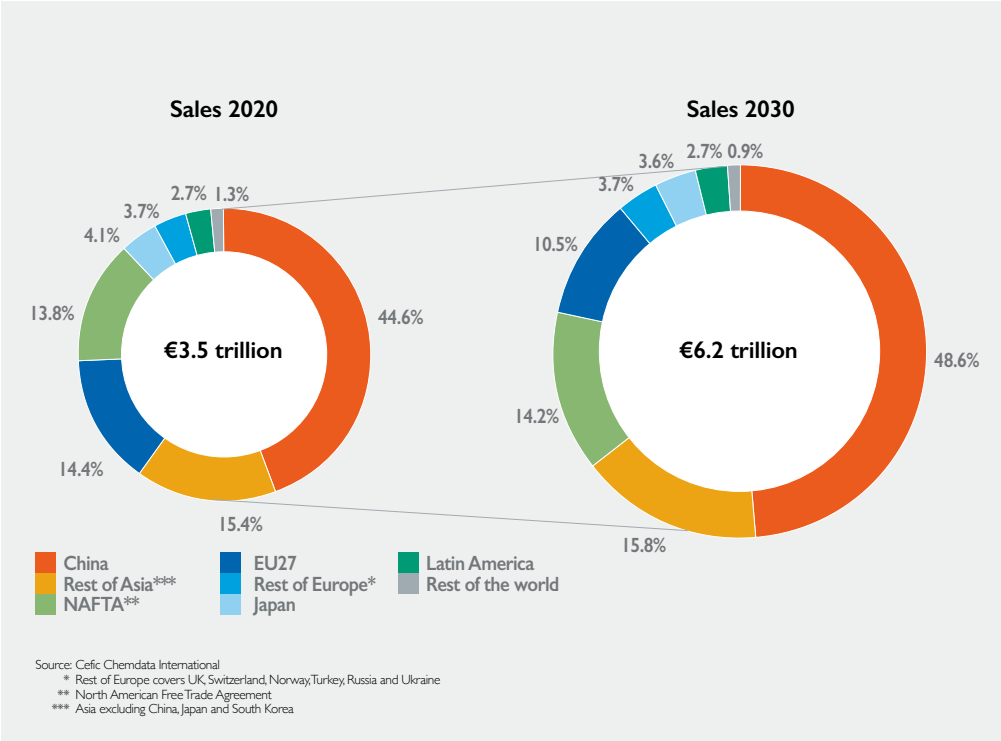
EU27 share of global chemicals market





# A smaller European slice of a larger chemicals market

World chemical sales 2020-2030





## EU27 holds trade surplus with top competing markets

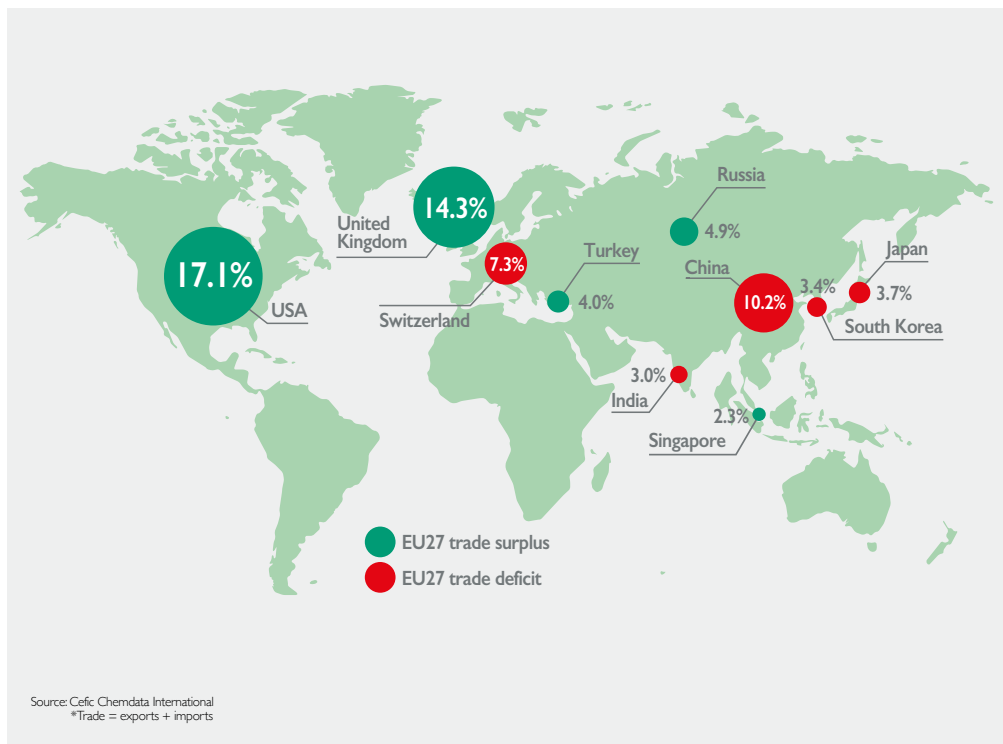
EU27 chemicals trade flows with major geographic blocs (2020)





