

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

FACTS
& FIGURES
2021



cefic





A full version of the 2021 Cefic Facts & Figures of the European chemical industry is available online on the [Cefic website](#).

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Unless specified, chemical industry excludes pharmaceuticals

Disclaimer:

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Foreword

The Chemical industry is a vital part of Europe's economy and its innovative solutions are essential to deliver a low carbon and circular economy both within Europe and beyond its borders.

The European Commission has recognised the chemical industry for its “indispensable” role to help society achieve the new European Green Deal objectives. Cefic has clearly expressed our industry's support for the Green Deal and Europe's ambition to go climate neutral by 2050.

This transition will bring huge challenges, but it also brings a set of opportunities for industry. Europe must show its leadership in innovating and deploying competitive new technologies for delivering a climate neutral, circular and digital transition. Whether it is chemistry for solar panels, wind turbines, batteries, building insulation, medicines, chemical recycling technologies or the huge variety of other solutions we provide, our European chemical industry can excel and thrive in delivering its innovation-led contributions to the Green Deal. This is also the way to ensure sustainable economic growth and new jobs thrive and remain in Europe.

Supported by the major new, multi-billion European Recovery Plan package, Europe can move forward fast. If Europe's many industries and companies are truly enabled to deliver to their strengths – such as coming up with world-class innovations – and are enabled to bring these to the market, we will jointly convert opportunity into success.

But we will need to work with European policymakers and governments to have the right framework conditions in place that keep competitiveness during this transition in clear focus.

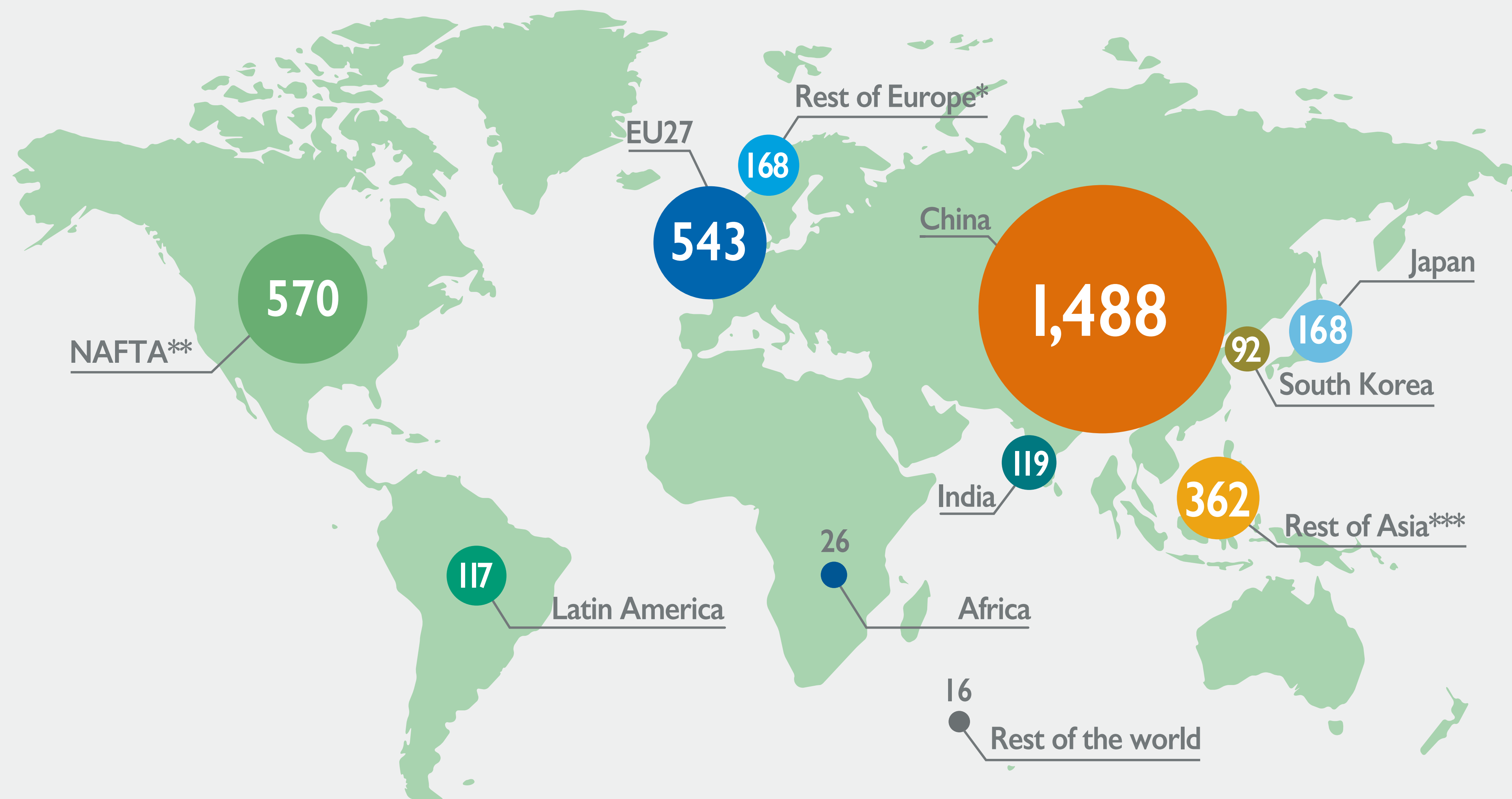
With a supportive, enabling and forward-looking policy framework, starting with an EU Industrial Strategy that enables industry to deliver on the EU Green Deal, our industry can play a large role in building a better sustainable future for Europe and its people.

We stand ready to cooperate closely with the Institutions to ensure this vision is brought to reality.



Europe is the second largest chemicals producer in the world

World chemical sales (2019, €3,669 billion)

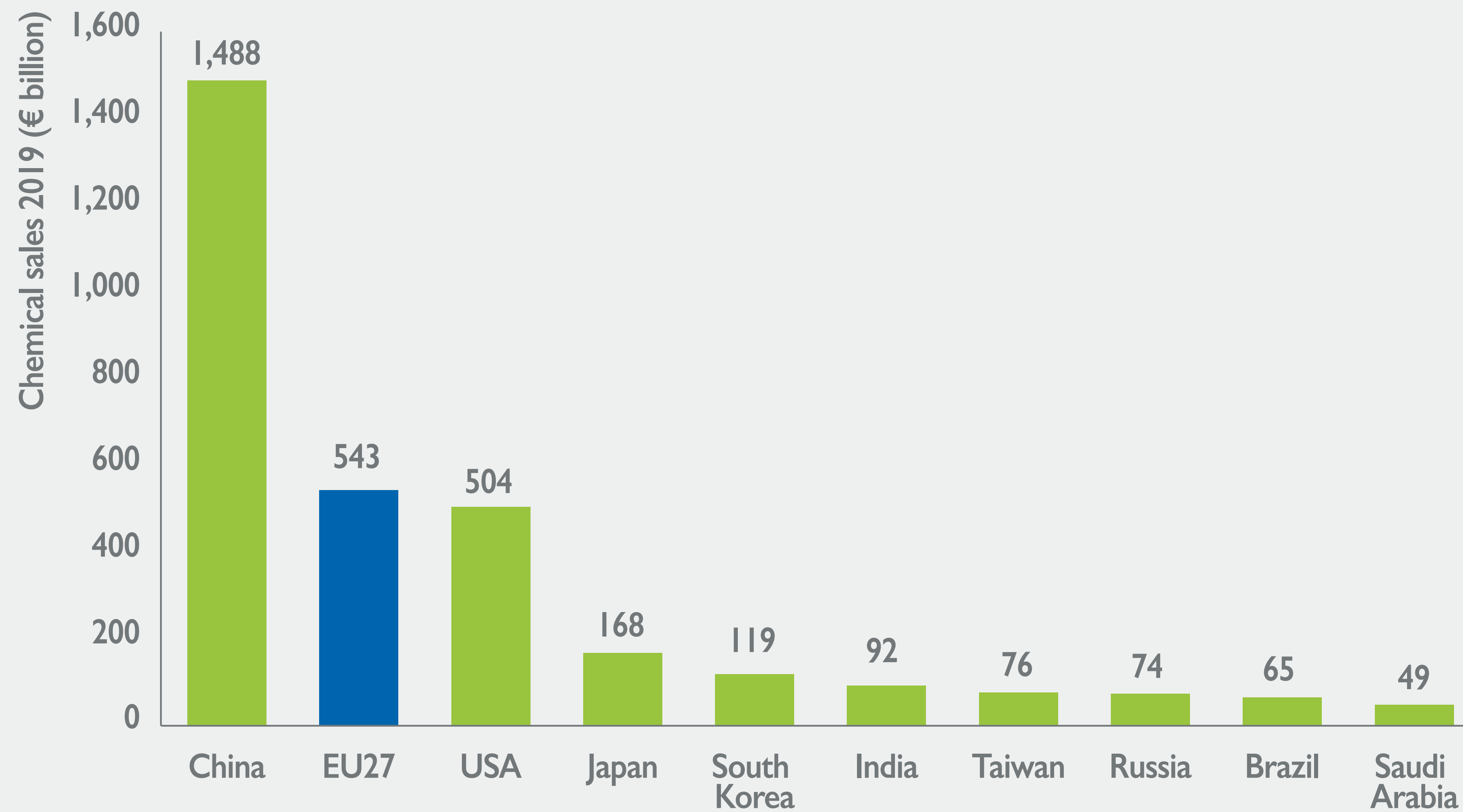


Source: Cefic Chemdata International 2020
* Rest of Europe covers UK, Switzerland, Norway, Turkey, Russia and Ukraine
** North American Free Trade Agreement
*** Asia excluding China, India, Japan and South Korea



