



Chemistry & life sciences in Belgium

An industry in transition

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Managing Director

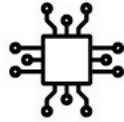
Federation of the Belgian chemical and life sciences industry



Crucial sector for many essential value chains



Engineering



Electronics



Sport & leisure



Textile



Automotive



Medical



Aviation



Construction



Energy & water supply





01



Belgium's chemical, plastics and life sciences
industry in a snapshot

Belgian chemical, plastics and life sciences industry tops international rankings



World champion in chemicals and plastics (sales per capita)

Home to the largest integrated chemical cluster in Europe

European champion in the recycling of plastics and plastic packaging

Industrial pillar of Belgium's economy



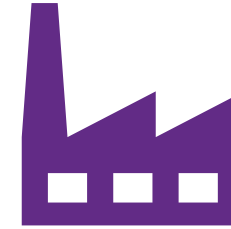
38% of added value
manufacturing industry

78% increase
in the last 10 years



1/5 of all
industry jobs

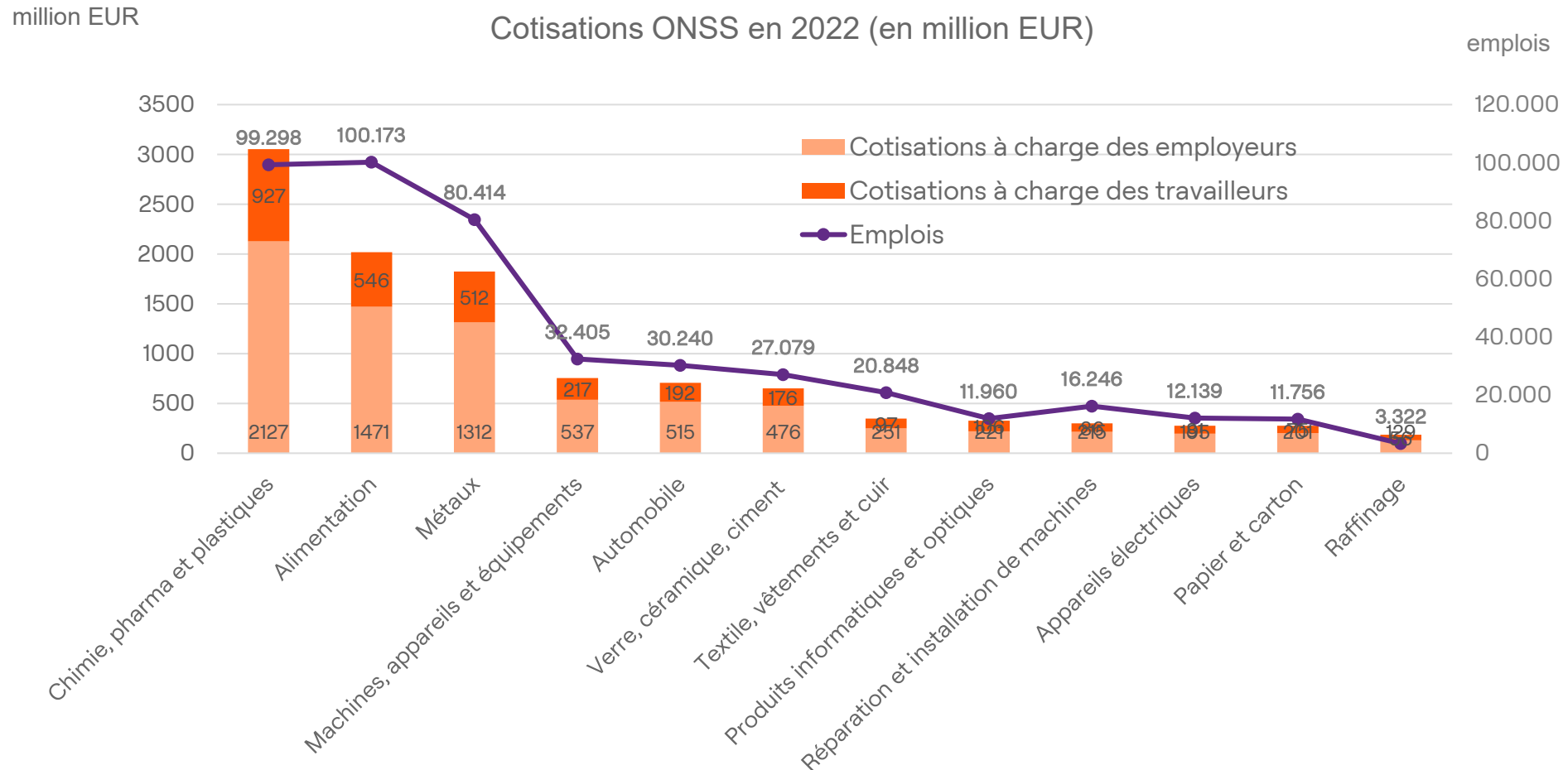
250,000
direct and indirect jobs



36% of all
industrial investments

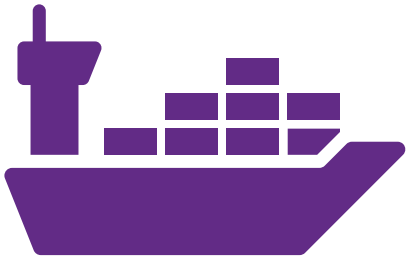
25 billion €
investments
in past 10 years

Chemicals and life sciences contribute more to social security than any other industrial sector



Source: ONSS, cotisations déclarées pour 2022, nombre d'emplois selon les statistiques décentralisées au 30 juin 2022