## Top 10 EU27 partners account for 70% of EU27 chemicals trade\*

EU27 chemicals trade flows with top 10 partners (2020)

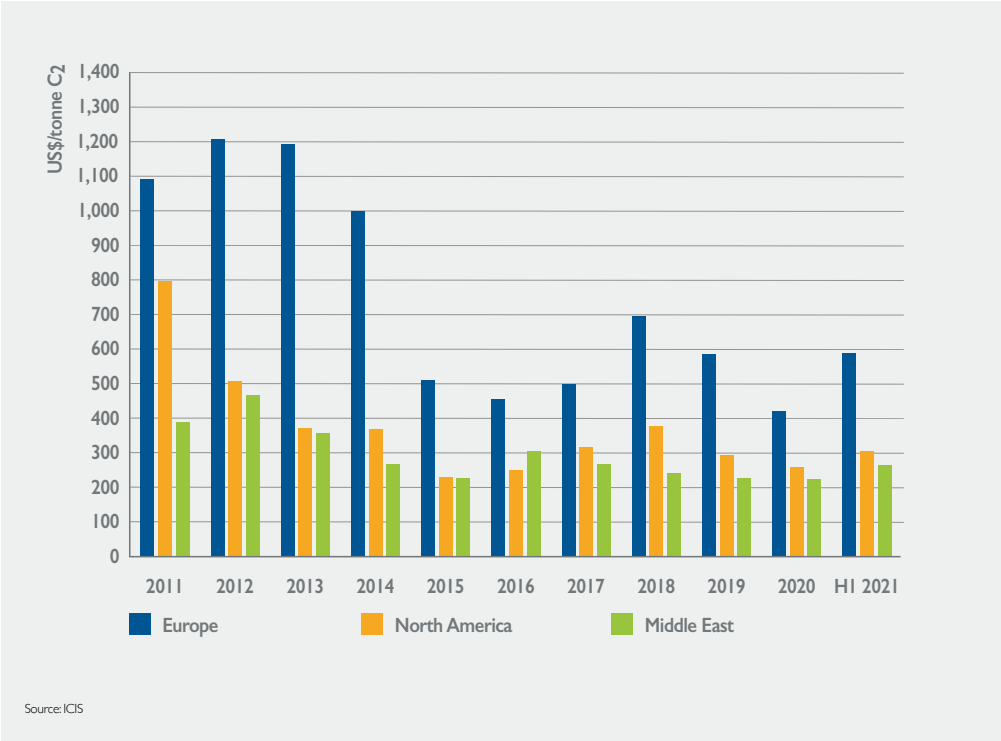






# Energy costs are the Achilles' heel of European industry

Ethylene cash cost of regional steam crackers