China dominates chemical sales world ranking

World chemical sales by country: top 10

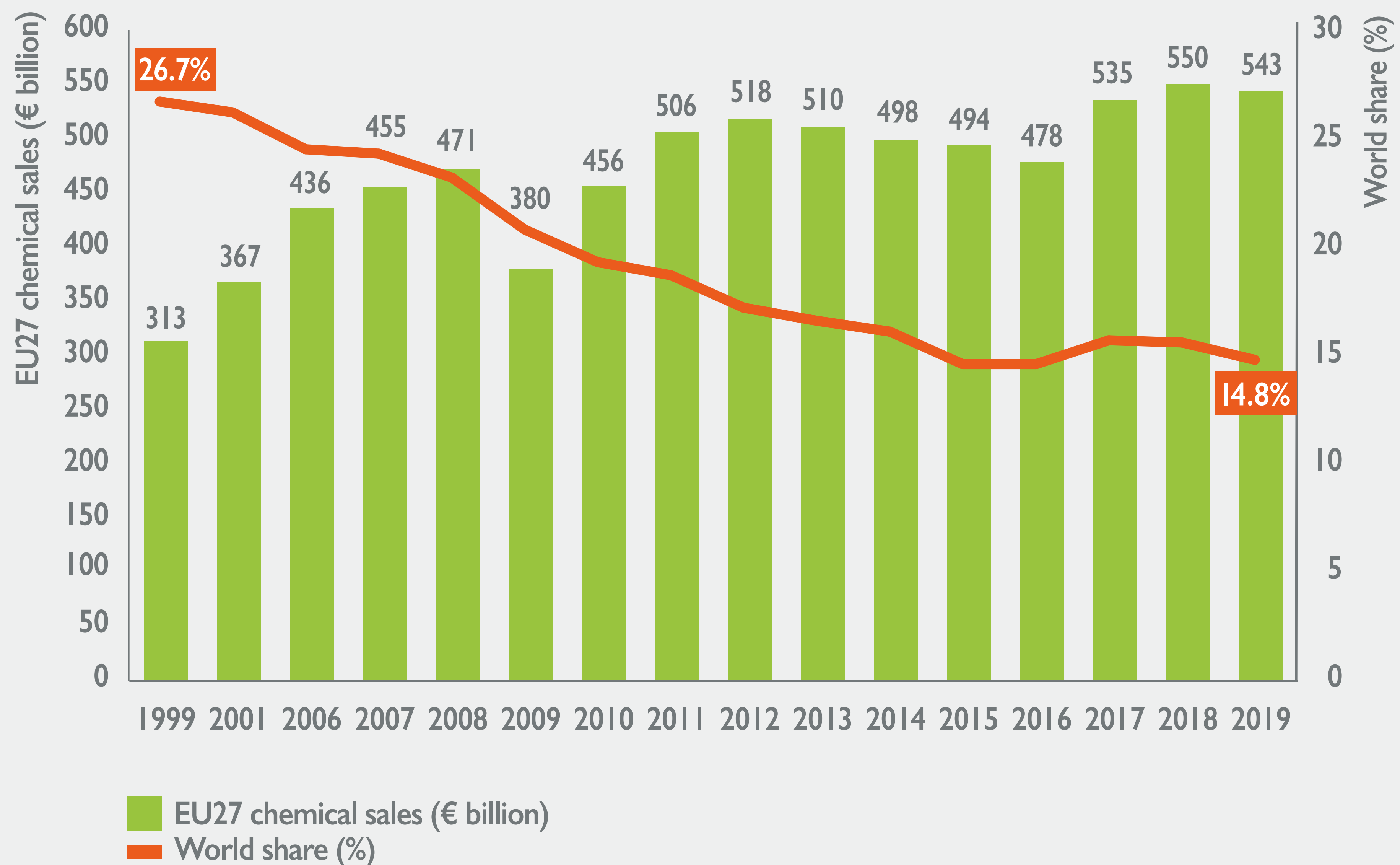


Source: Cefic Chemdata International 2020



World market share of European chemical sales drops by half

EU27 share of global chemicals market

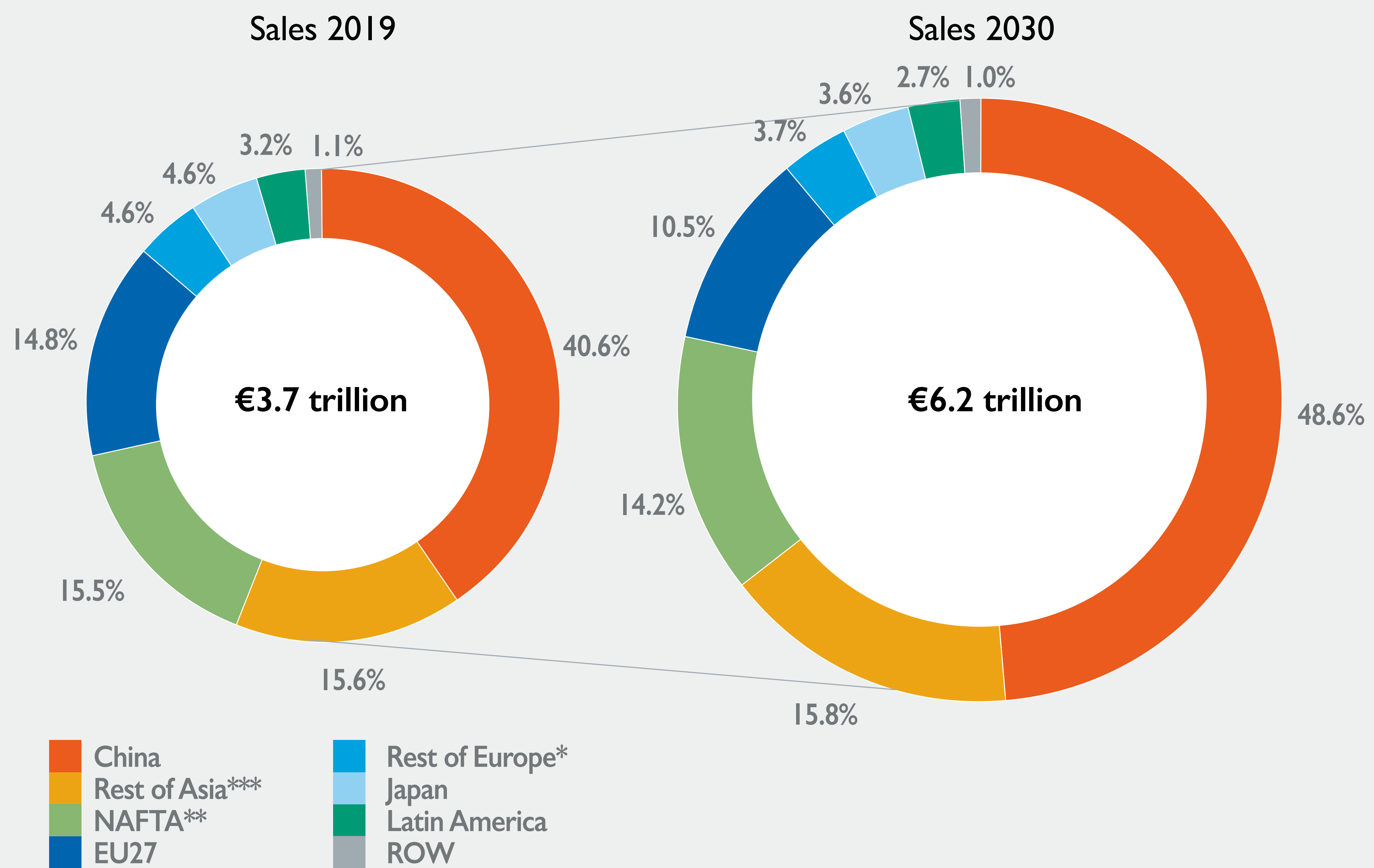


Source: Cefic Chemdata International 2020



A smaller share for Europe of a bigger chemicals cake

Growth in world chemical sales 2019-2030

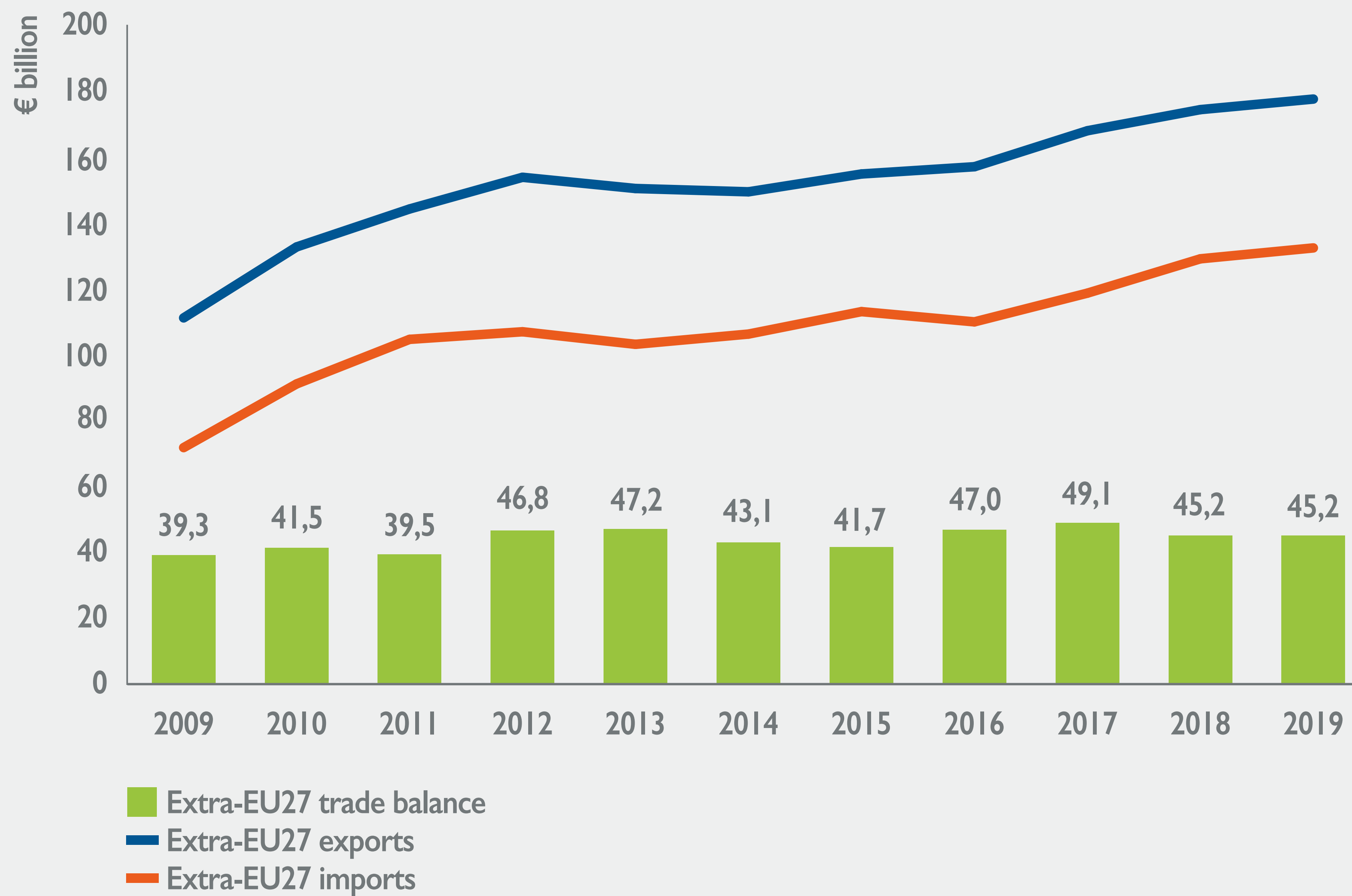


Source: Cefic Chemdata International 2020
 * Rest of Europe covers UK, Switzerland, Norway, Turkey, Russia and Ukraine
 ** North American Free Trade Agreement
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Europe strong on chemicals trade