A global player for export of chemicals and pharmaceuticals



**1/3 of total
Belgian export**

172 billion €



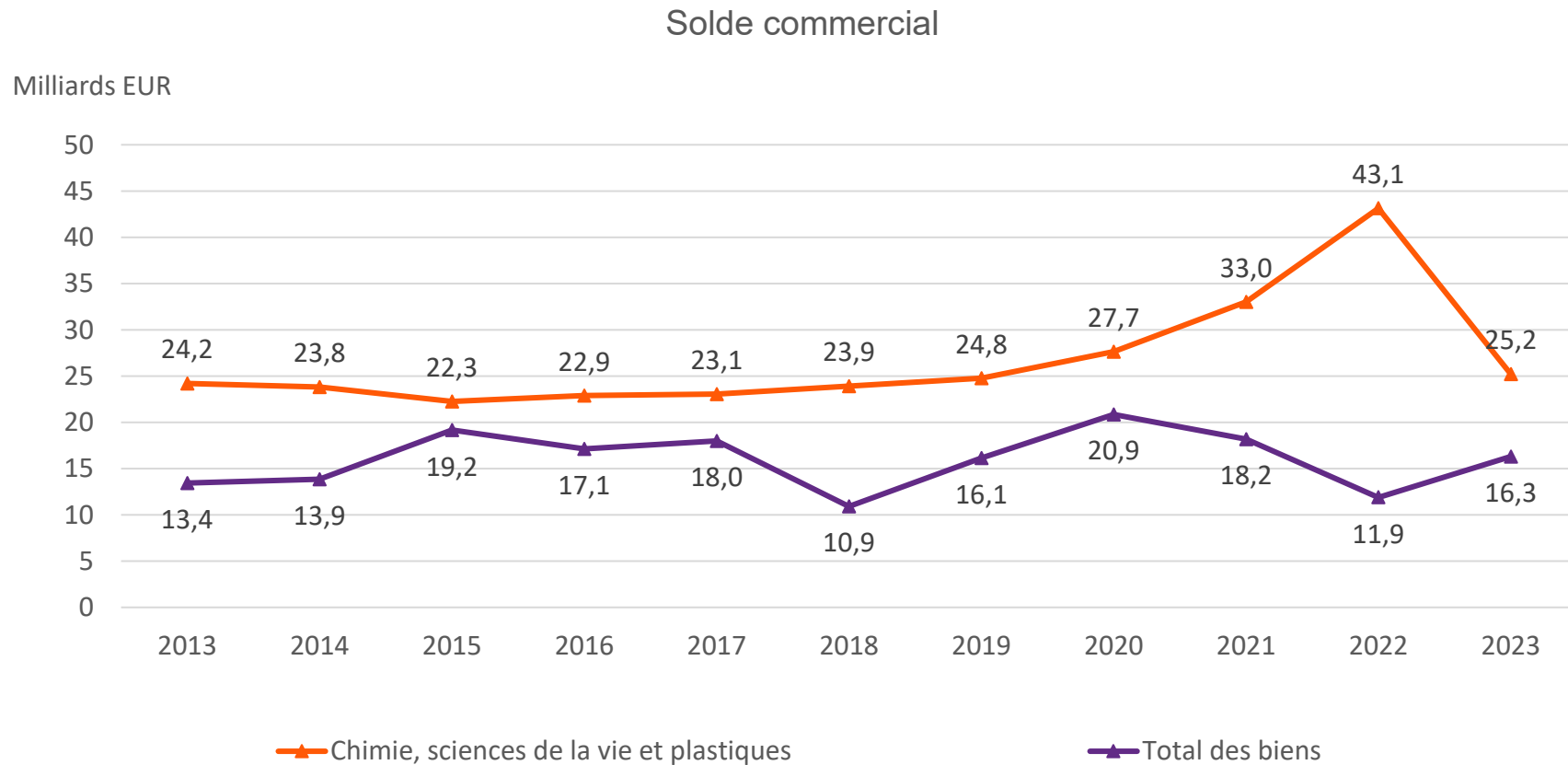
Number 2 in Europe and number 5 in the world
for export in chemistry and life sciences



Main trading partners

- in EU: Germany (18% of exports)
- outside EU: US (11% of exports)

Despite decline, contribution to Belgian trade balance remains positive



Belgium's and Europe's R&D champion



**2/3 of all Belgian
industrial R&D**

6.3 billion €



World's number 1

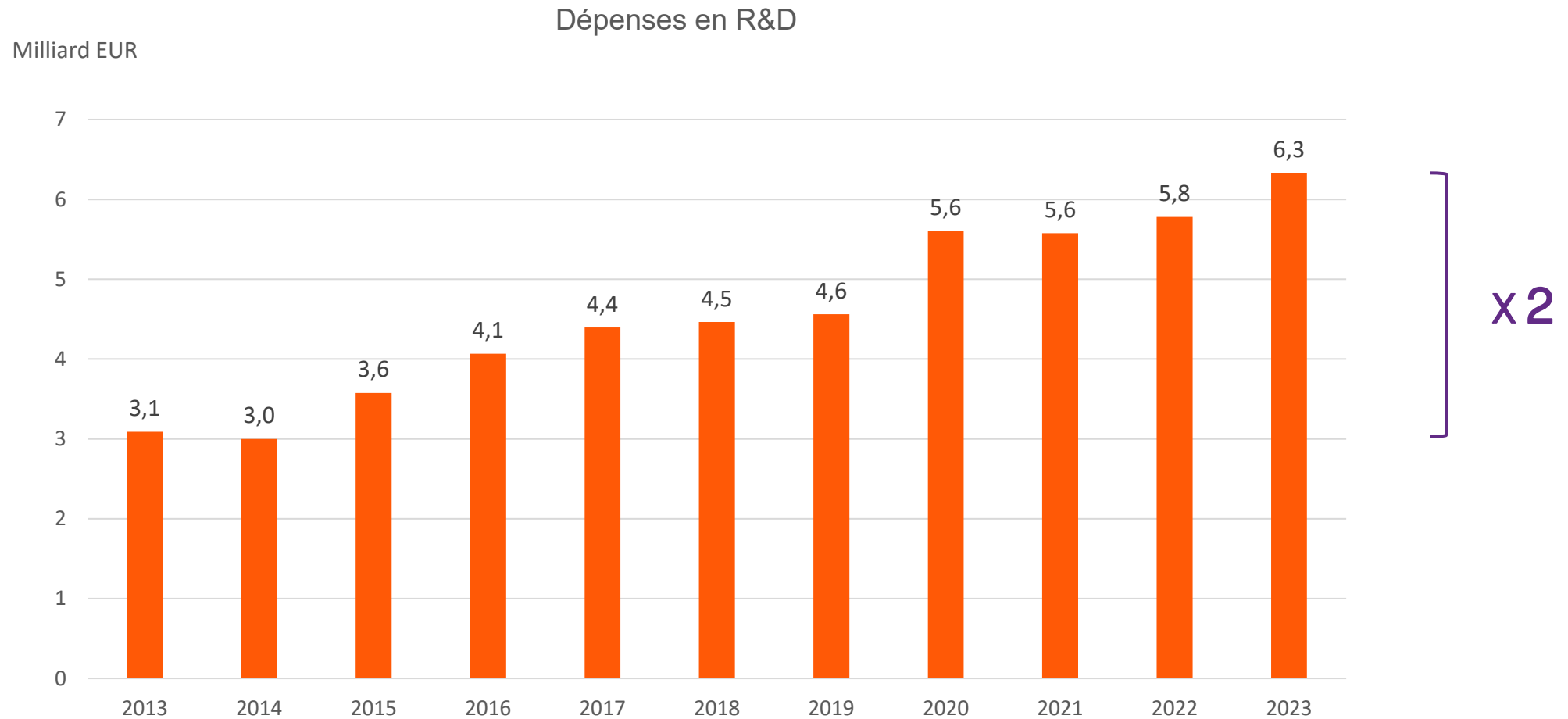
41% share of chemistry & biopharma
in all Belgian patents



Number 1 in Europe

in terms of R&D-intensity (18%)