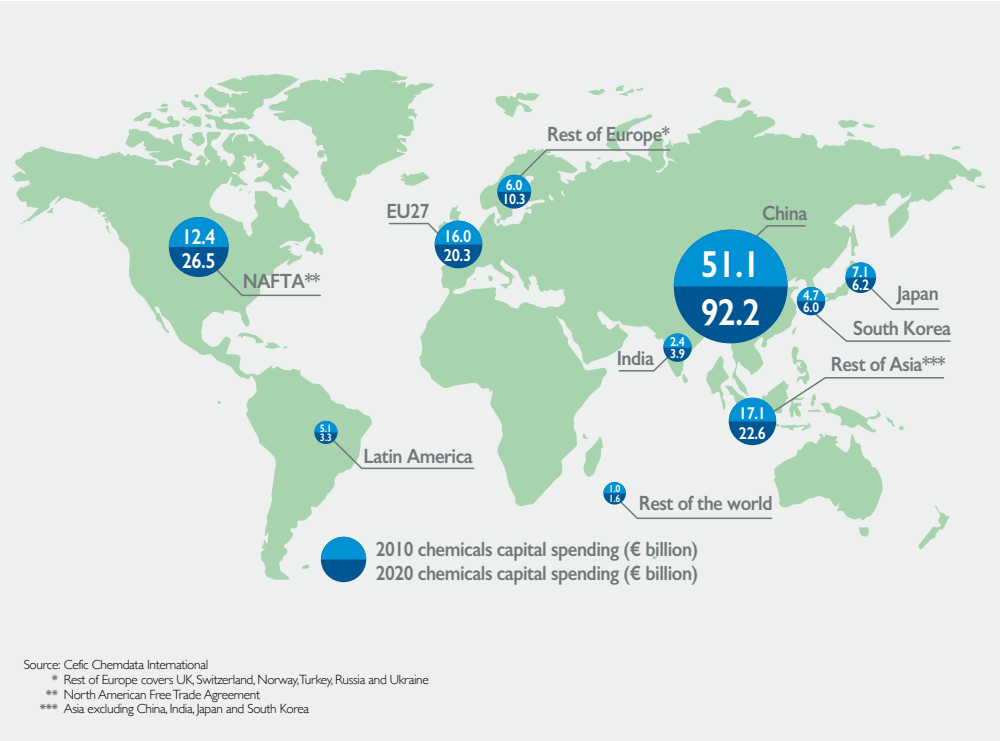


Source: ICIS



# China leads the global chemicals investment

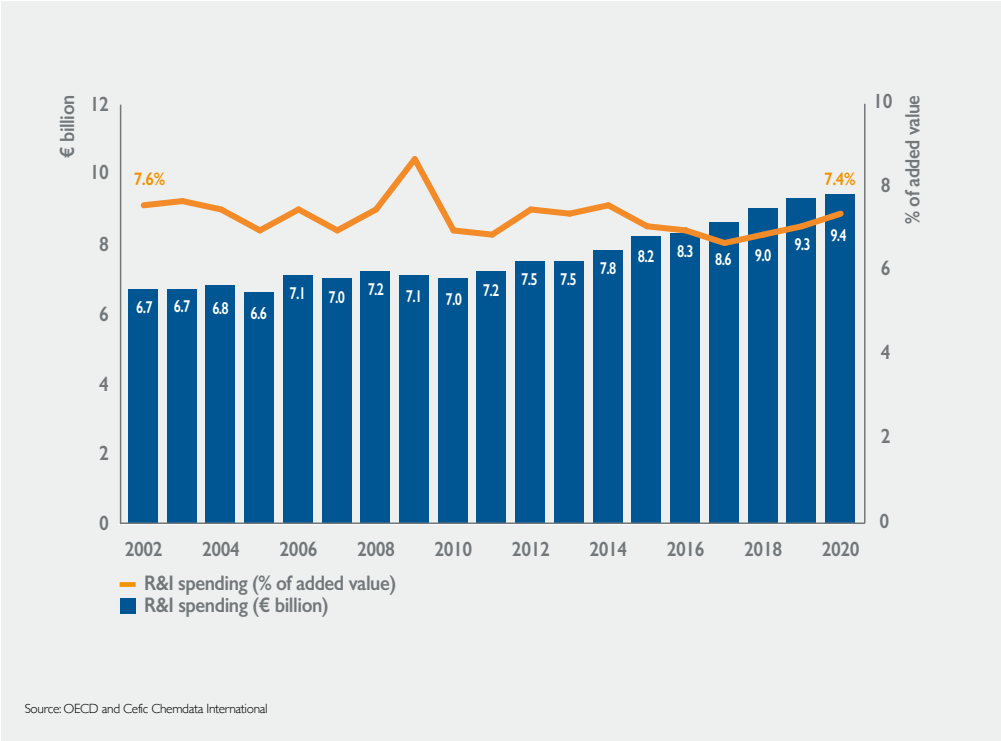
Capital spending in the chemicals industry by region: 2020 vs 2010