Extra-EU27 chemicals trade balance

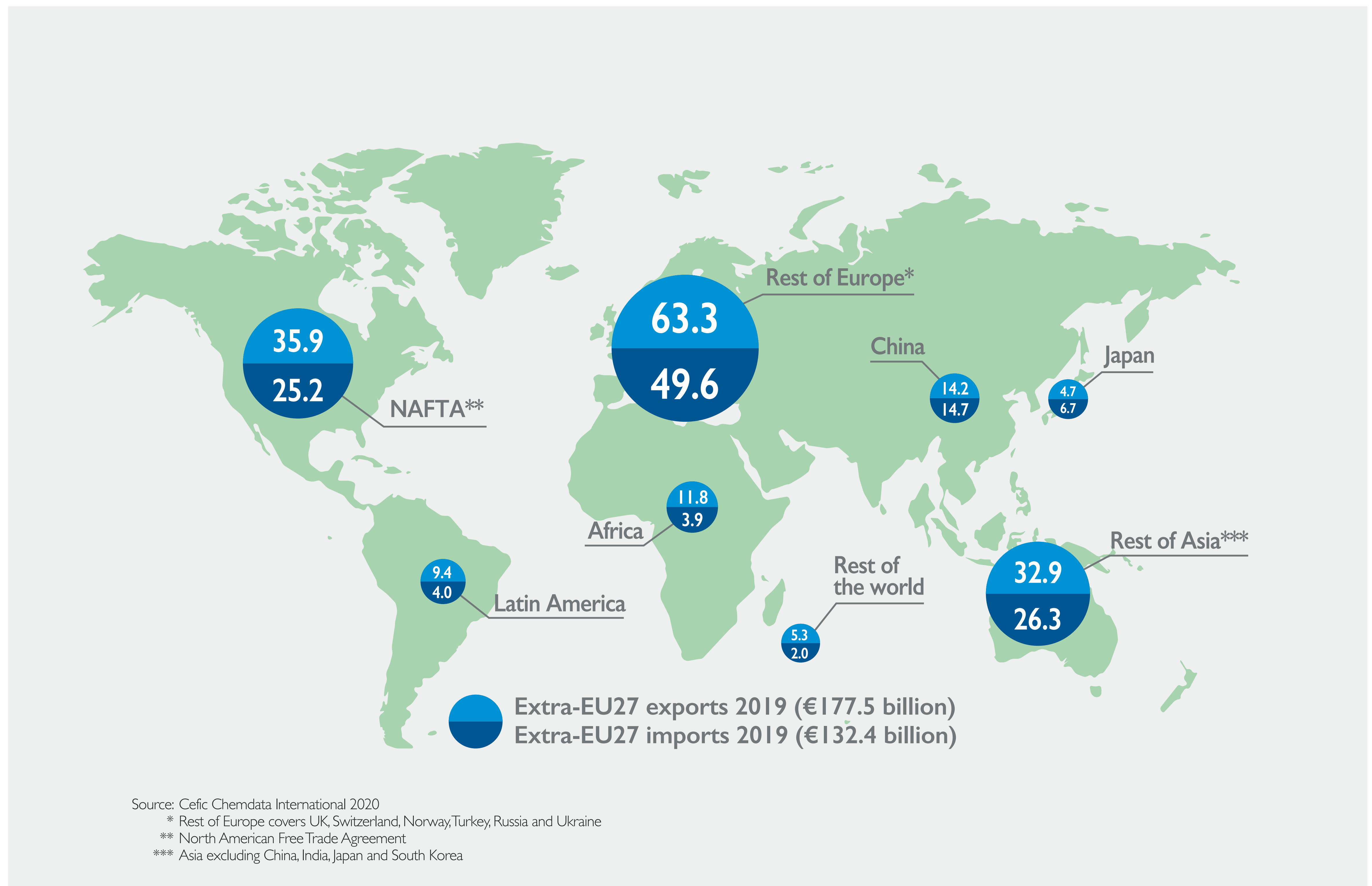


Source: Cefic Chemdata International 2020



Europe holds trade surplus with top competing markets

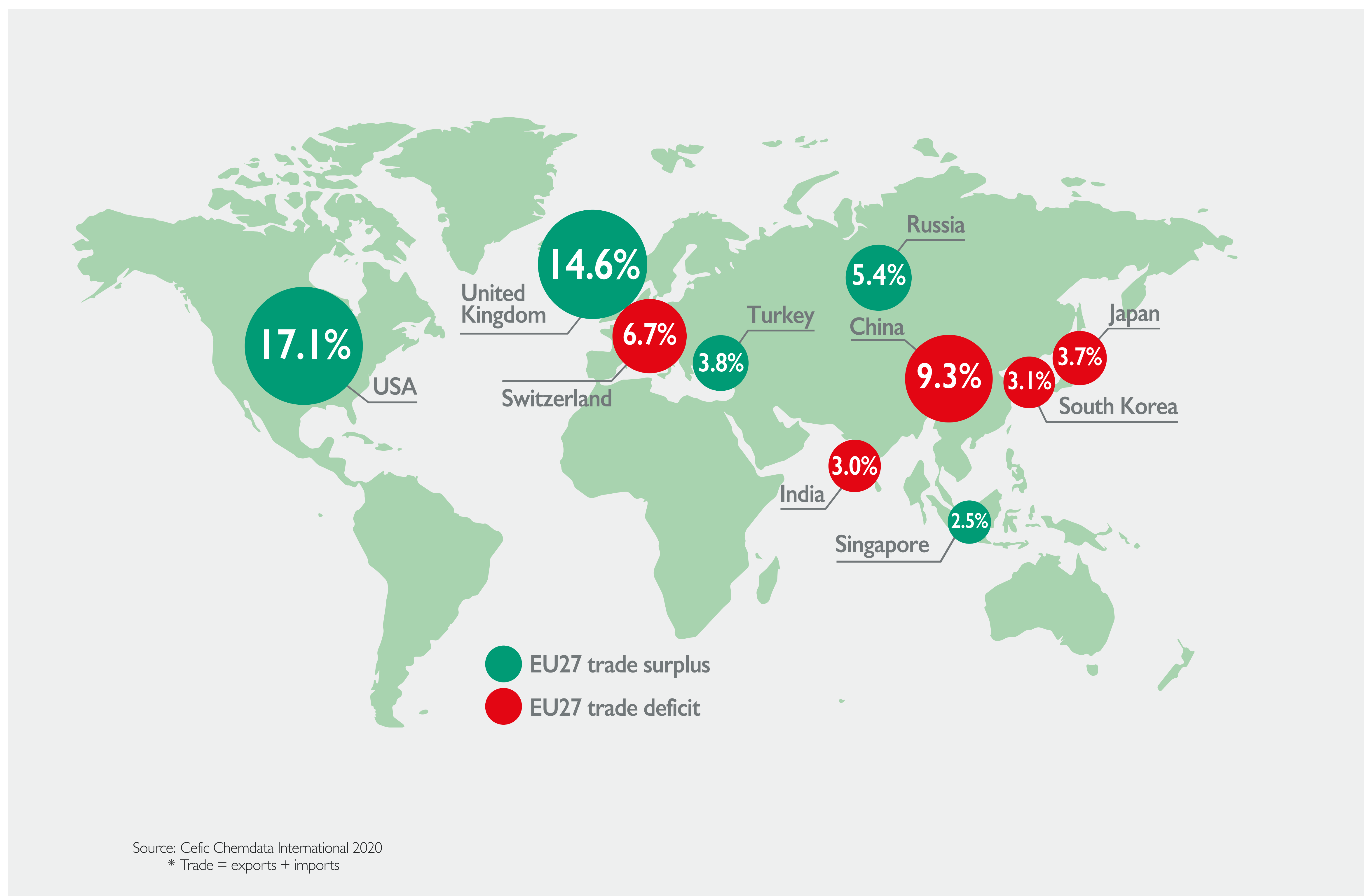
EU27 chemicals trade flows with major geographic blocs





Europe generates more chemicals trade* with USA

EU27 chemicals trade* flows with top partners (2019)





Europe is the largest destination market for US chemicals exports

World network of major chemicals exports flows (2018, top 5, %)

	Largest exporting market	Second largest exporting market	Third largest exporting market	Fourth largest exporting market	Fifth largest exporting market	Top 5
EU27 + UK	Rest of Asia*	United States	Rest of Europe**	China	Africa	67.4%
Rest of Asia*	China	EU27 + UK	United States	Japan	Middle East	81.8%
United States	EU27 + UK	Rest of Asia*	Latin America	China	Japan	61.7%
China	Rest of Asia*	EU27 + UK	United States	Latin America	Japan	83.8%
Japan	Rest of Asia*	China	United States	EU27 + UK	Latin America	96.7%
Middle East	Rest of Asia*	China	EU27 + UK	Africa	United States	93.3%
Rest of Europe**	EU27 + UK	Rest of Asia*	Latin America	United States	China	93.6%
Africa	EU27 + UK	Rest of Asia*	Latin America	United States	Middle East	94.0%
Latin America	EU27 + UK	United States	Rest of Asia*	China	Japan	85.7%
Oceania	Rest of Asia*	China	United States	EU27 + UK	Japan	89.6%
World	Rest of Asia*	China	EU27 + UK	United States	Latin America	73.5%

Source: Cefic Chemdata International 2020

* Asia excluding China, Japan and Middle East

** Europe excluding EU27+UK; it covers Russia, Norway, Turkey, Switzerland and Ukraine



Europe has the largest chemicals surplus in the world

World matrix: chemicals trade balance (2018)

	EU27 + UK	Rest of Asia*	United States	China	Japan	Middle East	Rest of Europe**	Africa	Latin America	Oceania	World
EU27 + UK		Trade surplus	Trade surplus	Trade deficit	Trade deficit	Trade surplus	Trade surplus	Trade surplus	Trade surplus	Trade surplus	Trade surplus
Rest of Asia*	Trade deficit		Trade deficit	Trade surplus	Trade deficit	Trade deficit	Trade deficit	Trade surplus	Trade surplus	Trade surplus	Trade deficit
United States	Trade deficit	Trade surplus		Trade deficit	Trade surplus	Trade surplus	Trade deficit	Trade surplus	Trade surplus	Trade surplus	Trade surplus
China	Trade surplus	Trade deficit	Trade surplus		Trade deficit	Trade deficit	Trade surplus	Trade surplus	Trade surplus	Trade surplus	Trade deficit
Japan	Trade surplus	Trade surplus	Trade deficit	Trade surplus		Trade deficit	Trade deficit	Trade surplus	Trade surplus	Trade surplus	Trade surplus
Middle East	Trade deficit	Trade surplus	Trade deficit	Trade surplus	Trade surplus		Trade deficit	Trade surplus	Trade surplus	Trade surplus	Trade surplus
Rest of Europe**	Trade deficit	Trade surplus	Trade surplus	Trade deficit	Trade surplus	Trade surplus		Trade surplus	Trade surplus	Trade surplus	Trade surplus
Africa	Trade deficit	Trade deficit	Trade deficit	Trade deficit	Trade deficit	Trade deficit	Trade deficit		Trade surplus	Trade surplus	Trade deficit
Latin America	Trade deficit	Trade deficit	Trade deficit	Trade deficit	Trade deficit	Trade deficit	Trade deficit	Trade deficit		Trade deficit	Trade deficit
Oceania	Trade deficit	Trade deficit	Trade deficit	Trade deficit	Trade deficit	Trade deficit	Trade deficit	Trade deficit	Trade surplus		Trade deficit
World	Trade deficit	Trade surplus	Trade deficit	Trade surplus	Trade deficit	Trade deficit	Trade deficit	Trade surplus	Trade surplus	Trade surplus	