Record investments in R&D

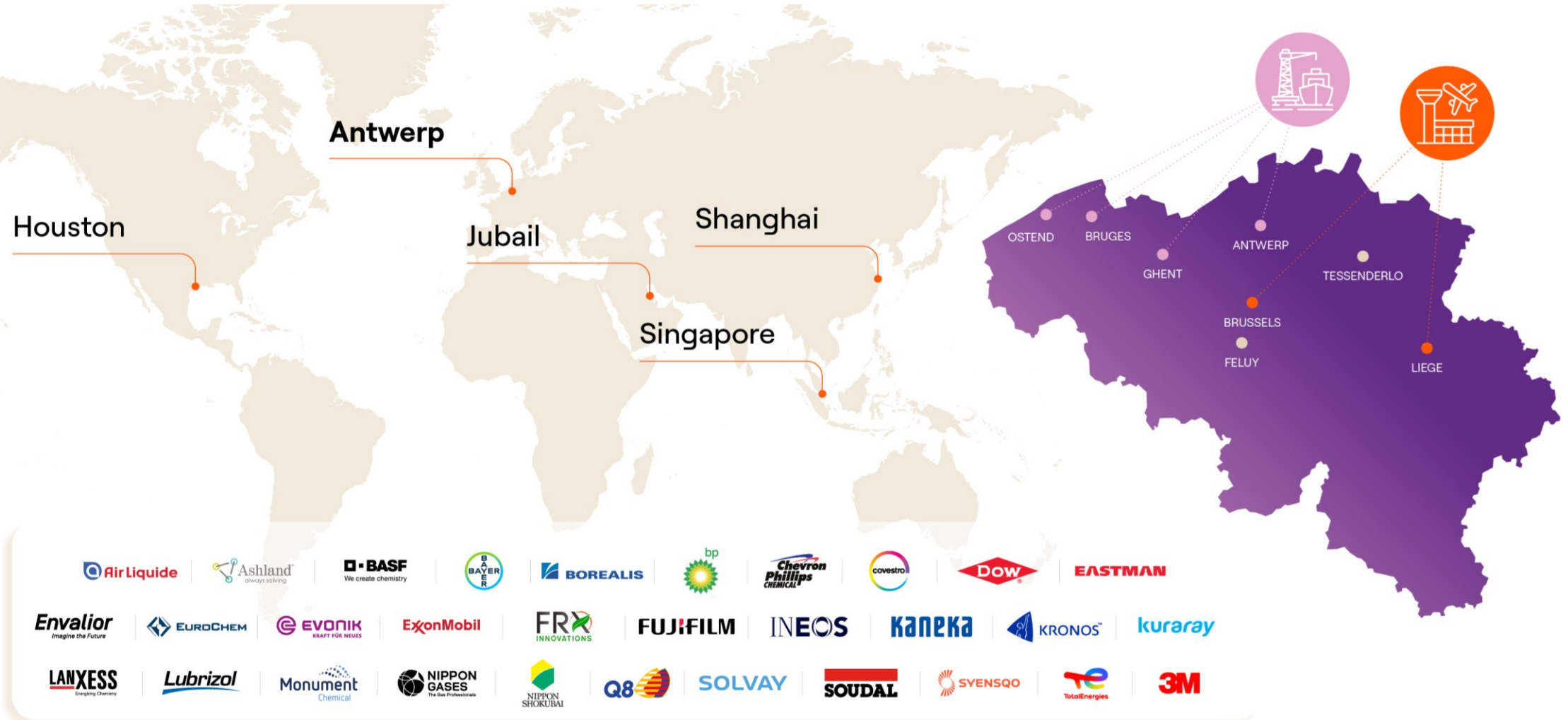


02

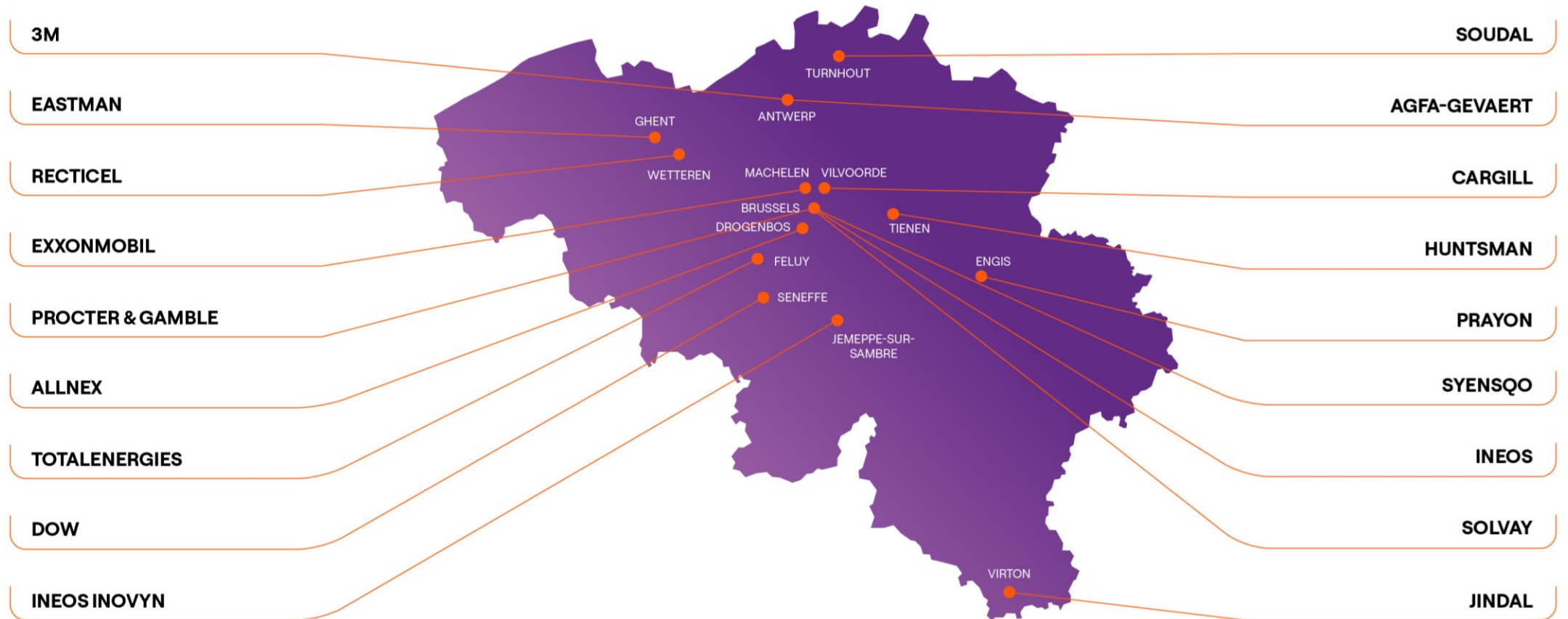


Small country
Big in chemistry and life sciences

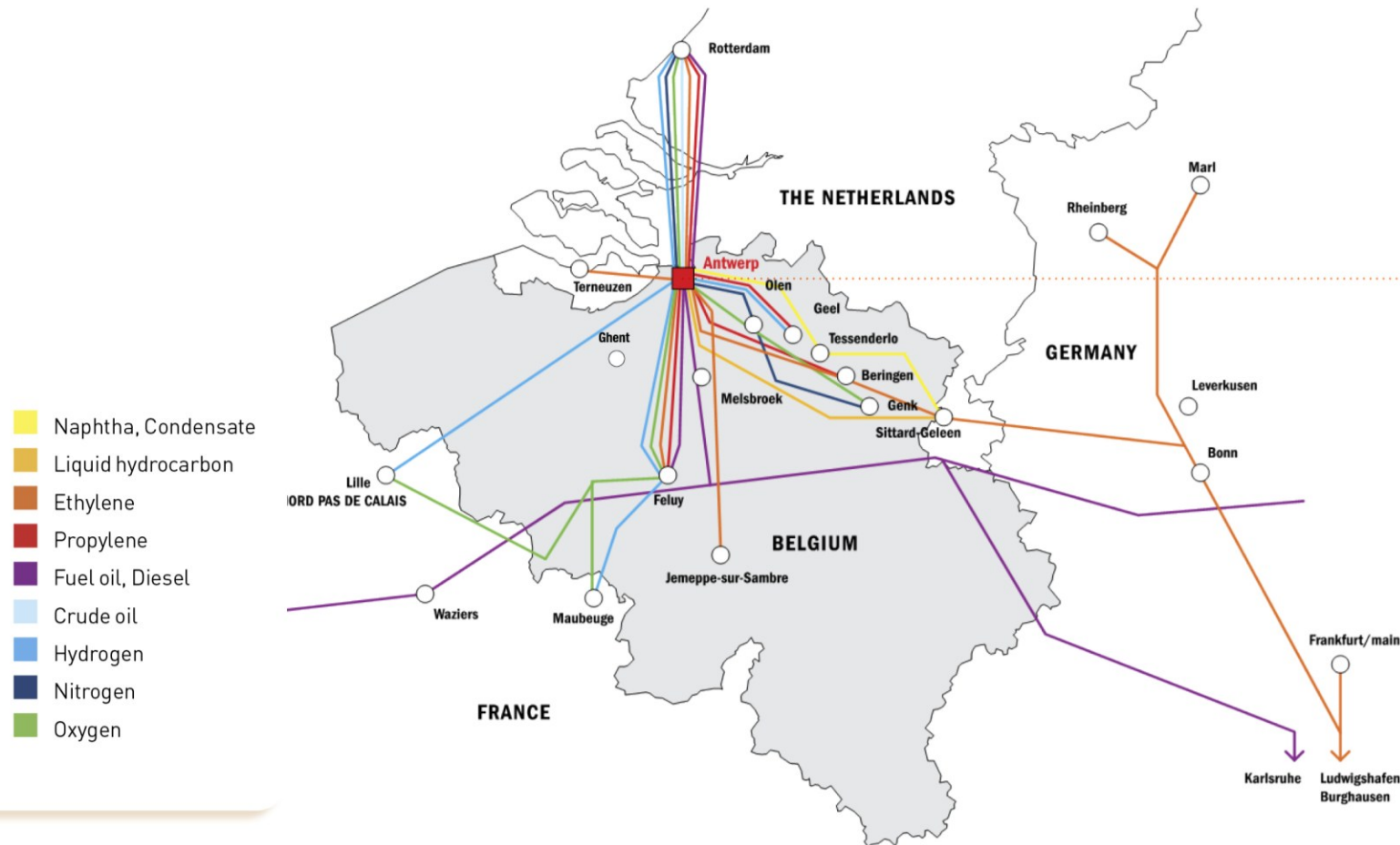
Home to the largest chemical cluster in Europe and one of the largest in the world