# EU27 R&I spending reached the highest level in 2020

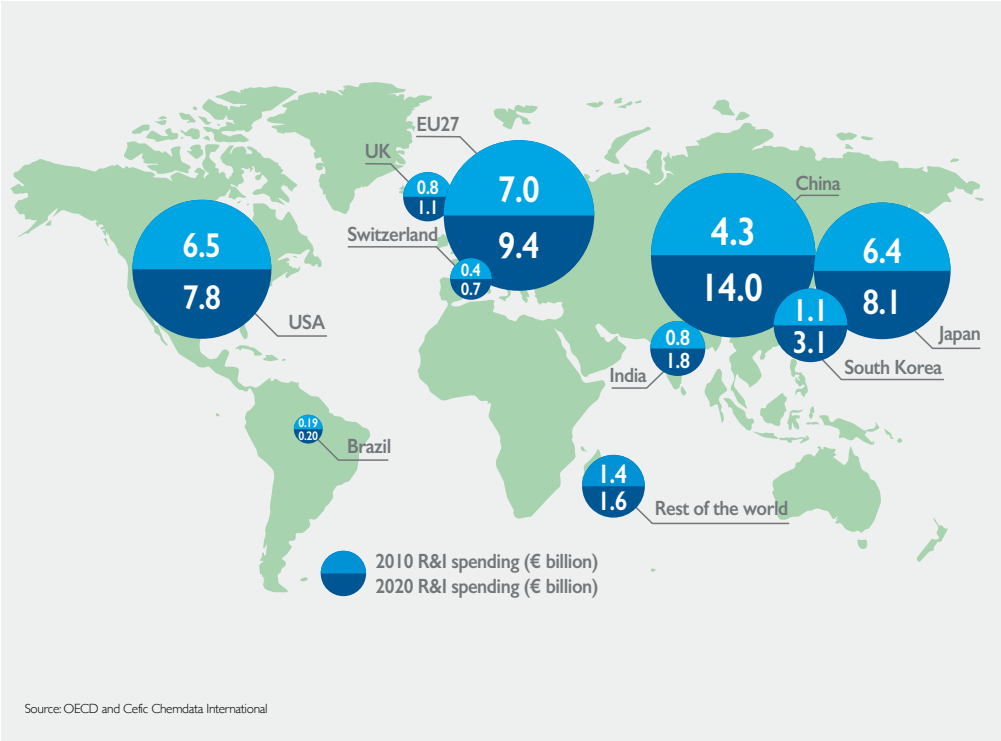
R&I spending by the EU27 chemical industry





# EU27 is the second largest R&I investor in the world

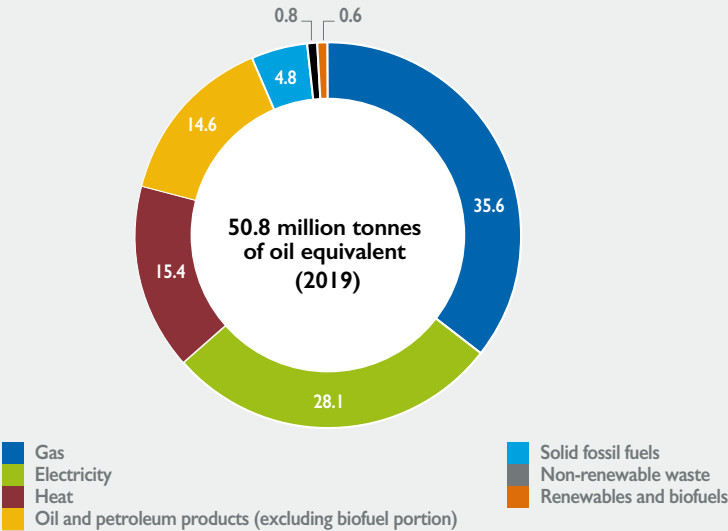
R&I spending in the chemicals industry by region: 2020 vs 2010





# EU27 gas and electricity account for nearly two thirds of total energy consumption

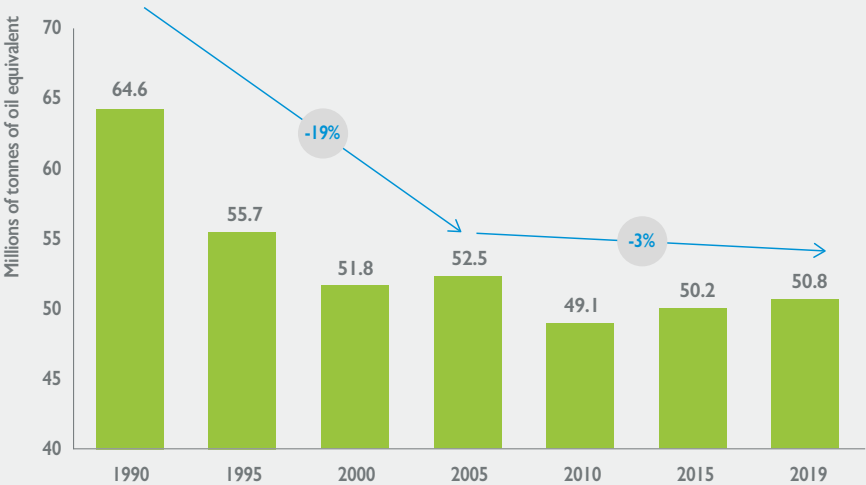
Total energy consumption in the EU27 chemical industry by source (%)