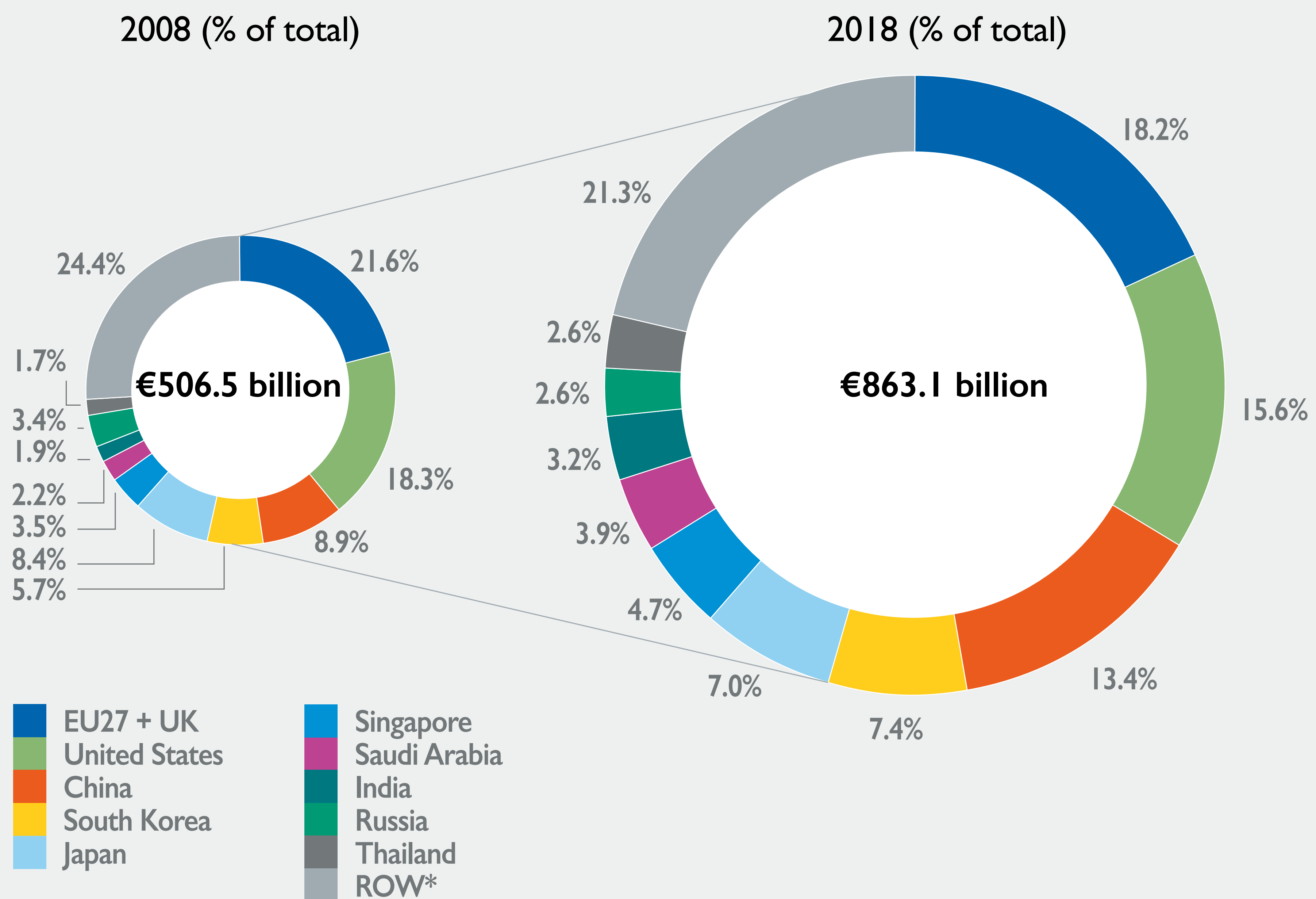
■ Trade deficit
■ Trade surplus

Source: Cefic Chemdata International 2020
 * Asia excluding China, Japan and Middle East
 ** Europe excluding EU27+UK; it covers Russia, Norway, Turkey, Switzerland and Ukraine



Europe losing exports competitiveness in chemicals

Chemical exports by country of origin (2008 vs 2018)

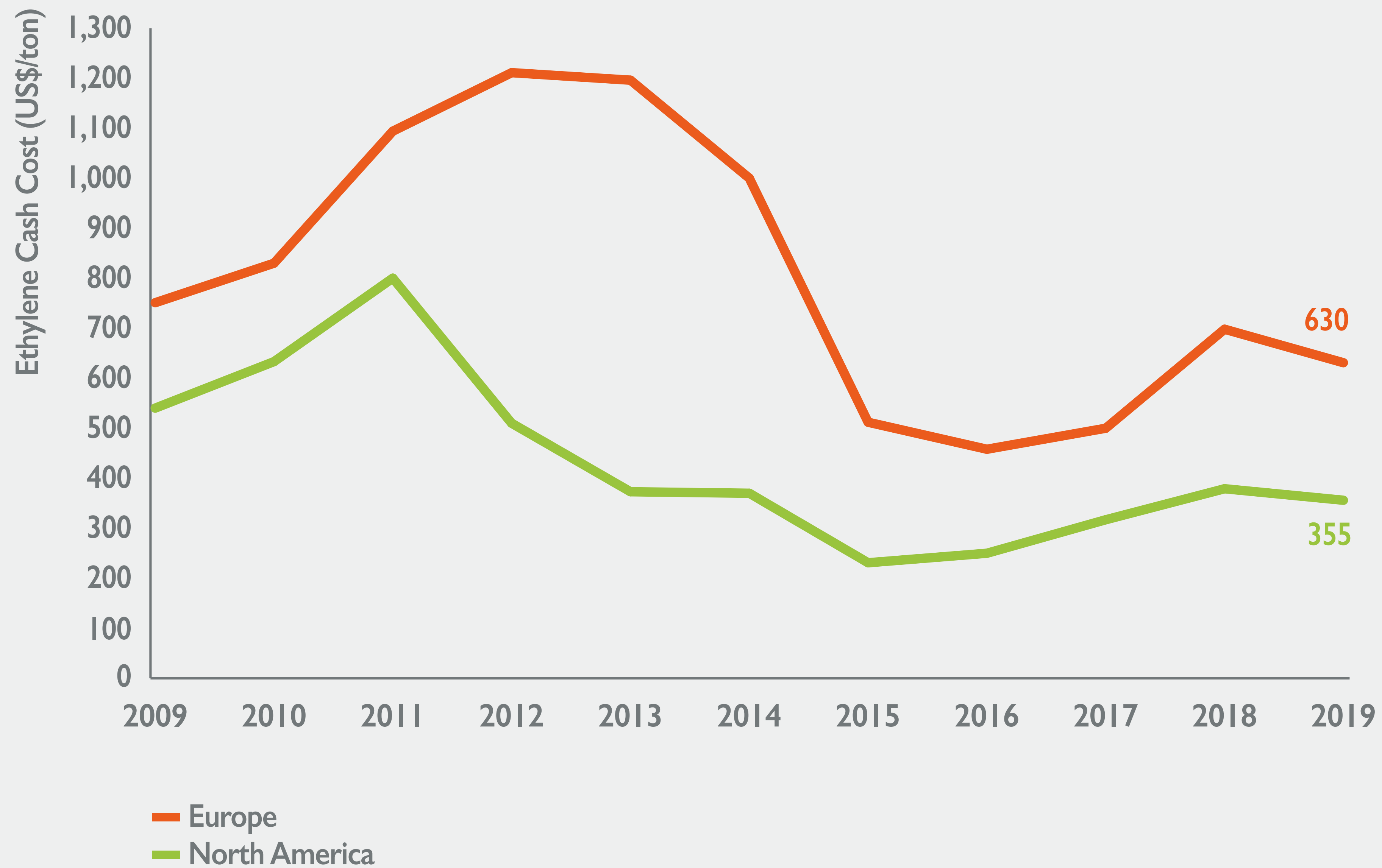


Source: Cefic Chemdata International 2020
 * Rest of the World, intra-EU27+UK trade excluded