Leading R&D centers with a focus on sustainable chemistry, plastics and materials



Central location in the western European pipeline network



1,000 km
of intraport pipelines
(excluded plant pipelines)

25%

of all chemicals goods
in Belgium are
transported by pipeline

Europe's health & biotech valley



GSK – Wavre & Rixensart

Further expansion of the largest vaccines development and production center in the world



UCB – Braine l'Alleud

New cutting-edge and high-tech bioproduction plant and gene therapy facility



Legend Biotech – J&J Zwijnaarde

First production site for CAR-T cell therapy on European territory



Takeda – Lessines

A new production facility and a carbon net-zero emissions warehouse



Pfizer – Puurs

Expansion of the production and filling lines for Covid-19 vaccines



Univercells – Exothera – Braine l'Alleud

Customized manufacturing services for gene therapy and viral vector-based vaccines



Eurogentec Kaneka – Liège

GMP accreditation for new mRNA manufacturing facility



Sanofi – Geel

Bioplant expansion with a monoclonal antibody production line

A unique life sciences ecosystem “invented and made in Belgium”

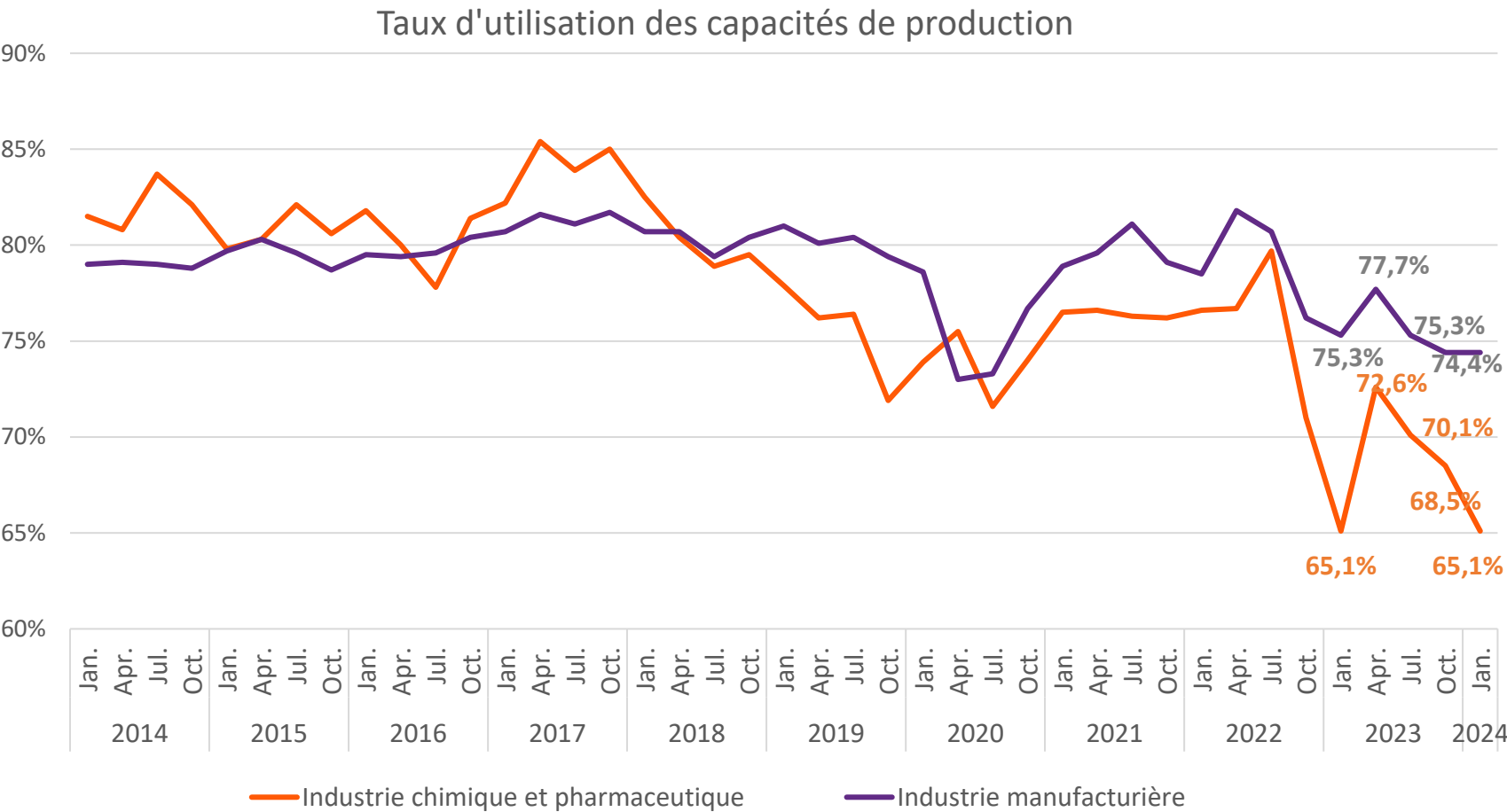


03



Challenging economic times

Production capacity utilisation rate falls more sharply than in the rest of industry (2023)