# EU27 consumption falls by 21% since 1990

Energy consumption in the EU27 chemical industry

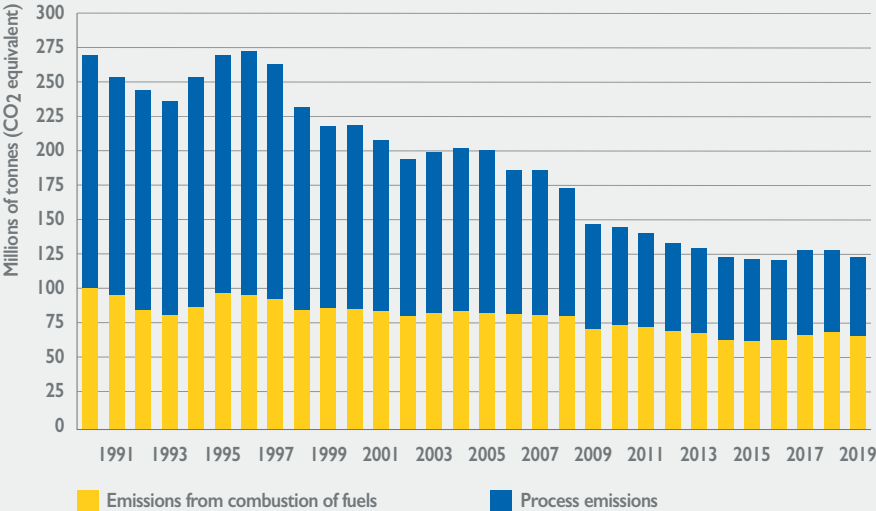


Source: Eurostat



# EU27 greenhouse gas emissions\* fall by nearly 54% since 1990

Total scope 1 GHG emissions\* by the EU27 chemical industry

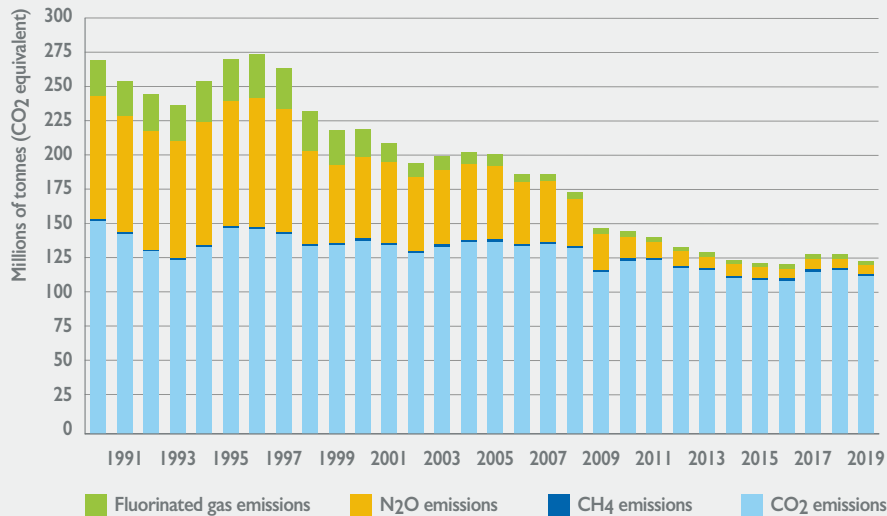


Source: European Environment Agency (EEA), \*Germany and Malta did not separately report GHG emissions from combustion of fuels in the chemical sector.