Energy costs are the Achilles' heel of European industry

Average ethylene cash costs in Europe vs North America

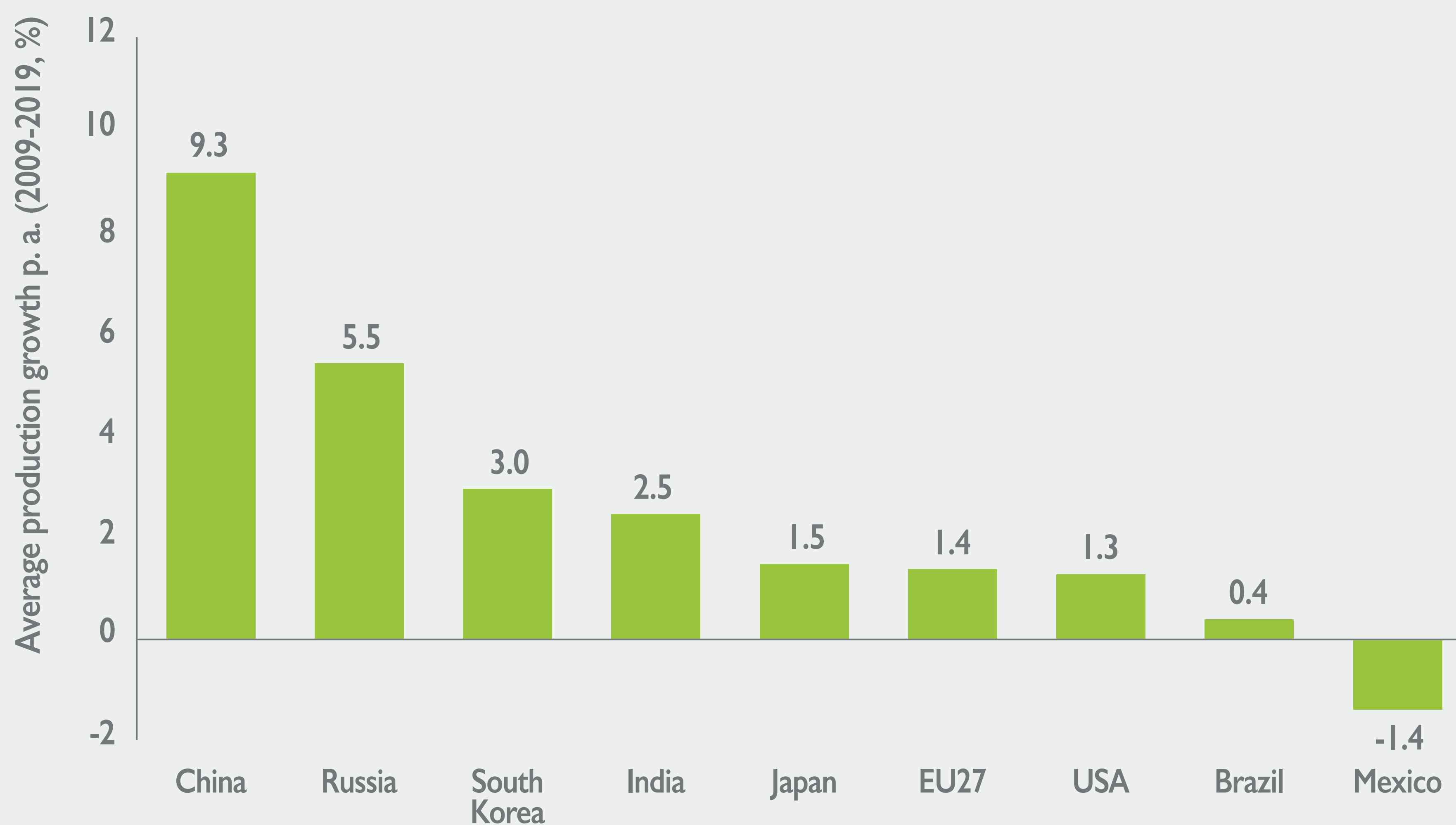


Source: ICIS and Cefic analysis 2020



Emerging economies outpace industrial countries in chemicals production

Average chemicals production growth per annum (2009-2019)