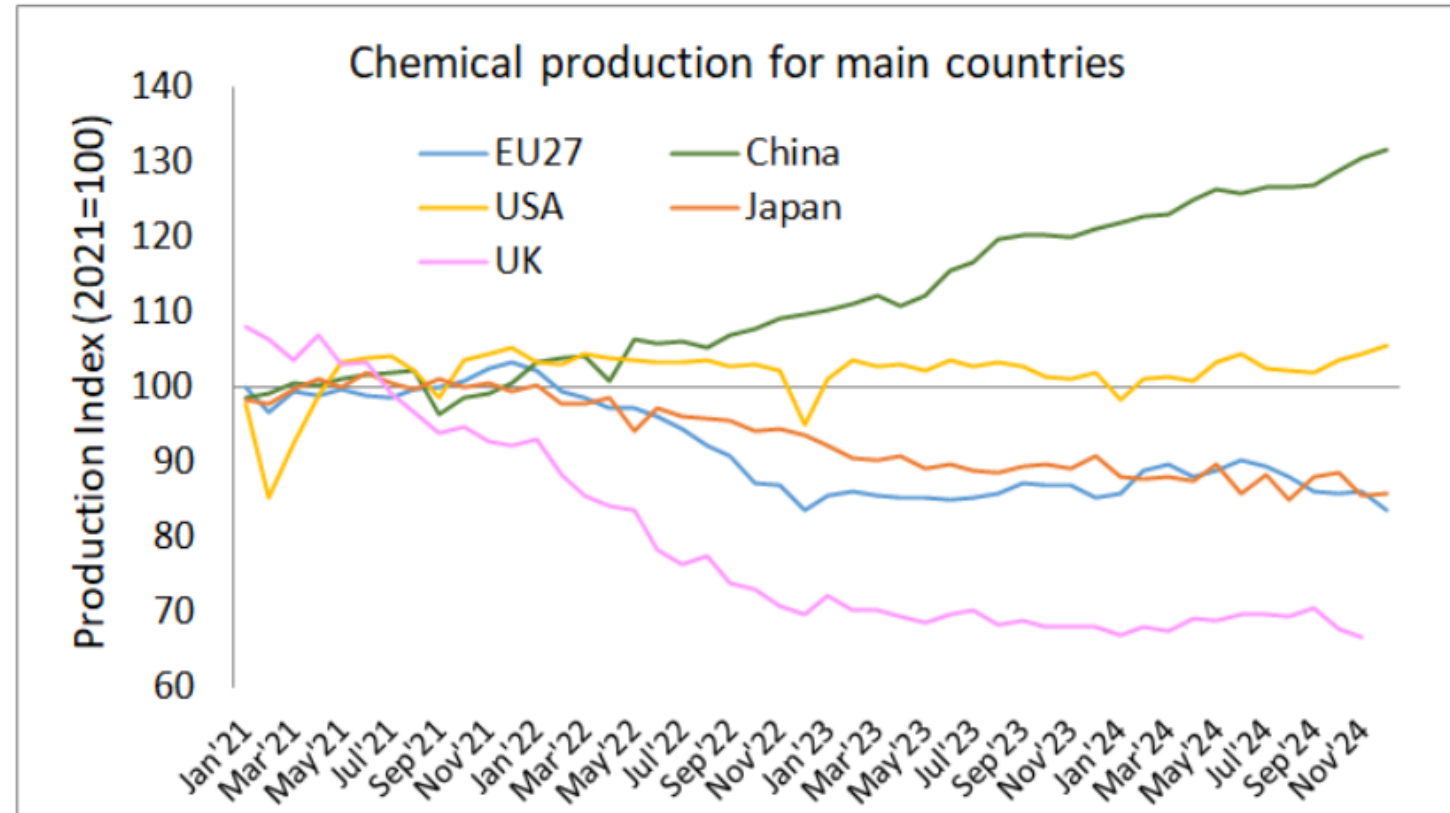
Source: BNB, série désaisonnalisée

2024 vs 2023: Global chemicals production up by 4.7%

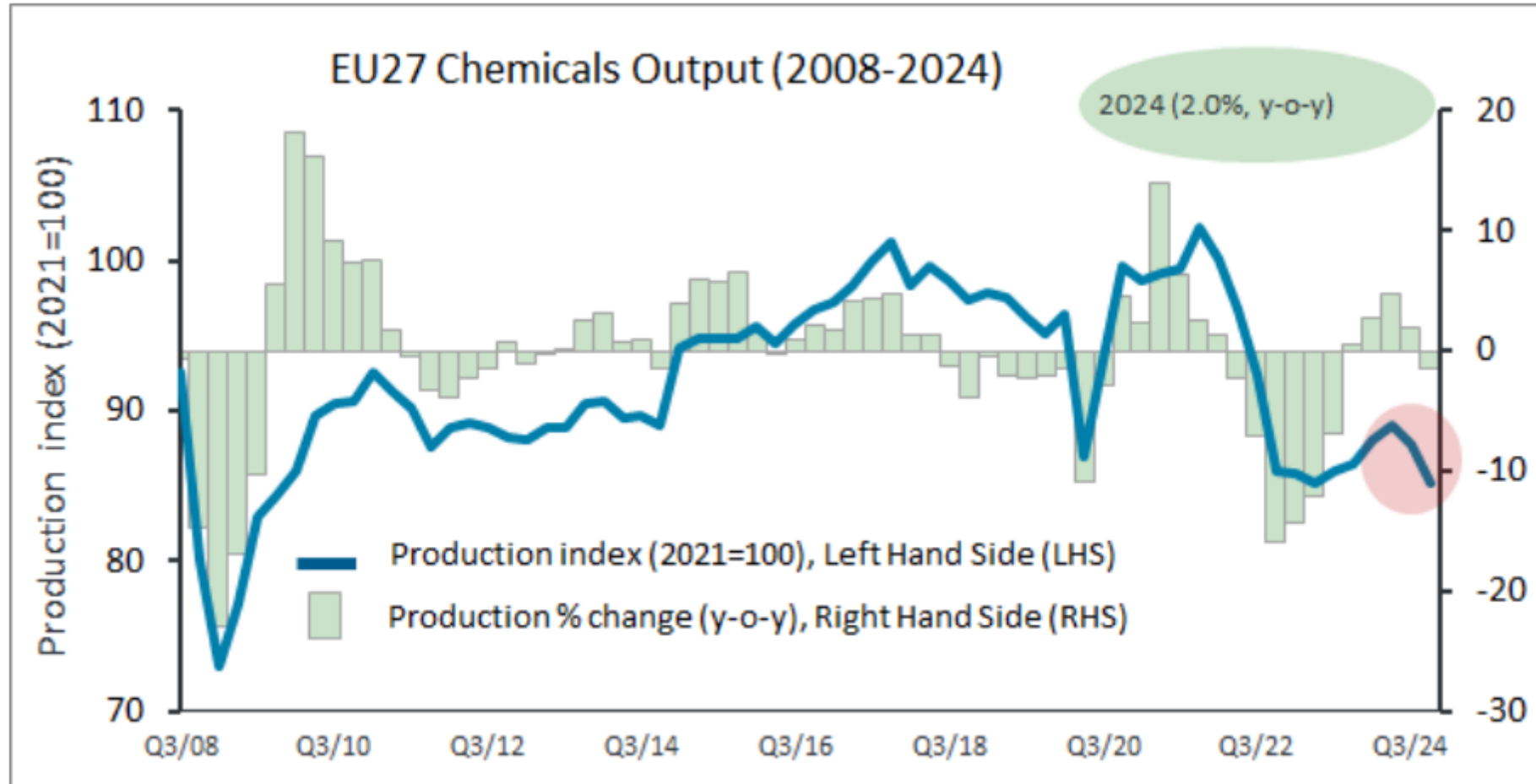


Global Chemicals production growth (y-o-y)