# EU27 GHG emissions\* fall by 145.1 million tonnes (CO<sub>2</sub>) since 1990

Total scope 1 GHG emissions\* by the EU27 chemical industry per type of GHG



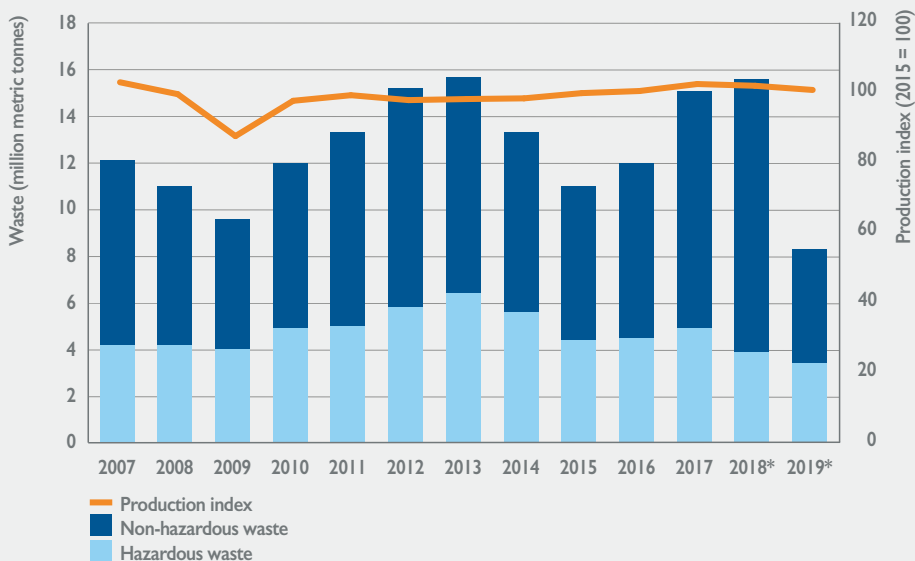
Source: European Environment Agency (EEA), \*Germany and Malta did not separately report GHG emissions from combustion of fuels in the chemical sector.





## EU27 chemical waste falls by nearly one third since 2007

Total hazardous and non-hazardous waste in the EU27 chemicals industry



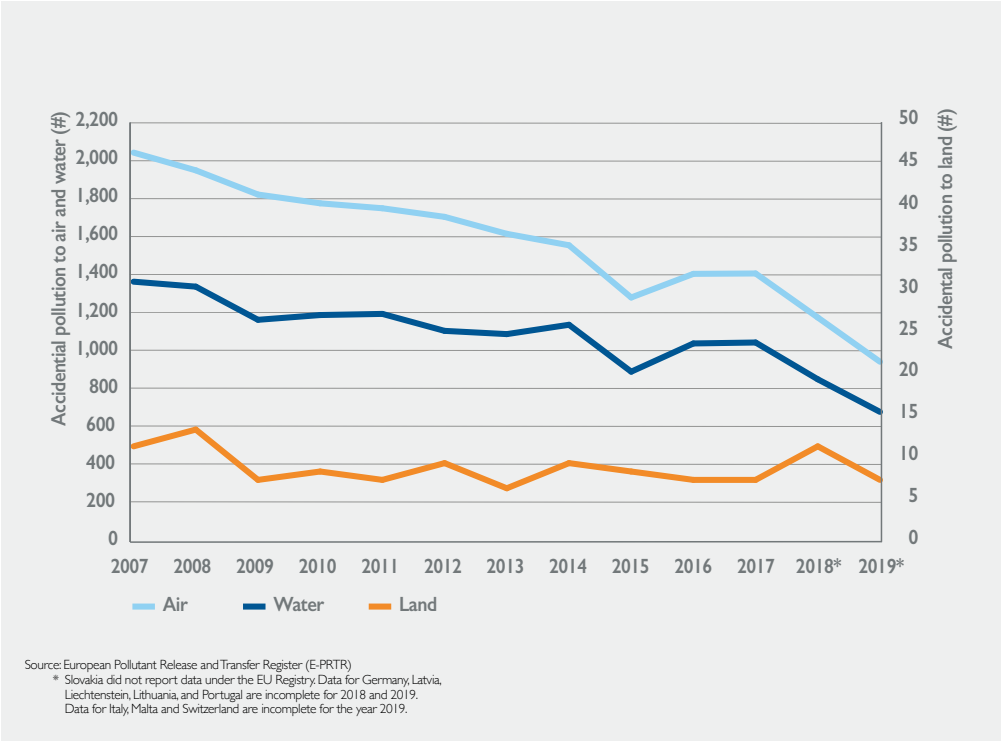
Source: European Pollutant Release and Transfer Register (E-PRTR)

\* Slovakia did not report data under the EU Registry. Data for Germany, Latvia, Lithuania, Liechtenstein, Lithuania, and Portugal are incomplete for 2018 and 2019. Data for Italy, Malta and Switzerland are incomplete for the year 2019.