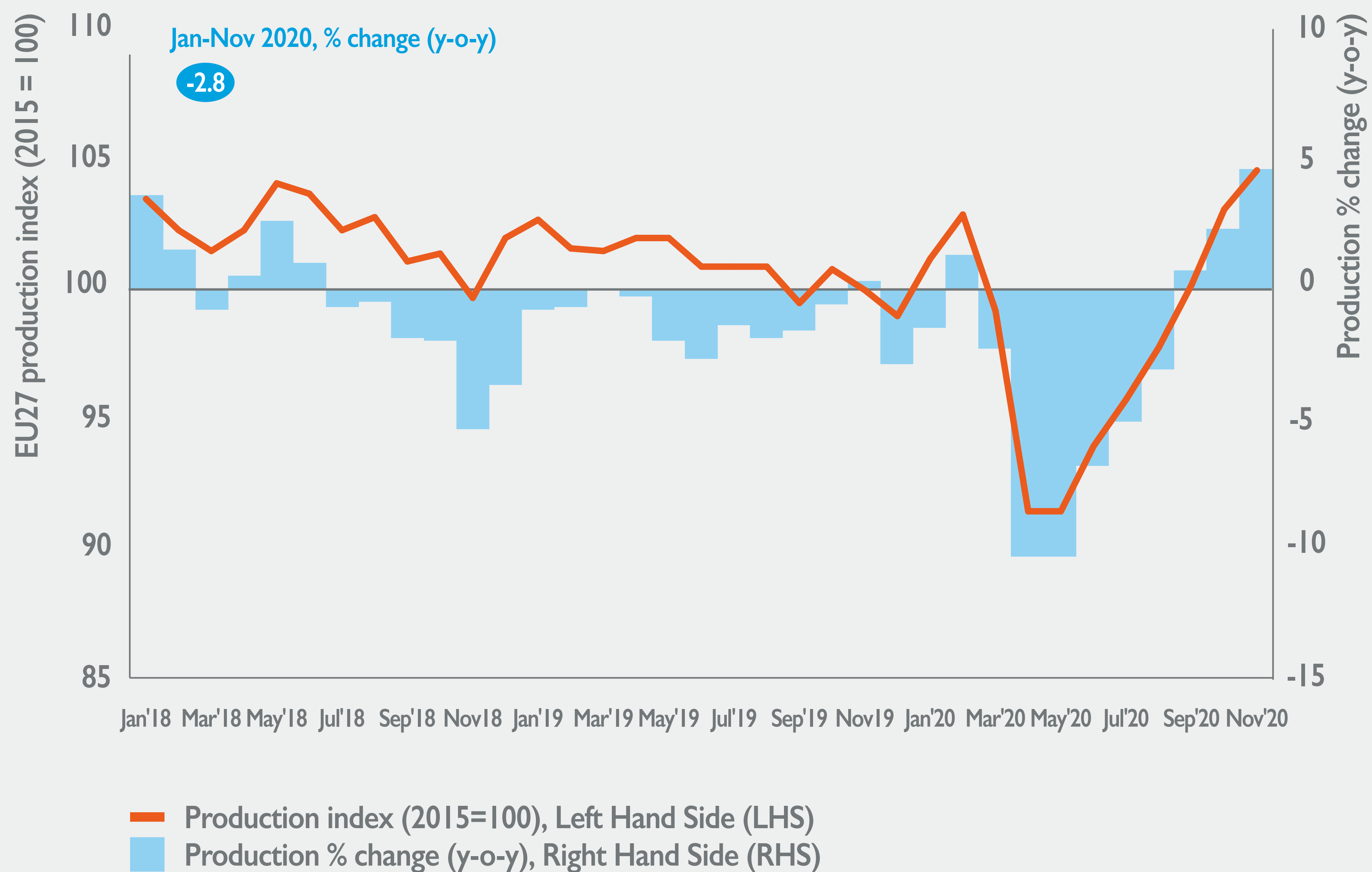


Source: Cefic Chemdata International 2020



Europe facing an increasing uncertainty, and below its pre-crisis level

EU27 chemical industry production

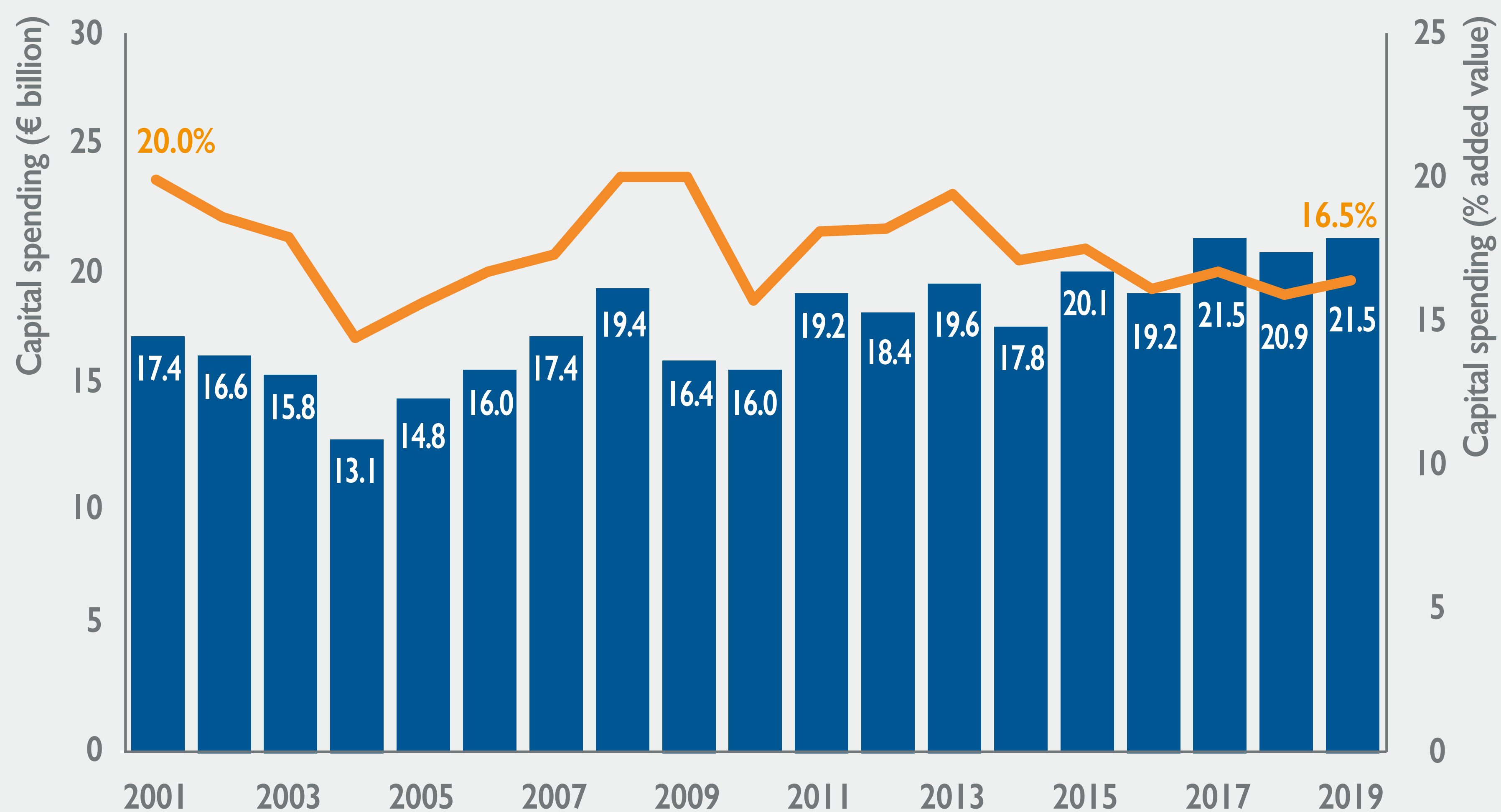


Source: Cefic Chemdata International 2020



Europe reaches the highest level in chemicals investment

Capital spending in the EU27 chemical industry



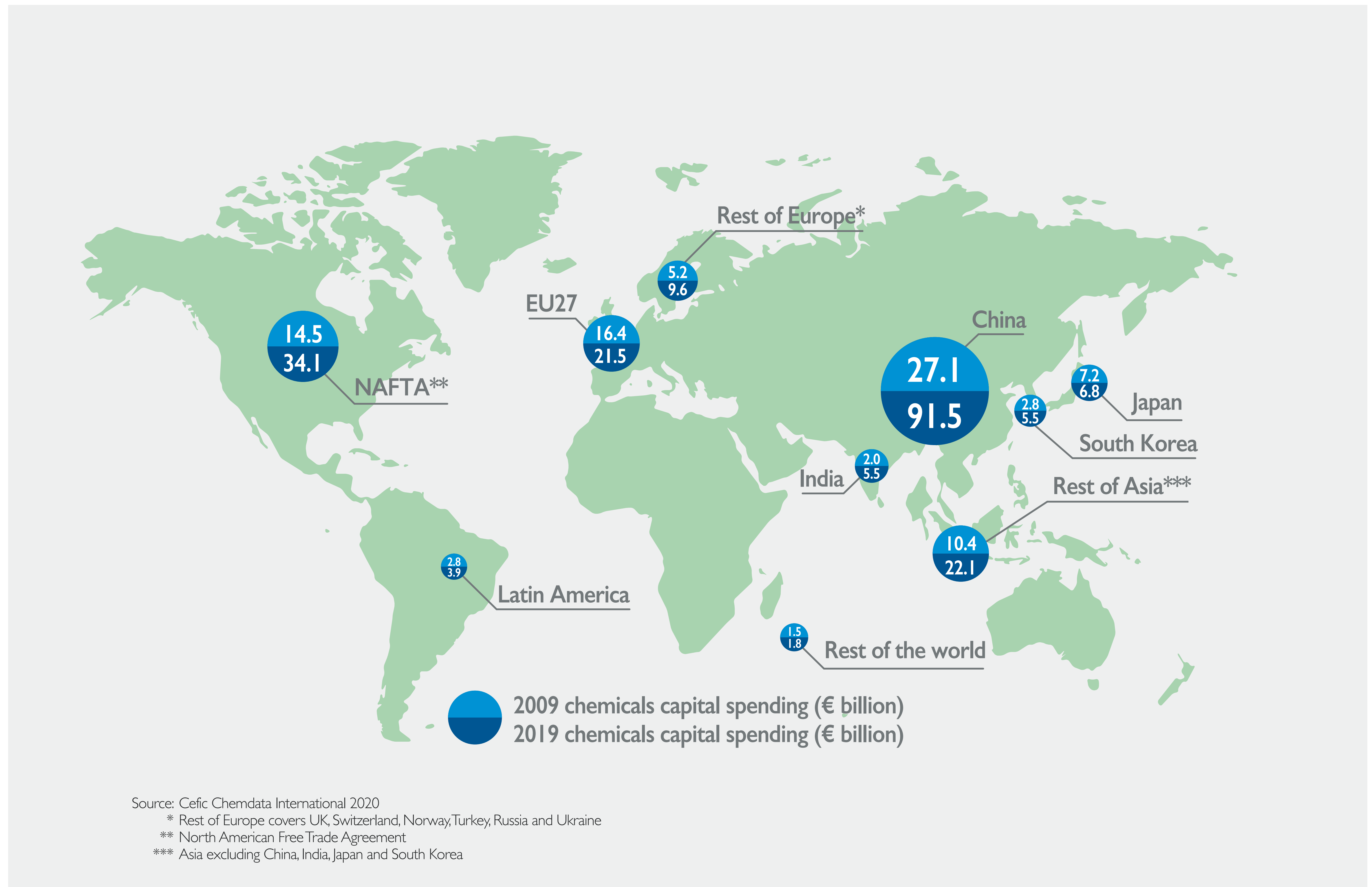
Average growth rate p.a. 2001 - 2019
 — EU27 added value (€ billion): +2.3%
 ■ EU27 capital spending (€ billion): +1.2%

Source: Cefic Chemdata International 2020



China dominates world chemicals investment

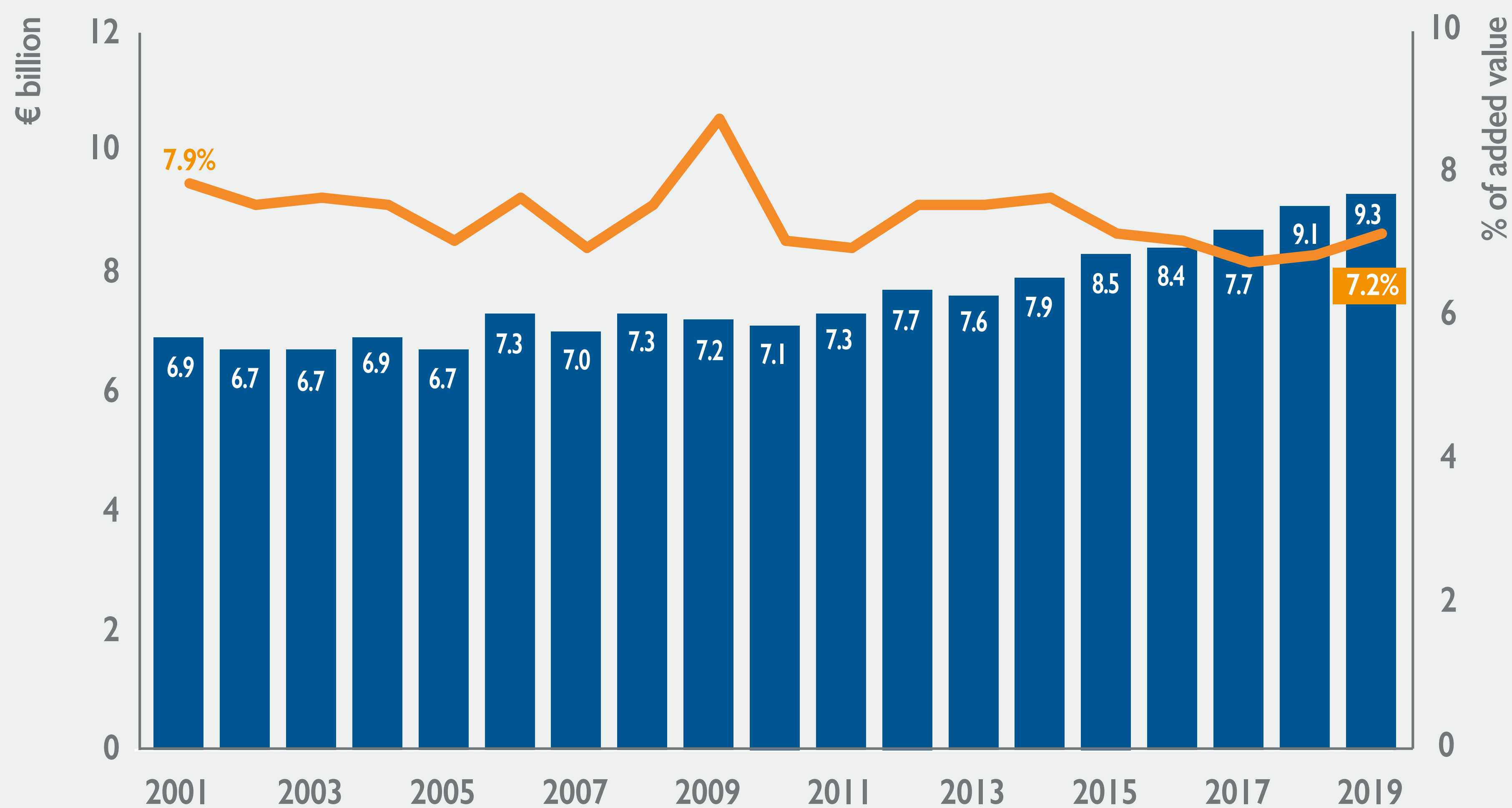
Capital spending by region





Europe reaches the highest level in R&I chemicals investment

R&I spending in the EU27 chemical industry



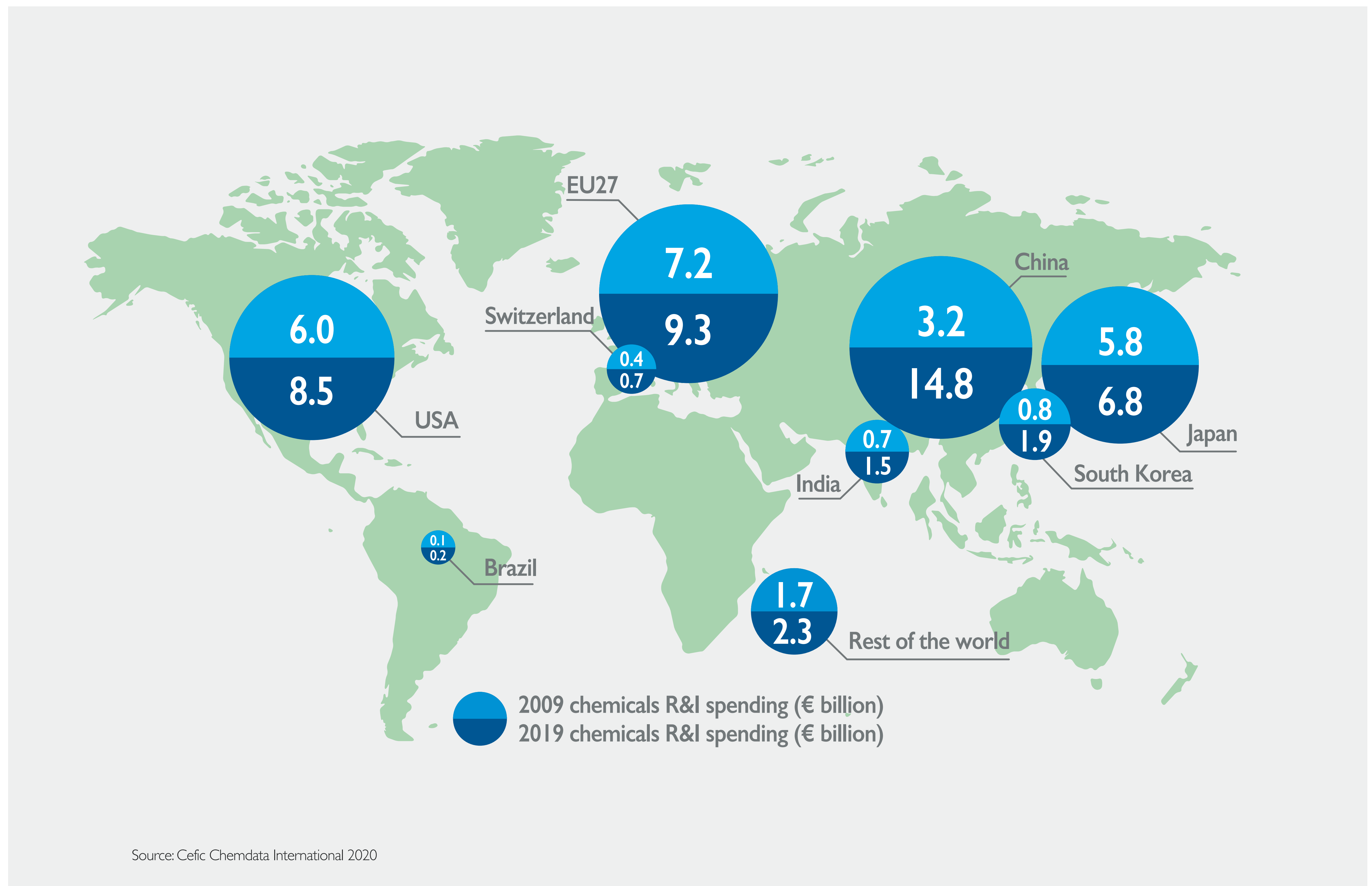
Average growth rate p.a. 2001 - 2019
 — EU27 added value (€ billion): +2.3%
 ■ EU27 R&I spending (€ billion): +1.7%