	2021	2022	2023	2024
China	8.6	5.7	9.6	9.1
EU27	6.1	-6.1	-8.5	2.0
USA	4.2	2.6	-0.2	0.0
Japan	5.3	-3.7	-6.6	-2.9
South Korea	8.5	-10.1	-9.3	2.0
India	8.5	4.4	-0.5	1.5
Brazil	3.7	1.1	-6.0	3.1
UK	-7.1	-20.5	-12.7	-1.3
Taiwan	5.8	-4.8	-5.7	2.6
Russia	7.1	-2.5	5.3	3.1
World	6.8	1.4	2.1	4.7



European chemical industry struggles with ongoing weakened competitiveness



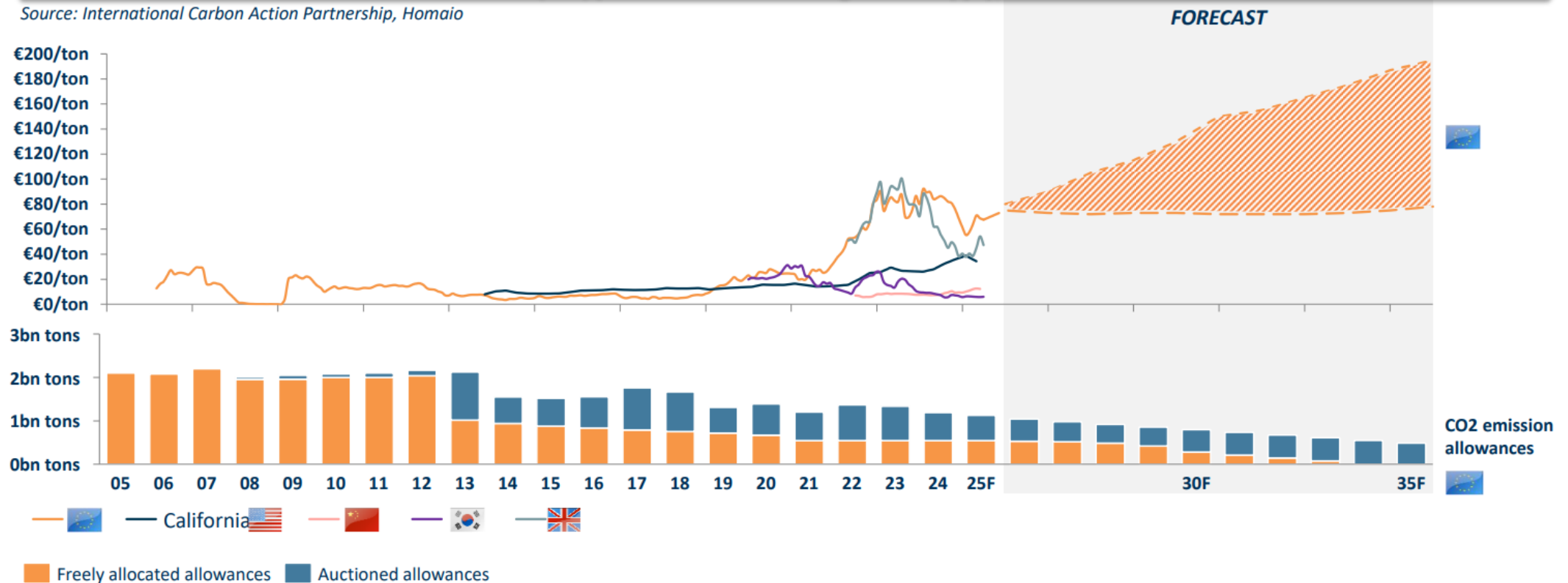
Higher climate costs due to sharp and structural increase in price of emission allowances



2005-July 2024-35F, €/ton, Global

Different CO2 (ETS) prices based on coverage local supply/demand balance

Source: International Carbon Action Partnership, Homaio

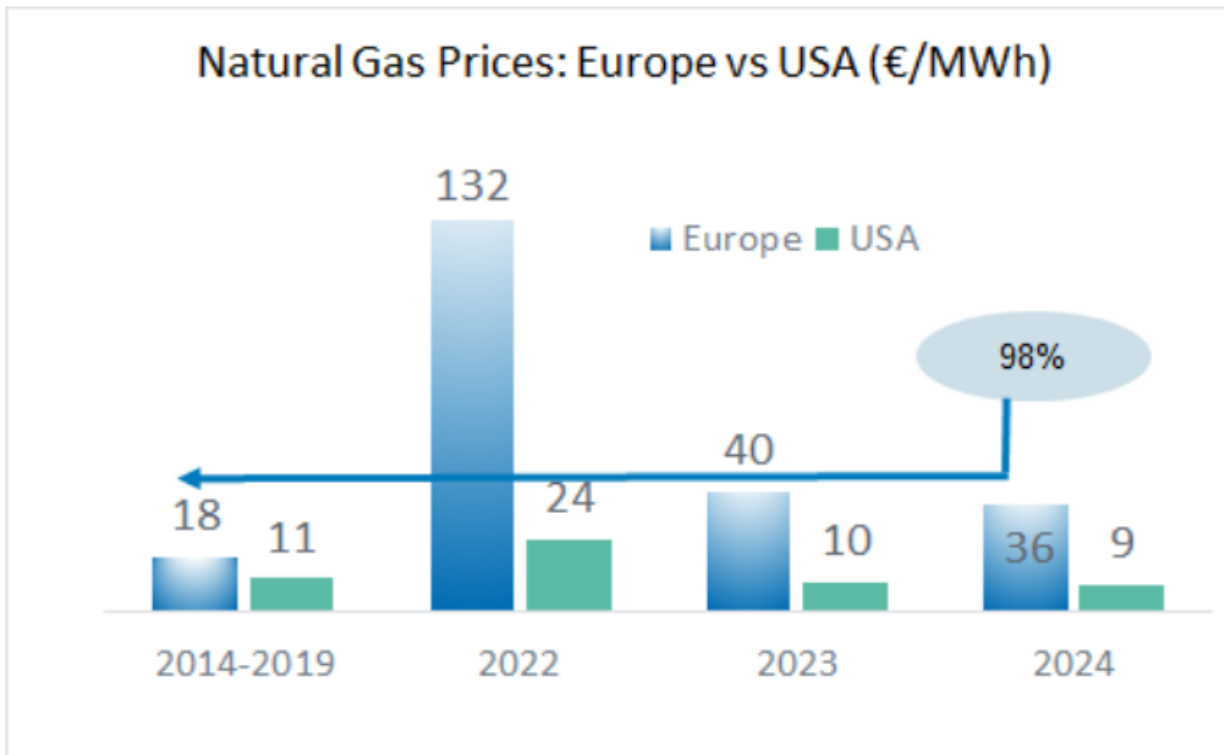


Source: European Commission, International Carbon Action Partnership, Advancy analysis