# EU27 accidental pollutant releases dropped by at least 40% since 2007

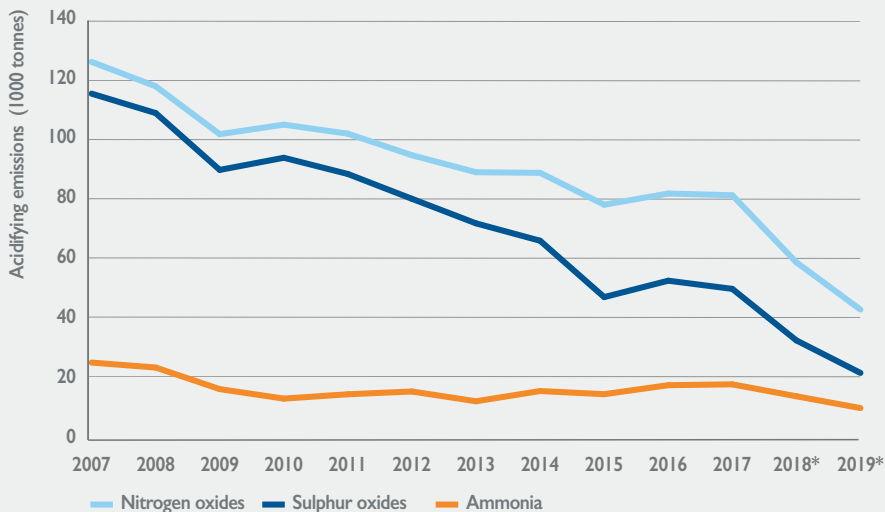
Accidental pollutant releases by the EU27 chemicals industry





## EU27 acidifying emissions fall by more than 70% since 2007

Acidifying emissions to air by the EU27 chemicals industry



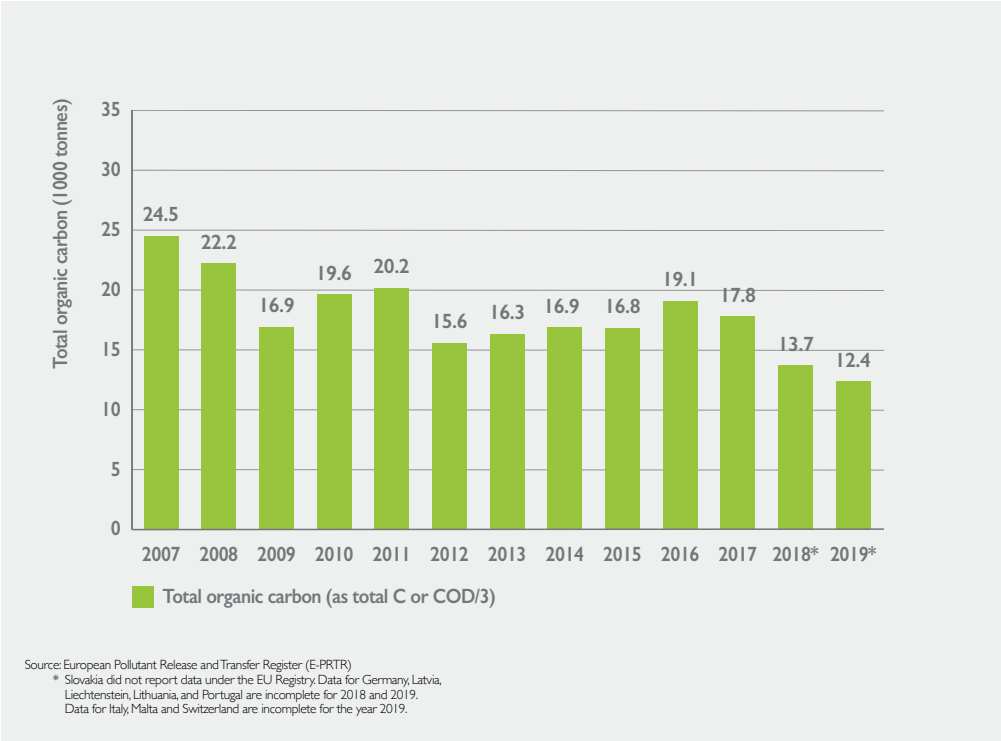
Source: European Pollutant Release and Transfer Register (E-PRTR)

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# EU27 emission of water pollutants nearly halved since 2007