Source: Cefic Chemdata International 2020



Europe is the second largest R&I investor in the world

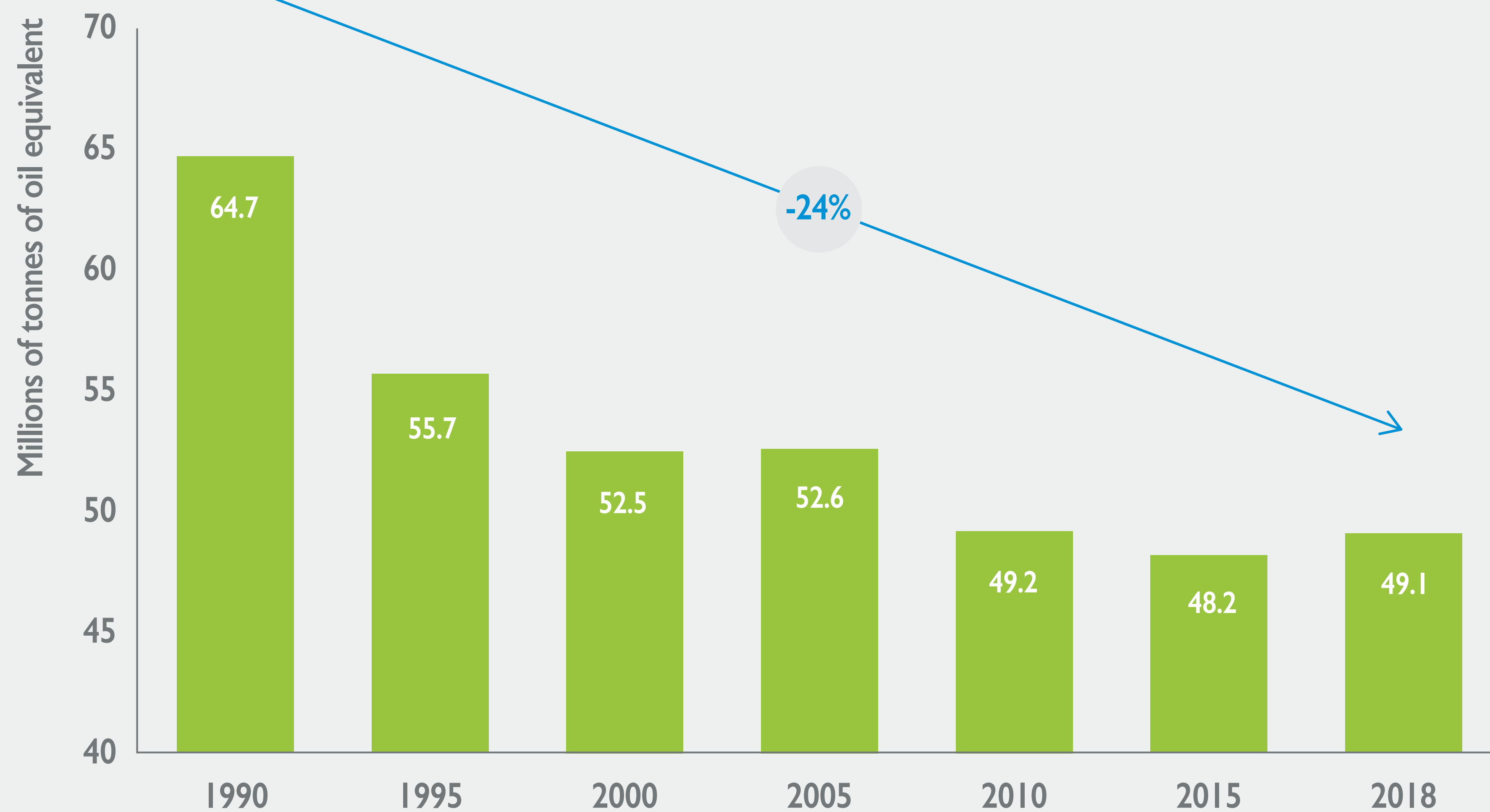
R&I spending by region





Europe falls significantly its fuel and power consumption*

Fuel and power consumption in the EU27 chemical* industry

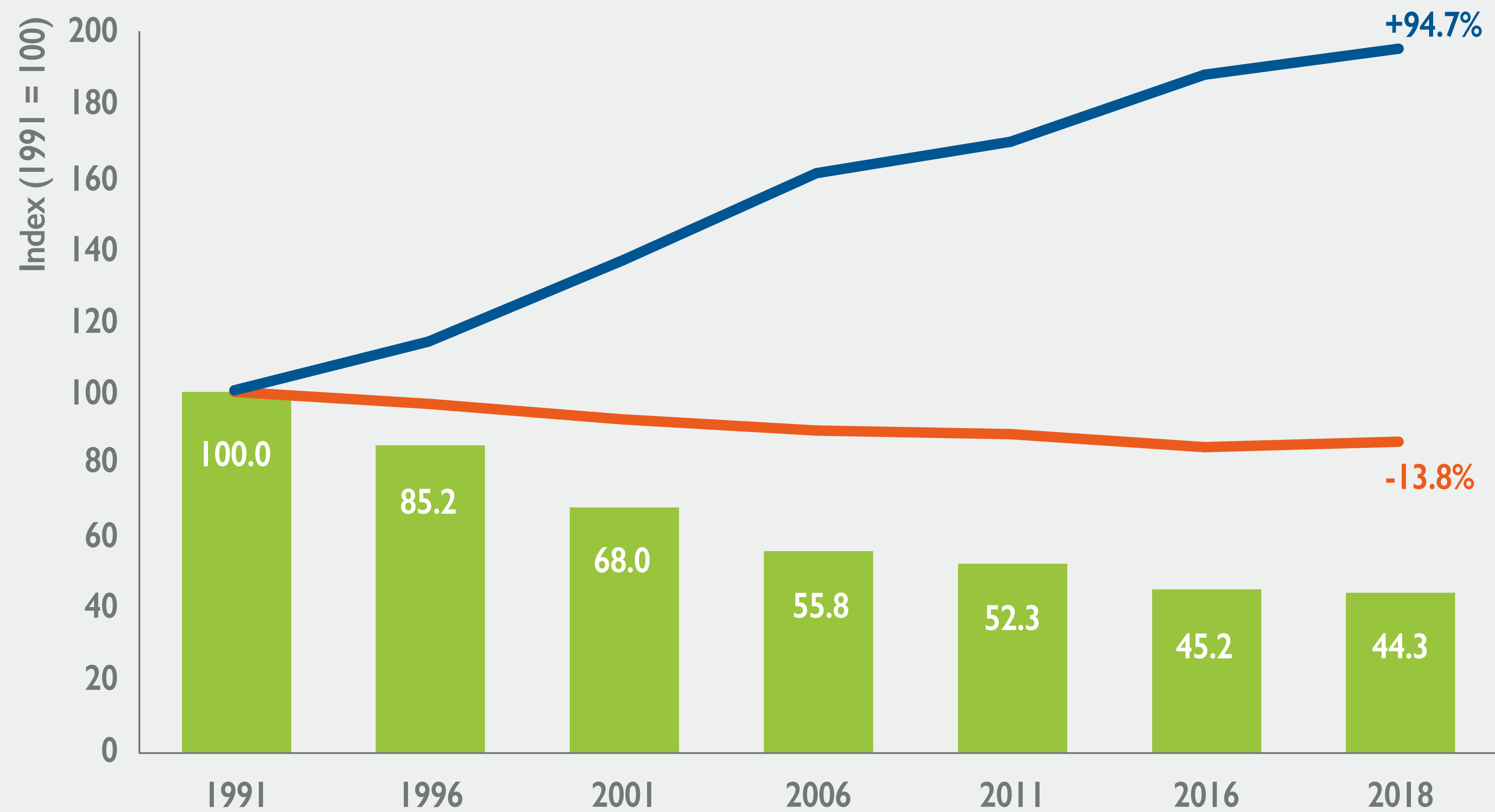


Source: Eurostat Energy Database and Cefic analysis 2020
* Chemicals including pharmaceuticals