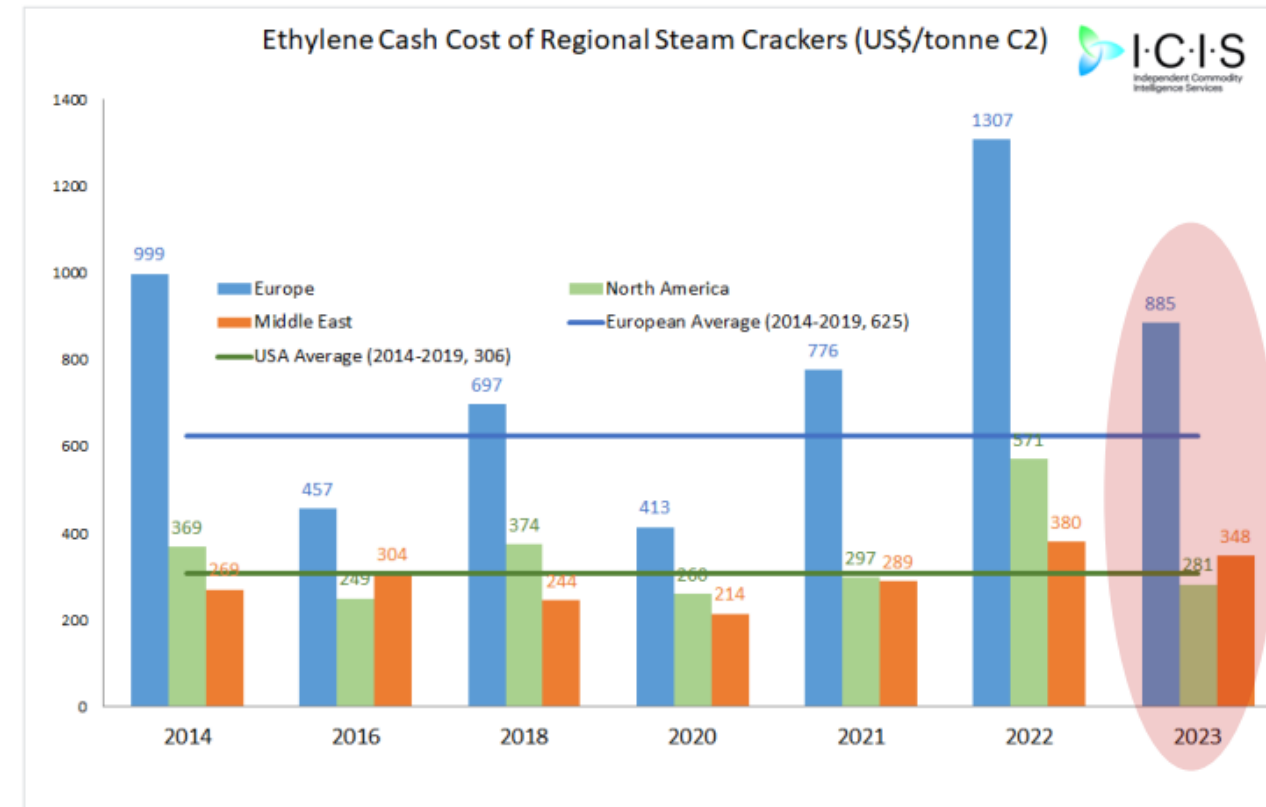
Structurally high energy costs reduce competitiveness



Gas prices in Europe in 2024: 2 times higher than pre-crisis levels (2014-2019)



European Ethylene Cash Cost in 2023: 42% above pre-crisis levels (2014-2019)