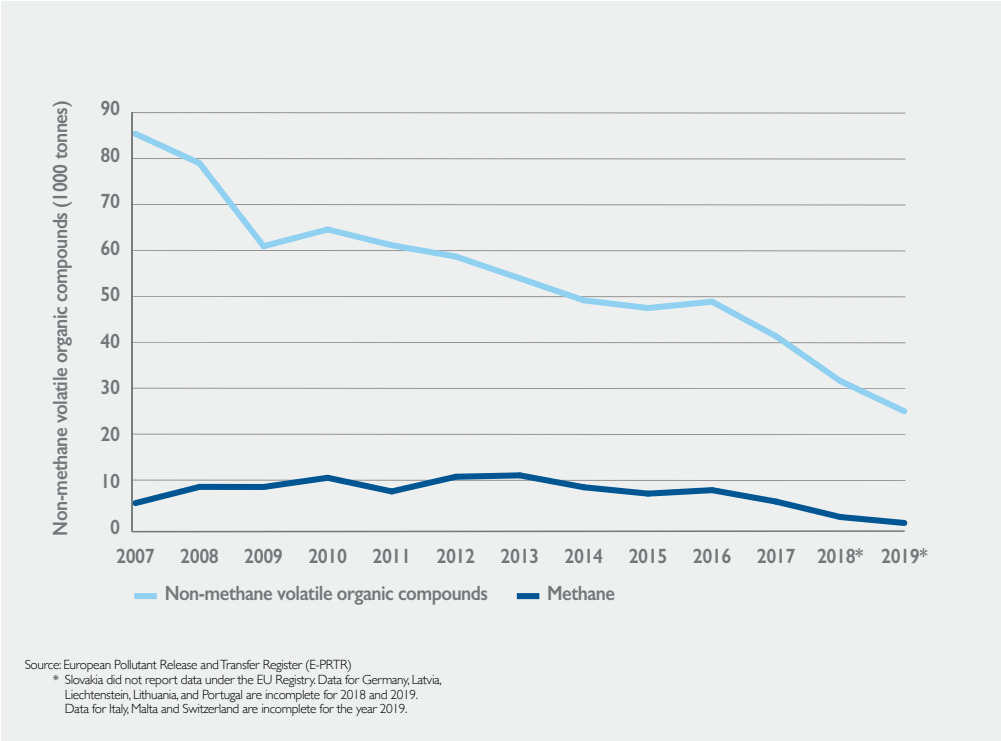
Total organic carbon emissions to water by the EU27 chemicals industry





# EU27 emissions to air fall by 70% since 2007

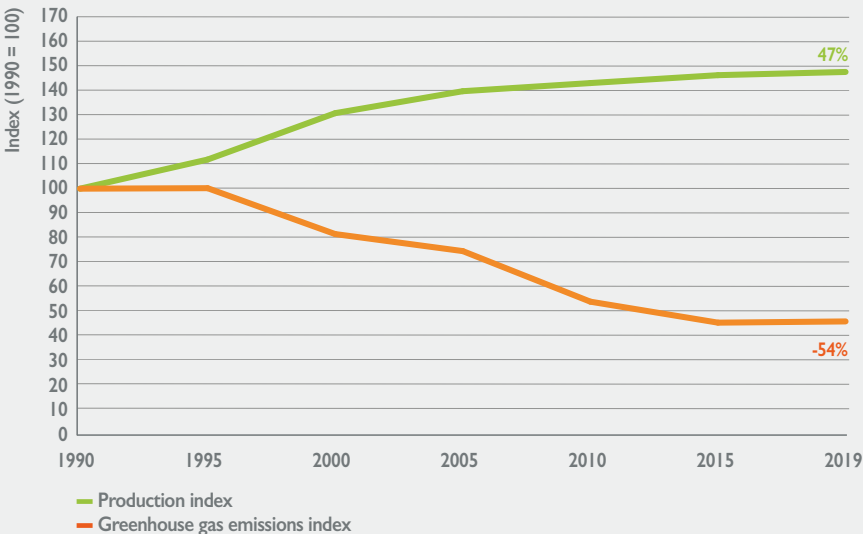
EU27 methane and non-methane volatile organic compound (NM-VOCs) emissions to air





# EU27 chemical production and greenhouse gas emissions decoupled

GHG emission and production by the EU27 chemical industry



Source: European Environment Agency (EEA)



A full version of the 2022 Cefic Facts & Figures of the European chemical industry is available online on the [Cefic website](https://www.cefic.org).

Enquiries

**Dr. Moncef Hadhri**

Economic Affairs

[mha@cefic.be](mailto:mha@cefic.be)

Cefic, the European Chemical Industry Council, founded in 1972, is the voice of large, medium and small chemical companies across Europe, which provide 1.2 million jobs and account for about 14.4% of world chemicals production.

Cefic members form one of the most active networks of the business community, complemented by partnerships with industry associations representing various sectors in the value chain. A full list of our members is available on the Cefic website: [www.cefic.org/about-us](https://www.cefic.org/about-us)

Cefic is an active member of the International Council of Chemical Associations (ICCA), which represents chemical manufacturers and producers all over the world and seeks to strengthen existing cooperation with global organisations such as UNEP and the OECD to improve chemicals management worldwide.

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