Chemicals energy intensity halved in Europe

Energy intensity in the EU27 chemical industry*



Average growth rate p.a. 1991-2018

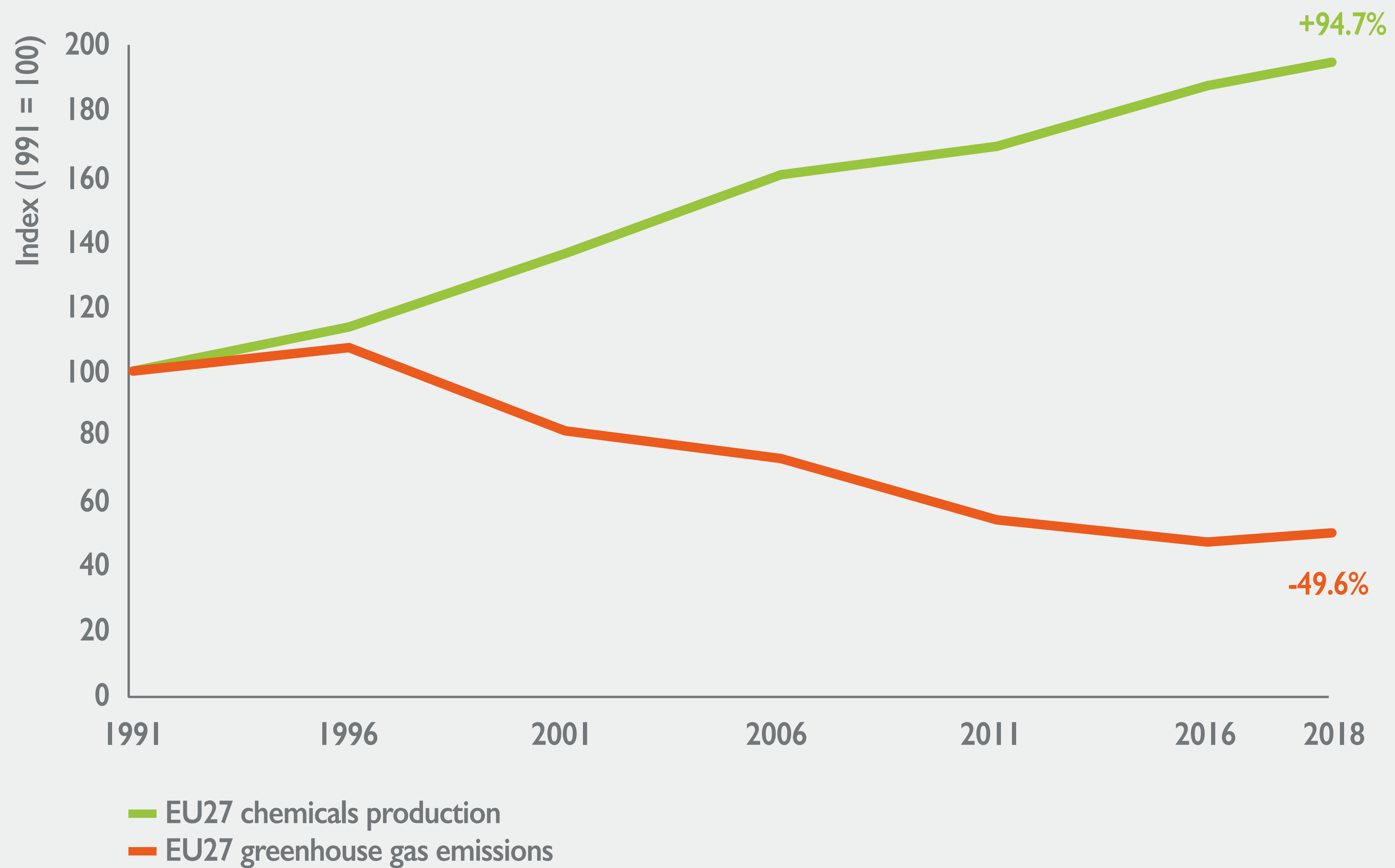
- EU27 chemicals production index (2.5%)
- EU27 energy consumption index (-0.5%)
- EU27 energy intensity (-3.0%)

Source: Eurostat Energy Database and Cefic analysis 2020
 * Chemicals including pharmaceuticals



European chemical production, greenhouse gas emissions, decouple

EU27 GHG emissions* and production**

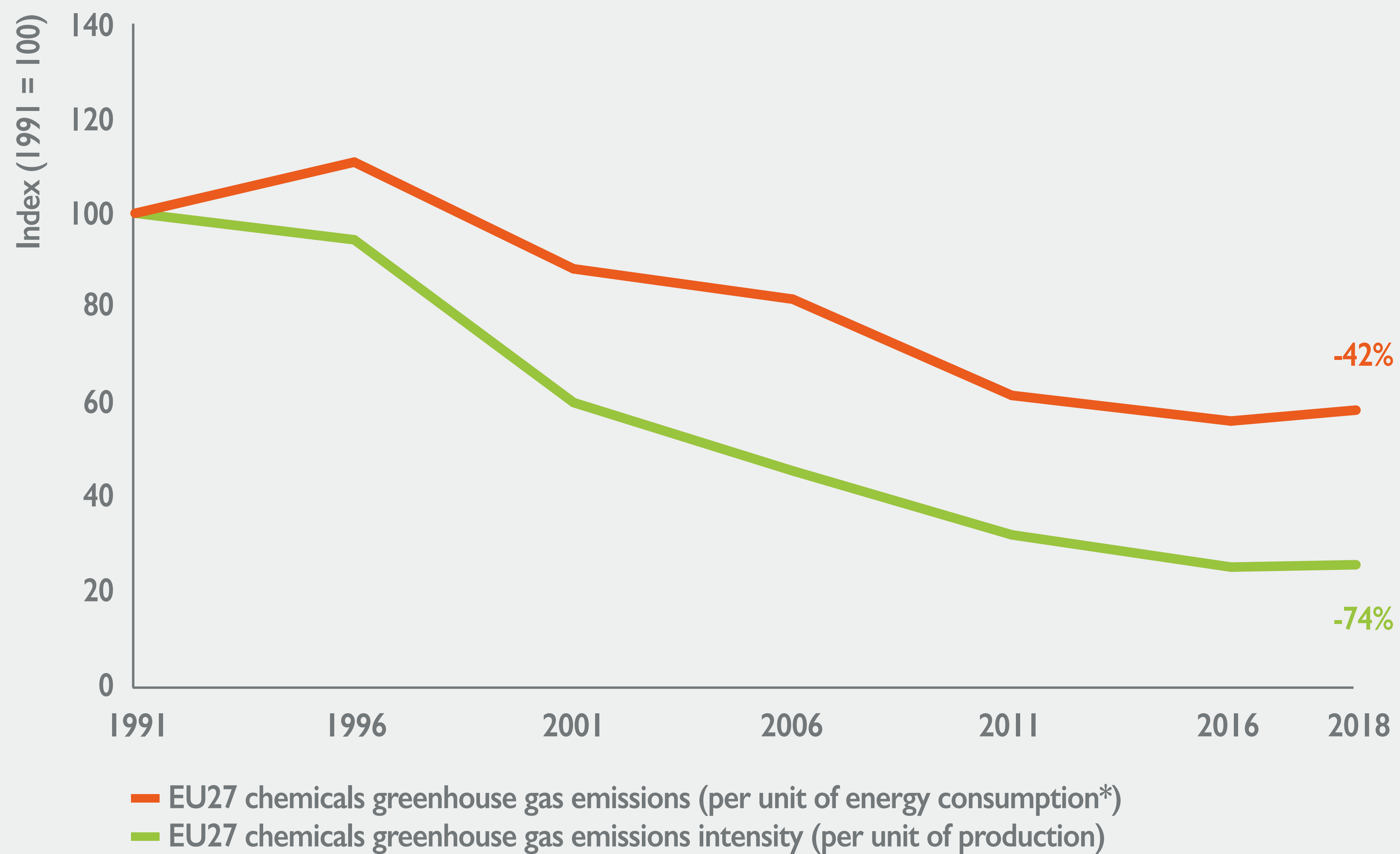


Source: European Environment Agency (EEA)
* Energy (Fuel and Power CO₂) is included
** Including pharmaceuticals



Europe enhancing environmental performance

EU27 GHG emissions* per unit of energy consumption and per unit of production**

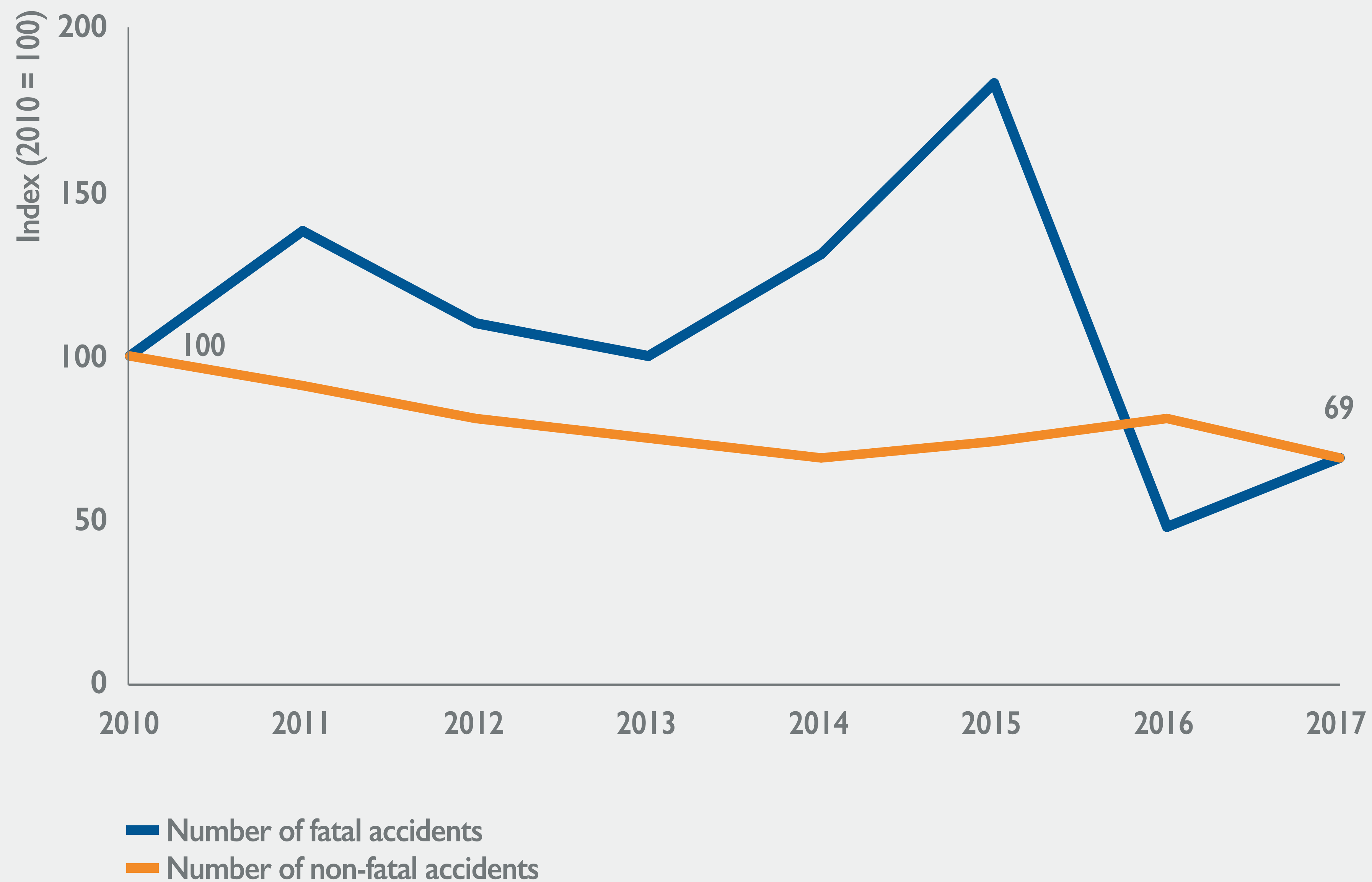


Source: European Environment Agency (EEA)
 * Energy (Fuel and Power CO₂) is included
 ** Including pharmaceuticals



Europe falls significantly its total number of accidents

Number of accidents at work in EU27+UK chemicals



Source: Eurostat database (hsw_n2_01 and hsw_n2_02) and Cefic analysis 2020



Cefic, the European Chemical Industry Council, founded in 1972, is the voice of large, medium and small chemical companies across Europe, which provide 1.1 million jobs and account for about 15% 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

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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