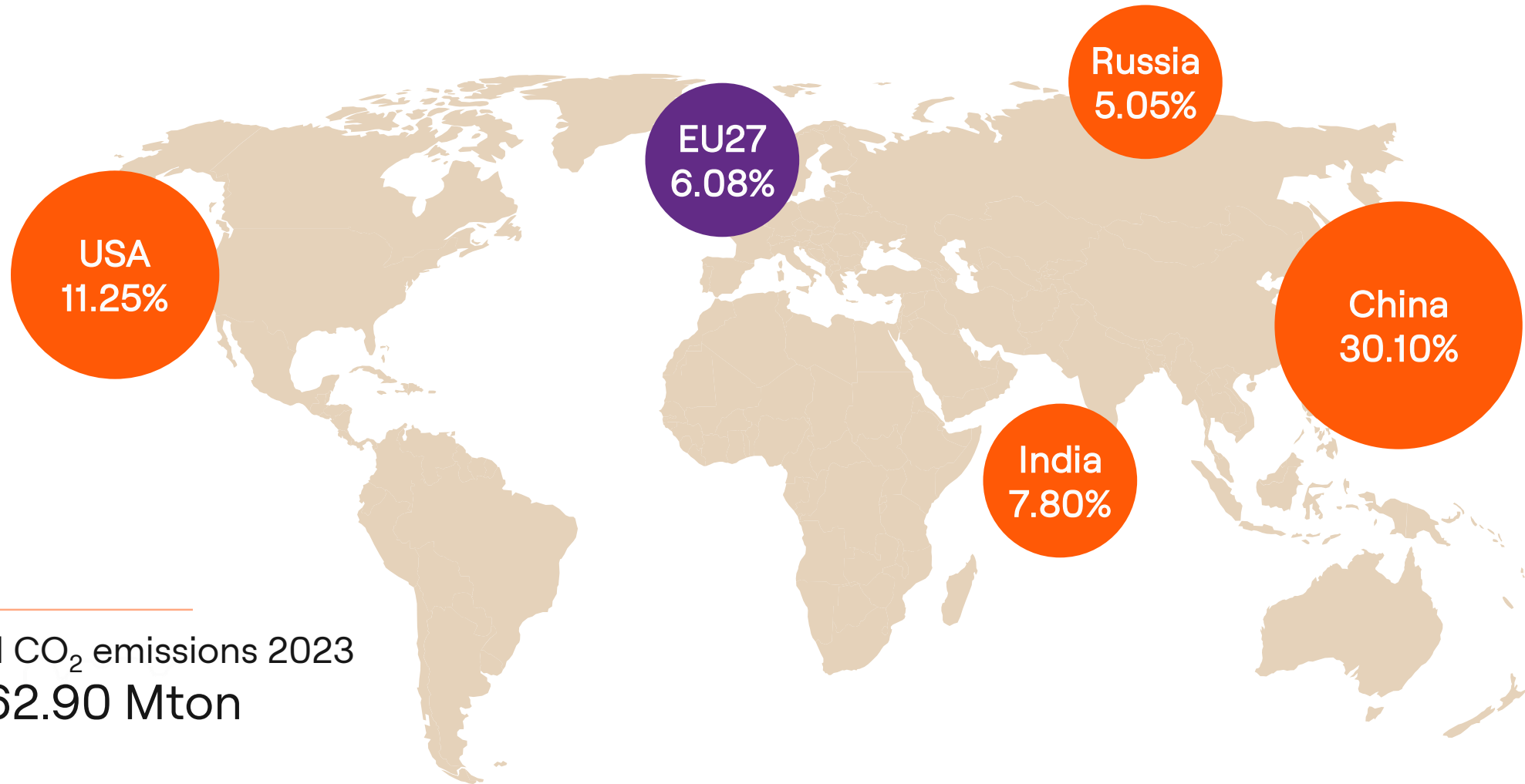


04



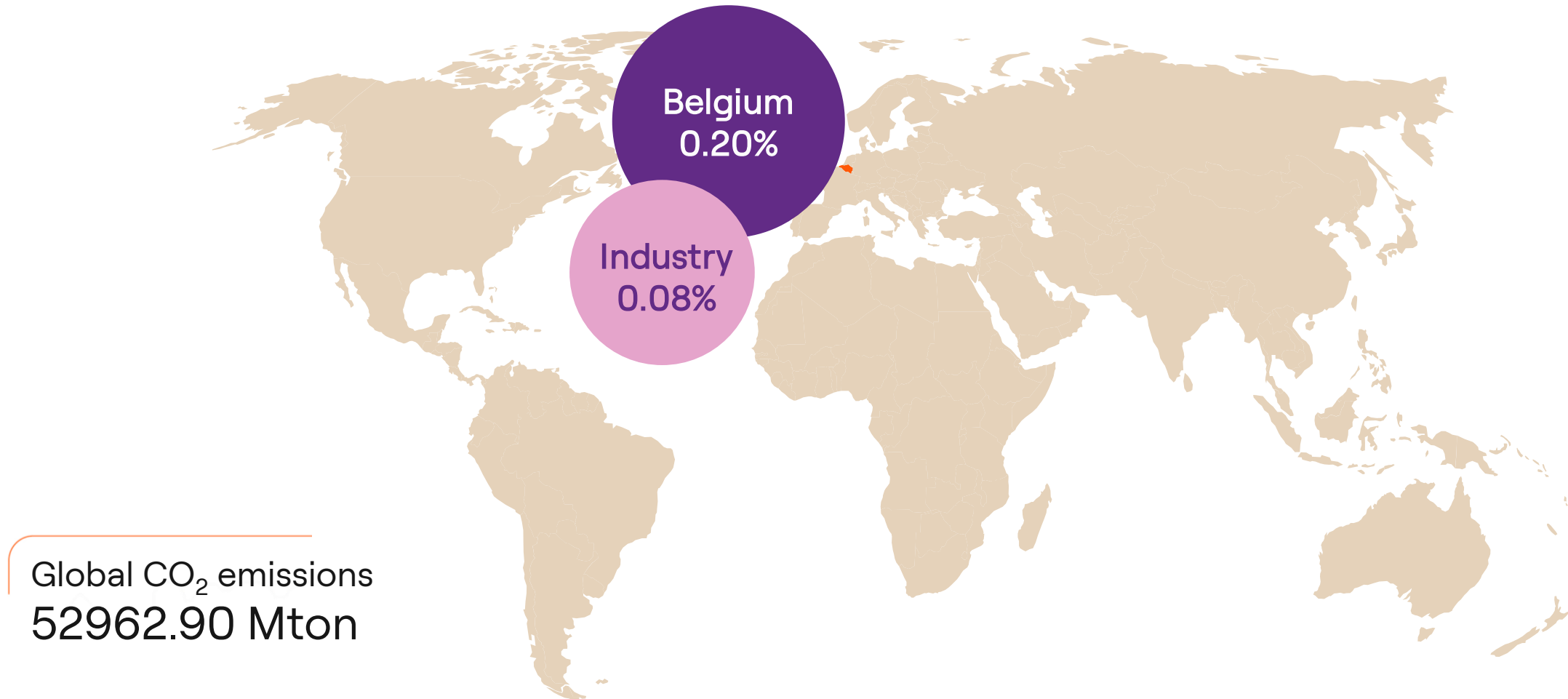
An industry in transition

CO₂ emissions in perspective



Global CO₂ emissions 2023
52962.90 Mton

CO₂ emissions in perspective



Global CO₂ emissions
52962.90 Mton

Sustained efforts in environmental care



Cutting greenhouse gas emissions by half

-50% ↓



SINCE 1995

World-leading
in energy
efficiency


+75%

SINCE 1995

Sharp reduction
in drinking
water use

-22%



SINCE 2011

Pioneering CCS-project Antwerp@C



Antwerp@C

8 players in chemical & energy sector investigate feasibility of carbon capture utilisation and storage in Port of Antwerp



AMBITION

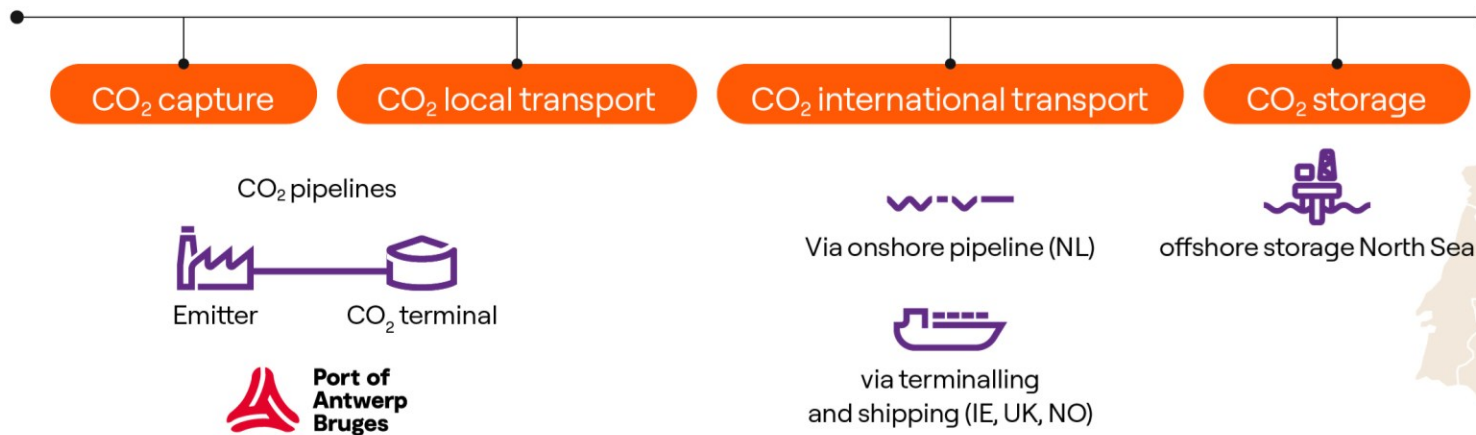
CO₂ capture

2017

18 million tons

2030

-50%



Pioneering CCS-projects at North Sea Port



BlueChem: international hotspot for innovation in sustainable chemistry



The first incubator for sustainable chemistry in Belgium, and one of the few in Europe

- Specialized labs for start-ups and scale-ups in sustainable chemistry and circular economy
- Meeting point for open innovation and industrial upscaling together with large companies
- European hotspot for the chemistry of the future, in the heart of the Antwerp chemical cluster
- Home to spearhead cluster Catalisti and the Flemish Moonshot program
- BlueChem XL-project ongoing to double lab capacity



Innovating and investing in new technologies



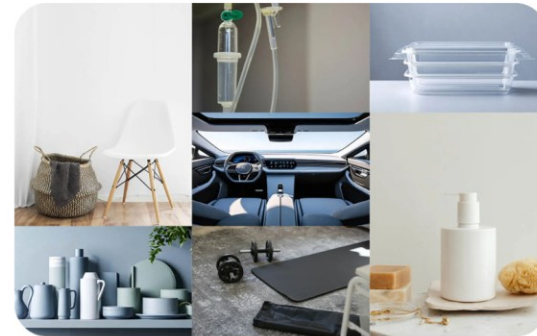
D-CRBN converts CO₂ into valuable products using plasma technology



SurePUre: pilot plant for chemical recycling of end-of-life polyurethane foams



Plastics2Chemicals: world's first chemical recycling of plastic food packaging



Vioneo plans first fossil-free plastics production complex in port of Antwerp

Industry in full transition towards climate neutrality



ECLUSE industrial steam network expansion: switch from gas to **green heat**



INEOS Project ONE: **ethane cracker** with by far the lowest carbon footprint in Europe



OMV plans refinery for the production of **sustainable aviation fuels** (SAF)



Oleon opens Europe's most innovative **bio-based chemistry** plant



Johnson&Johnson uses **geothermal heat** for its own energy needs



INEOS Inovyn installs one of the largest **solar farms** in Belgium

Energy and chemicals are key for the success of the transition towards climate neutrality



ENERGY



Carbon Capture,
Utilization & Storage
(CCUS)



Low-carbon hydrogen
as feedstock
or energy carrier



Electrification of
production processes &
low-carbon energy supply



Chemical recycling
of plastics in
a circular economy

From the Antwerp Declaration to the European Clean Industrial Deal





Belgium, a world leader in chemistry, plastics and life sciences

www.essenscia.be